

Southampton to London Pipeline Project

Volume 7

Planning Statement

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Executive Summary

- 1.1.1 Esso Petroleum Company, Limited (Esso) is a brand of ExxonMobil, which has operated in the UK for over 120 years. Esso owns and operates the UK's largest refinery at Fawley, which provides fuel for more than 800,000 retail customers every day at Esso branded service stations. Esso's underground distribution pipeline network transports fuel from Fawley to Esso's fuel terminals at Avonmouth, Birmingham, Hythe, Purfleet, West London and also for use at the UK's busiest airports.
- 1.1.2 Development consent is sought for the construction of a cross-country pipeline by Esso. This is to replace an existing pipeline that is approaching the end of its economic life. The replacement pipeline will run from Boorley Green in Hampshire to Esso's West London Terminal storage facility in the London Borough of Hounslow.
- 1.1.3 The project comprises the following elements:
- 97km of new pipeline to be routed via the Alton Pumping Station to deliver greater connectivity and resilience to the UK fuel supply network;
 - a new "pigging" station at Boorley Green to allow the entry and exit points for Pipeline Inspection Gauges (PIG) during inspections;
 - 14 remotely operated in-line valves along the pipeline to allow isolation for maintenance or to limit the impact of a potential leak;
 - A single pressure transducer;
 - 6 new above ground cathodic protection (CP) transformer rectifier cabinets to supply power to the existing CP system;
 - pipeline markers along the route at all road crossings and boundaries and new red and black colour coded flight marker posts; and
 - modifications to the PIG station at the West London Terminal storage facility including installation of a new 40cm (16 inch) PIG receiver for the 30cm (12 inch) diameter PIGs.
- 1.1.4 The replacement pipeline has a nominal internal diameter of 30cm (12 inches); slightly larger than the existing pipeline which has an internal diameter of approximately 25cm (10 inches). The replacement pipeline would be buried underground. The minimum depth from the top of the pipe to the ground surface would be 1.2m in open cut sections, and deeper for trenchless crossings. The pipeline would be installed using open-cut trenching methods for most of the route. For major crossings of A-roads, motorways and some other heavily trafficked roads, railways and some watercourses, specialist trenchless techniques would be used.
- 1.1.5 The Planning Statement includes a description of the process by which the design of the proposals has evolved and been the subject of public consultation and engagement (Chapter 3) and sets out a description of the proposals for which development consent is applied for (Chapter 4).



- 1.1.6 The project is a Nationally Significant Infrastructure Project (NSIP) within section 14(1)(g) of the Planning Act 2008 (as amended) (“the 2008 Act”) for which development consent is required under section 31 of the 2008 Act. Development consent is required before the development can proceed.
- 1.1.7 This Planning Statement (**application document 7.1**) is intended to assist the Examining Authority by making the case as to why development consent should be granted. The application is accompanied by a ‘Navigation Document’ (**application document 1.5**) which sets out in full all the documents that comprise the application for development consent.
- 1.1.8 Section 104(3) of the 2008 Act provides that the Secretary of State (SoS) must decide an application in accordance with any relevant NPS. There are two relevant NPSs for this application. The ‘Overarching National Policy Statement for Energy’, which is referred to as EN-1 in this document, sets out the Government’s policy for delivery of major energy infrastructure and this project falls within its scope. The ‘Gas Supply Infrastructure and Gas and Oil Pipelines’, which is known as EN-4, applies to pipelines which transport aviation fuel (para 2.19.1) provided they meet the NSIP thresholds described in section 1.8 of EN-4. This replacement pipeline will transport aviation fuel and does meet the NSIP threshold described in section 1.8(iv) of EN-4. EN-4 therefore applies to this application. As the NPS is (subject to Section 104(4) and (8)) the primary policy reference for the SoS, it sets the scope of matters for this Planning Statement to consider.
- 1.1.9 Chapter 2 of this Planning Statement establishes the need for the project, having regard to the policy context in the relevant National Policy Statements. Decision makers should, according to NPS EN-1 para 3.1.3 ‘*assess all applications for development consent for the types of infrastructure covered by the energy NPSs on the basis that the Government has demonstrated that there is a need for those types of infrastructure ...*’. NPS EN-1 para 3.1.4 goes on to state that decision makers ‘*.. should give substantial weight to the contribution which projects would make towards satisfying this need when considering applications for development consent under the Planning Act 2008*’. NPS EN-1 para 4.1.2 goes further to state that ‘*Given the level and urgency of need for infrastructure of the types covered by the energy NPSs set out in Part 3 of this NPS, the (decision maker) should start with a presumption in favour of granting consent to applications for energy NSIPs*’.
- 1.1.10 Chapter 6 of this Planning Statement describes the planning policy context for the project, as a basis for the subsequent assessment of the planning issues raised by the project in light of the relevant NPSs and other relevant national and local planning policies. This assessment is undertaken both for the project as a whole (in Chapter 7) and then for geographic sections A to H of the replacement pipeline (in Chapters 8 to 15). A specific assessment of impacts on Open Space (Chapter 16) and Special Category Land (Chapter 17) is also included in the Planning Statement.
- 1.1.11 There are limited permanent impacts arising from the construction or operation of the replacement pipeline. There will be temporary impacts during the construction period. Taking the project as a whole, the assessment concludes (Chapter 7) that the project has sought to avoid and reduce impacts on people, communities and the environment through careful, iterative design and development of the project,



consultation and engagement with stakeholders and the community, and proposals for good practice and mitigation measures. The good practice and mitigation measures are secured through the Development Consent Order (DCO); such measures are detailed in Chapter 5 of this Planning Statement. In the few cases where there is some limited conflict with planning policy, it is considered that the overriding need for the project would outweigh any conflict between the project and policy.

- 1.1.12 This assessment is mirrored by the conclusions of the section specific assessment Chapters 8 to 15.
- 1.1.13 Chapter 16 examines the tests in NPS EN-1 in respect of open space. There is no permanent loss of open space, and the chapter concludes that there will be no material impact on any open space or recreation area during the construction or operation of the proposed replacement pipeline.
- 1.1.14 Chapter 17 considers the issue of special category land. There is one plot of identified special category land over which “permanent rights” are sought. That plot will be less than 200m² and hence Special Parliamentary Procedure does not apply. The land is also Crown Land, so although Esso refer to “permanent acquisition” of the land S135 of 2008 Act applies and the appropriate Crown authority needs to consent to its acquisition. Discussions with the Crown are ongoing, but at the present time it is Esso’s understanding that the Crown is willing to consider granting a long lease for the land.
- 1.1.15 The DCO would also authorise the compulsory acquisition of rights over a number of plots of land which form part of a common, open space or fuel or field allotment and in each case Esso is satisfied that the land, when burdened with the rights sought under the DCO, will be no less advantageous than it was before to the persons in whom it is vested, to other persons (if any) entitled to rights over the land, and to the public. Finally, two route options have been included around a National Trust property at Hinton Ampner. If the National Trust agrees, the option using its land will be followed, if not, the other option will be chosen, thus avoiding the need for Special Parliamentary Procedure in relation to National Trust land. Accordingly, Esso considers that the Secretary of State can be satisfied that the test in section 132(3) of the 2008 Act is met and that the DCO is not therefore subject to Special Parliamentary Procedure.
- 1.1.16 The Planning Balance and Overall Conclusions are provided in Chapter 18 of the Planning Statement. Chapter 18 notes that the Environmental Statement identifies nine likely significant residual effects of the project. Only one of these will have effects of any significance post mitigation. This is identified in the Landscape and Visual chapter of the Environmental Statement as the collective loss of trees protected by a Tree Preservation Order (TPO) in post construction year 15. Whilst this is clearly important we do note that paragraph 5.9.8 of NPS EN-1 indicates “*Virtually all nationally significant energy infrastructure projects will have effects on the landscape*”. The project has been designed carefully, and, having regard to siting constraints the harm to the landscape has been addressed through the provision of reasonable mitigation where possible and appropriate.



- 1.1.17 Given that post construction the development will be an underground pipeline with a very small number of above ground installations, the long-term operational impacts are very small when compared with the scale of the project.
- 1.1.18 There are additional temporary impacts during construction. Given the proposed mitigation and temporary nature of these construction impacts the need for the project clearly outweighs these effects.
- 1.1.19 Extensive mechanisms have been put in place to mitigate these impacts, including measures that require the approval of the planning authorities prior to the commencement of development.
- 1.1.20 The project accords as far as is relevant and practicable with Government policy set out in the two NPSs relevant to the project
- 1.1.21 Given section 104(7) of the 2008 Act, and, having regard to the benefits of the scheme set out in chapter 2, the need for the project significantly outweighs the adverse effects and, in the view of Esso, development consent should be granted.



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1 Introduction

1.1 Purpose of this Planning Statement

- 1.1.1 This Planning Statement has been prepared by Esso Petroleum Company, Limited (Esso) as part of the application for development consent for the Southampton to London Pipeline project (the project).
- 1.1.2 The Planning Statement brings together all the planning matters raised by the project, considers them within the context of relevant planning policy, sets out the case for the proposed development, and helps to show how the application documents are coordinated.

1.2 The Applicant

- 1.2.1 Esso Petroleum Company, Limited (Esso) is a brand of ExxonMobil, which has operated in the UK for over 120 years. In the early days ExxonMobil imported high quality lamp oil to the UK market. Today its focus on quality fuels remains, but operations are far more extensive. Esso owns and operates the UK's largest refinery at Fawley, which provides fuel for more than 800,000 retail customers every day at Esso branded service stations. Underground distribution pipeline network transports fuel from Fawley to fuel terminals at Avonmouth, Birmingham, Hythe, Purfleet, West London and also for use at the UK's busiest airports. ExxonMobil is one of the UK's largest petrochemical manufacturers with major plants at Fawley, Fife and Newport. ExxonMobil also holds an interest in nearly 40 producing oil and gas fields in the UK North Sea, and a stake in the South Hook Liquefied Natural Gas plant at Milford Haven in Wales, which has the capacity to import 20% of the UK's gas demand.
- 1.2.2 The Funding Statement (**application document 4.2**) sets out more information about the applicant and the way in which the development will be funded.

1.3 Application for Development Consent and Associated Process

- 1.3.1 Development consent is sought for the construction of a cross-country pipeline by Esso. This is to replace an existing line that is approaching the end of its economic life. The replacement pipeline will run from Boorley Green in Hampshire to the West London Terminal storage facility in the London Borough of Hounslow. The replacement pipeline has a nominal internal diameter of 30cm (12 inches); slightly larger than the existing pipeline which has an internal diameter of approximately 25cm (10 inches).
- 1.3.2 The project comprises the following elements:
- 1 Pressure Transducer
 - 97km of new pipeline to be routed via the Alton Pumping Station to deliver greater connectivity and resilience to the UK fuel supply network;



- a new pigging station will be required southwest of Netherhill Lane between Boorley Green and Durley, to allow the entry and exit points for Pipeline Inspection Gauges (PIG) during inspections;
- 14 remotely operated in-line valves along the pipeline to allow isolation for maintenance or to limit the impact of a potential leak;
- 6 above ground cathodic protection (CP) transformer rectifier cabinets to supply power to the existing CP system (refurbishment of existing cabinets where practicable);
- pipeline markers along the route at all road crossings and boundaries and new red and black colour coded flight marker posts; and
- modifications to the PIG station at the West London Terminal storage facility including installation of a new 40cm (16 inch) PIG receiver for the 30cm (12 inch) diameter PIGs.

1.3.3 The replacement pipeline would be buried underground for its entire length. The minimum depth from the top of the pipe to the ground surface would be 1.2m in open cut sections, and deeper for trenchless crossings. The pipeline would be installed using open-cut trenching methods for most of the route. For major crossings of A-roads, motorways and some other heavily trafficked roads, railways and some watercourses, specialist trenchless techniques would be used.

1.3.4 The project is a Nationally Significant Infrastructure Project (NSIP) within section 14(1)(g) of the Planning Act 2008 (as amended) ("the 2008 Act") for which development consent is required under section 31 of the 2008 Act. Development consent is required before the development can proceed.

1.3.5 The project is an NSIP under Section 14(1)(g) of the 2008 Act because:

- 1) it is a cross-country pipeline for the purposes of section 66 of the Pipe-lines Act 1962 ("the 1962 Act"), as the length of the replacement pipeline is intended to exceed 16.093 km (10 miles);
- 2) the construction of the replacement pipeline would, but for section 33(1) of the 2008 Act, require authorisation under section 1(1) of the 1962 Act; and
- 3) both ends of the replacement pipeline are located in England.

1.3.6 The project, therefore, meets each of the relevant qualifying criteria in section 21(1) of the 2008 Act.

1.3.7 As the project is an NSIP, development consent must be obtained from the relevant Secretary of State ('SoS') to authorise it and an application for development consent must be made to the SoS, via the Planning Inspectorate ('The Inspectorate'), under Section 37 of the 2008 Act. Section 37 of the 2008 Act also governs the content of an application for development consent, including which documents should accompany the application. A number of the documents and information required to accompany an application are specified in The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) ('the APFP Regulations').



- 1.3.8 The application is Environmental Impact Assessment (EIA) development as defined by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the EIA Regulations'). The application is therefore accompanied by an Environmental Statement (ES) (**application document 6.1 – 6.4**) and includes the information required by Regulation 14(2) of the EIA Regulations.
- 1.3.9 Under Regulation 5(2)(g) of the APFP Regulations, an application must be accompanied by sufficient information to enable the SoS to meet their statutory duties as the competent authority under the Conservation of Species and Habitats Regulations 2017 (the Habitats Regulations") in relation to protected European sites which may be affected by the project. To this end, Esso has supplied a Habitats Regulations Assessment report with the application (**application document 6.5**).
- 1.3.10 Regulation 5(2)e requires the production of a Flood Risk Assessment. This is included in the application as a report (**application document 7.3**).
- 1.3.11 Section 55 of the 2008 Act indicates that the SoS must, by the end of a period of 28 days beginning with the day after the day on which the SoS receives the application, decide whether or not to accept it. The SoS may only accept the application if they conclude:
- 1) that it is an application for an order granting development consent;
 - 2) that development consent is required for any of the development to which the application relates;
 - 3) that the applicant has, in relation to the application, complied with the pre-application procedure; and
 - 4) that the application (including accompaniments) is of a standard that the SoS considers satisfactory.
- 1.3.12 The Inspectorate has published a series of non-statutory Advice Notes on aspects of the 2008 Act process which we refer to within the application documentation. Advice Note Six deals with the preparation and submission of application documents. Appendix 3 of Advice Note Six helpfully contains the checklist that The Inspectorate uses to ensure that an application submitted to it is in accordance with Section 55. To assist The Inspectorate, Esso has self-completed this checklist, which accompanies the application (**application document 1.6**).
- 1.3.13 Should the application be accepted for examination, the process will be governed by The Infrastructure Planning (Examination Procedure) Rules 2010.
- 1.3.14 Under Section 56 of the 2008 Act, Esso must, if the application is accepted, give notice of this fact to the prescribed parties and place the prescribed notice at intervals not exceeding five kilometres along the route of the proposed pipeline, and must also publish notice in newspapers circulating in the locality of the project, a national newspaper and the London Gazette.



- 1.3.15 Section 61 of the 2008 Act indicates that, where an application has been accepted for examination, the SoS must appoint an Examining Authority to handle the application. This could be a panel of Inspectors or a single Inspector. This Planning Statement (**application document 7.1**) is intended to assist the Examining Authority by making the case as to why development consent should be granted.
- 1.3.16 The application is accompanied by a Navigation Document (**application document 1.5**) which sets out in full all the documents that comprise the application for development consent. If so requested by the Examining Authority, Esso could make this a 'live' document and update it throughout the examination to include reference to the submissions made by the various deadlines set by the Examining Authority.
- 1.3.17 The application is supported by a number of drawings. Each set of drawings is accompanied by a key plan, is provided at no larger than A0 size and at a scale not smaller than 1:2500 and shows the direction of North.
- 1.3.18 There is a set of Land Plans accompanying the application (**application document 2.1**). In accordance with Regulation 5(2)(i) of the APFP Regulations, these show the land required for, or affected by, the proposed development; any land over which it is proposed to exercise powers of compulsory acquisition or any right to use land; and any land in relation to which it is proposed to extinguish easements, servitudes and other private rights. There are also separate sets of plans that identifies Special Category land (**application document 2.3**) and Crown Land (**application document 2.4**)
- 1.3.19 There is also a set of Works Plans accompanying the application (**application document 2.2**). In accordance with Regulation 5(2)(j) of the APFP Regulations, these show the proposed route and alignment of the replacement pipeline and works and the limits within which the development and works may be carried out, as well as the Limits of Deviation provided for in the draft Development Consent Order (draft DCO). The Limits of Deviation reflect the full extent of the land within which the proposed route of the pipeline may be constructed in a lateral direction and no assumption has been made that the route will be located centrally within those limits. This flexibility is required to ensure that Esso can respond to any constraints identified along the length of the route during construction of the pipeline, for example, any adverse ground conditions or other apparatus that may be identified along the length of the route.
- 1.3.20 The application is also accompanied by a set of Access and Rights of Way Plans (**application document 2.5**). In accordance with Regulation 5(2)(k) of the APFP Regulations, these show any new or altered means of access, stopping up of streets or roads or any diversions, extinguishments or creation of rights of way or public rights of navigation.
- 1.3.21 There is also a set of General Arrangement Plans (**application document 2.6**) accompanying the application. These plans provide information on crossing points, narrow working areas, trenchless crossings, water bodies, Tree Preservation Orders, hedgerows, compounds, logistics hubs and above ground installations. Finally there is a set of Other Plans (**application document 2.7**) which provide



typical layouts of above ground installations: valve, pigging station, pressure transducer, logistics hub and compound layouts.

- 1.3.22 A draft DCO (**application document 3.1**) which is accompanied by an Explanatory Memorandum (**application document 3.2**) has also been prepared by Esso. The draft DCO is supplied in PDF and Word format as requested by the Inspectorate. The Explanatory Memorandum explains the purpose and effect of each provision in the draft DCO.
- 1.3.23 In accordance with the advice in Section 2 of Advice Note 15, Esso has also provided a validation success email (**application document 3.3**) which evidences that the draft DCO is free of major errors and on the correct version of SI template. It is not possible to eliminate all minor errors as the date of consent is not yet known.
- 1.3.24 The draft DCO contains, insofar as possible, all consents and powers required to construct the project. The draft DCO would, if confirmed, grant development consent for the authorised development as defined in the draft DCO (i.e. the project).

1.4 Prescribed Matters for Pipeline Projects

- 1.4.1 Regulation 6 of the APFP Regulations prescribes that certain information should be provided in applications for development consent for various types of development.
- 1.4.2 Subsection (4) of Regulation 6 sets out what matters are prescribed for the pipeline projects. The relevant information is supplied in Table 1.1.

Table 1.1: Prescribed Matters for a pipeline application

Prescribed Matter	Information Required
The name of the proposed pipeline	Southampton to London Pipeline
The owner of the proposed pipeline	Esso Petroleum Company, Limited (Esso)
The start and end points of the proposed pipeline	Start at Boorley Green in Eastleigh Borough – British National Grid coordinates 451212.891 114394.458 End at West London Terminal storage facility in the London Borough of Hounslow – British National Grid coordinates 507110.886 173355.696.
The length of the proposed pipeline in kilometres	97km
The external diameter in millimetres of the proposed pipeline	Internal diameter is approximately 305mm with nominal wall thickness of 11.9mm, giving total external diameter of approximately 329mm.
What will be conveyed by the proposed pipeline?	Oil (aviation fuel)
Whether the grant of any rights in land or consents to road or river crossing works are required and if so whether they can be obtained by agreement	Yes, rights in land and consents to road and river crossing works will be required. The applicant is in negotiations to acquire rights to land from landowners and it is anticipated that this will be on a voluntary basis. However, compulsory rights in land



Prescribed Matter	Information Required
	are sought in order to provide certainty that the project can be delivered.

1.5 Relevant National Policy Statements

- 1.5.1 This Planning Statement seeks to assist the Examining Authority and the SoS in determining whether the project meets national and local policy objectives.
- 1.5.2 Section 104(3) of the 2008 Act provides that the SoS must decide an application in accordance with any relevant NPS. As the NPS is (subject to Section 104(4) and (8)) the primary policy reference for the SoS, it sets the scope of matters for this Planning Statement to consider. This Planning Statement describes the planning policy context for the project and reviews the planning issues raised by the project in light of the relevant NPSs and other relevant national and local planning policies.
- 1.5.3 Section 5 of the 2008 Act indicates that the SoS may designate an NPS for the purposes of the 2008 Act if the statement is issued by the SoS and sets out national policy in relation to one or more specified descriptions of development.
- 1.5.4 The former Department of Energy and Climate Change (DECC), now the Department for Business, Energy and Industrial Strategy (BEIS), designated a suite of six energy-related NPSs on 19 July 2011.
- 1.5.5 One of these was the ‘Overarching National Policy Statement for Energy’, which is referred to as EN-1 in this document. It sets out the Government’s policy for delivery of major energy infrastructure and this project is within its scope.
- 1.5.6 Also published on 19 July 2011 was an NPS for ‘Gas Supply Infrastructure and Gas and Oil Pipelines’, which is also known as EN-4. This NPS also applies to the application as the pipeline is designed to transport aviation fuel, which is an oil product.
- 1.5.7 At a meeting with the Applicant on 15 August 2018, the Inspectorate gave advice under Section 51 of the 2008 Act and the minutes of that meeting state that it was *“noted that paragraph 1.8.2 of EN-4 states that the NPS only covers pipelines which transport ‘natural gas or oil’ and it was discussed whether this covered aviation fuel.”* At that meeting Esso indicated that *“aviation fuel is a type of hydrocarbon product and that oil is classed as a hydrocarbon product”*. The Planning Inspectorate advised the Applicant *“to clearly set out their case for the project being considered in accordance with EN-4 and therefore under s104 of PA2008”*.
- 1.5.8 The Applicant reiterates its view, for the reasons expressed at its meeting with the Inspectorate on 15 August 2018, that EN-4 applies to this project because aviation fuel is a petroleum, or hydrocarbon, product and, therefore, falls within the definition of ‘oil’ for the purposes of EN-4. This view is reinforced by paragraph 2.19.1, which specifically refers to aviation fuel pipelines when describing the gas and oil pipeline networks in the UK. The Applicant, therefore, concludes that EN-4 applies to this project and has proceeded on that basis.



- 1.5.9 Although both NPSs are now nearly eight years old, there have been no notified or published proposals to replace them. It is important to note that the NPSs were intended to have a long validity.
- 1.5.10 As anticipated by Section 1.3 of EN-1 and Section 1.4 of EN4, there have been planning reforms since the NPSs were designated and where the NPSs refer to the Infrastructure Planning Commission (IPC) this is always assumed to be a reference to the Examining Authority and the SoS who will determine the application.

1.6 Land Acquisition

- 1.6.1 As the project runs in close proximity to an existing Esso-owned and operated pipeline for long parts of its route, the Applicant already has a relationship with many of the landowners whose property will be affected. The Applicant has engaged with affected landowners through the preparation of the application and is seeking to enter into voluntary option agreements with landowners to facilitate the construction and subsequent operation of the pipeline.
- 1.6.2 However, to ensure that a complete set of powers are obtained over the entire pipeline, compulsory acquisition of relevant rights in the land is sought. In the vast majority of plots, the Applicant is seeking the right to place the pipeline in the land, not to compulsorily acquire the land. More information on what powers are sought can be found in the Statement of Reasons (**application document 4.1**) and Book of Reference (**application document 4.3**).
- 1.6.3 The list of landowners the Applicant has reached agreement with will evolve after the submission of the application. The Applicant envisages the need to supply the Examining Authority with a table identifying progress on land acquisition through the examination period.

1.7 Other Consents Required to Implement the Project.

- 1.7.1 Although the 2008 Act was intended to establish a single consenting approach it is inevitable that other consents will be required to implement the project.
- 1.7.2 The project expects other consents will be required to implement the project. This could include the following:
- Conservation of Habitats and Species Regulations Licence under the Conservation of Habitats and Species Regulations 2017;
 - S10 Protection of Badgers Act 1992;
 - Environmental Permitting Regulations 2016;
 - S61 approvals, Control of Pollution Act 1974 (if required);
 - Notification under Construction (Design and Management) Regulations 2015;
 - Certificate of Registration for the use of Radioactive Substances for operations under the Ionising Radiations Regulations 2017; and



- Consent under the Health and Safety at Work Act 1974 and associated Health and Safety Regulations.
- Consent under the Protection of Military Remains Act 1986 (if required).

1.8 Statements of Common Ground (SoCG)

- 1.8.1 The Applicant is aware that the Examining Authority will find signed Statements of Common Ground (SoCGs) extremely useful in the context of the examination.
- 1.8.2 The Applicant has already initiated the process of preparing SoCGs with a range of stakeholders, both introducing the concept of the SoCG and sending a first draft for their review. This includes local planning authorities, statutory environmental bodies, major landowners and utility companies. We have prepared a short paper (as **application document 7.2**) setting out the current position. SoCGs signed after the submission of the application will be submitted through the examination process.

1.9 Timing of Works

- 1.9.1 For commercial reasons the Applicant is keen to commence work on implementing the project in late 2020, with completion approximately two years later. The Applicant would prefer commissioning to take place in winter 2022 as demand for aviation fuel is lower in winter and any impacts on fuel delivery during the commissioning period would have a lower impact.
- 1.9.2 In addition to the other consents identified above, the Applicant is considering making planning applications for the logistics hubs to the relevant local planning authorities later this year (2019), or in early 2020. This is so that the project can begin the process of establishing the hubs in advance of the decision on the application for development consent. We would be happy to provide updates on this process during the examination period.
- 1.9.3 A team has been established to undertake detailed design (Front End Engineering Design or FEED), which includes those experienced in building pipelines, has informed the application. This is considered to be a form of Early Contractor Involvement (ECI) which is recognised as good practice in preparing applications for development consent.

1.10 Document Structure

- 1.10.1 This chapter (Chapter 1) introduces the project and application and establishes the consenting and policy basis for the determination of the application.
- 1.10.2 Chapter 2, which follows, establishes the need for the project having regard to the policy context in the relevant National Policy Statements. Chapter 3 explains how the project has evolved having regard to the planning context and then Chapter 4 describes the proposals in more detail. Chapter 5 introduces the measures for managing the effects of the project. Chapter 6 sets out the relevant policy context. Chapter 7 shows how the application is in accordance with the relevant planning policy and is also supported by an appendix. Chapters 8-15 look in detail at the



assessment of the project, section by section. Chapter 16 assesses open space in accordance with the tests in the National Policy Statement (NPS) and Chapter 17 deals with Special Category Land. Finally, Chapter 18 presents the overall planning balance and conclusions.



2 Statement of Need

2.1 The Applicant

- 2.1.1 Esso Petroleum Company, Limited (Esso) is the owner of the current pipeline and will make the application for development consent to construct and own the new pipeline.
- 2.1.2 Esso is a brand of ExxonMobil, which has operated in the UK for over 120 years. In the early days ExxonMobil imported high quality lamp oil to the UK market. Today its focus on quality fuels remains, but its operations are far more extensive. Esso owns and operates the UK's largest refinery at Fawley, which provides fuel for more than 800,000 retail customers every day at Esso-branded service stations.
- 2.1.3 ExxonMobil is also one of the UK's largest petrochemical manufacturers with major refineries at Fawley, Fife and Newport. ExxonMobil also holds an interest in nearly 40 producing oil and gas fields in the UK North Sea, and a stake in the South Hook Liquefied Natural Gas plant at Milford Haven in Wales, which has the capacity to import up to 20 percent of the UK's gas demand.
- 2.1.4 Esso's underground distribution pipeline network transports fuel from Fawley to fuel terminals at Avonmouth, Birmingham, Hythe, Purfleet, West London and also for use at the UK's busiest airports. Pipelines are a safe, secure and low impact method of moving fuel over long distances. Once installed, pipelines are rarely noticed.
- 2.1.5 According to the UK Petroleum Industry Association (UKPIA, 2018), more than 30 million tonnes of fuels are safely transported through UK pipelines every year. This takes around one million tanker journeys off our roads, reducing traffic congestion.
- 2.1.6 Esso safely operate more than 700km (435 miles) of pipelines in the UK. All Esso's pipelines are constantly monitored. The Esso pipeline control centre is staffed 24 hours a day and seven days a week, and it uses sophisticated tools to monitor all aspects of the pipeline. If a change is detected, an automatic system sets off an alarm and if necessary, the pipeline can be immediately shut down. The pipelines are also checked periodically, using internal pipeline inspection gauges, known as 'PIGs'. The ground above each pipeline is regularly inspected on foot and from the air.

2.2 The existing pipeline

- 2.2.1 The existing pipeline was built between 1969 and 1972. It runs from the Esso Fawley Refinery, near Southampton, to the West London Terminal storage facility in the London Borough of Hounslow. This pipeline was constructed differently to the other pipelines in Esso's UK network, as it was originally used to transport a type of oil used by large industrial sites and oil-fired power stations.
- 2.2.2 This type of oil had to be kept above 50°C to enable it to flow through the pipeline. During the 1980s, when natural gas became more widely available in the UK, the



need for this type of heavy fuel dwindled. With the growth of air travel, the pipeline was then used to transport aviation fuel.

- 2.2.3 Based on an estimate of the volume of aviation fuel transferred from the Fawley Refinery to the West London Terminal storage facility via pipeline in 2015, the replacement pipeline would keep around 100 road tankers off the road every day.
- 2.2.4 The existing pipeline is working adequately, but the need for inspections and maintenance is increasing.
- 2.2.5 In 2002, ten kilometres (6 miles) of pipeline were replaced between Hamble and Boorley Green in Hampshire.
- 2.2.6 Esso has decided to seek the necessary consents to construct a replacement for the remaining 90km of pipeline from Boorley Green to the West London Terminal storage facility. The pipeline needs to be constructed as a replacement pipeline as the existing pipeline cannot be taken out of operation for other than short periods in order to provide secure supplies to customers.
- 2.2.7 Following construction and commissioning of the replacement pipeline, the existing pipeline will be decommissioned by Esso under the terms of its existing consent under the Pipelines Act 1962.
- 2.2.8 There are two other below ground pipelines that for much of the route run close to the existing pipeline; these are a gas pipeline and another Esso pipeline that carries other petroleum products. These two pipelines were consented together by the Esso Petroleum Act 1961. The multi-product pipeline is connected to a pumping station at Alton, from where products can be supplied to West London Terminal storage facility or to Gatwick and beyond. The gas pipeline is no longer owned by Esso.

2.3 The Planning Act 2008 Requirements

- 2.3.1 S104(3) of the Planning Act 2008 (the 2008 Act) requires that the Secretary of State (SoS) must decide an application for development consent in accordance with any relevant NPS, except to the extent that the SoS is satisfied that, in summary:
 - (i) doing so would lead to the United Kingdom being in breach of its international obligations;
 - (ii) doing so would lead to the SoS being in breach of any duty imposed on him under any enactment;
 - (iii) doing so would be unlawful under any enactment;
 - (iv) the adverse impact of the proposed development would outweigh its benefits; or
 - (v) that any prescribed condition for deciding the application otherwise than in accordance with the NPS would be met.
- 2.3.2 S104(2) of the 2008 Act sets out the matters to which the SoS must have regard in deciding an application submitted in accordance with the 2008 Act. In summary,



the matters set out in s104(2) include any relevant NPSs, any local impact report (LIR); and any other matters the SoS thinks are both important and relevant to the decision.

- 2.3.3 The relevant NPS for the project is, therefore, of primary importance to the decision maker in considering the need for the project and its acceptability in terms of the policy guidance in the relevant NPS.

2.4 Elements of the need for the project

- 2.4.1 The subsequent sections of this chapter provide a description of the different elements of the need for the project.

National need for oil pipeline infrastructure

- 2.4.2 The Overarching National Policy Statement for Energy (NPS EN-1) sets out the Government's assessment of the importance of energy infrastructure. Paragraph 3.2.1 notes that *'Energy underpins almost every aspect of our way of life..... It is difficult to overestimate the extent to which our quality of life is dependent on adequate energy supplies'*.
- 2.4.3 In his forward to the Downstream Oil Resilience Consultation Paper (Oct 2017), the Minister for Energy and Industry states that *'The Government are committed to ensuring a secure and resilient energy supply'*. He went on to note that *'Ensuring fuel continues to flow is therefore an essential part of our work'*, and *'...the ability of the UK supply system to protect the continuity of fuel supplies and be resilient to disruptions needs to be maintained'*. In the introduction to the same document it is stated that the fuel supply sector *'plays a key role in our energy security, supplying products that are vital to our economy and way of life'*.
- 2.4.4 In paragraph 3.1.1 of NPS EN-1 the Government identifies that the UK needs new energy infrastructure to achieve energy security.
- 2.4.5 The Government notes in paragraph 3.1.2 that it is for industry to propose new projects within the strategic framework it sets. This guidance is repeated in the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (NPS EN-4) paragraph 2.1.3, noting that *'it is for energy companies to decide what applications to bring forward and the Government does not seek to direct applicants to particular sites for gas supply infrastructure and oil and gas pipelines'*.
- 2.4.6 In its assessment principles, the Government goes further, stating in NPS EN-1 paragraph 4.1.9 that *'In deciding to bring forward a proposal for infrastructure development, the applicant will have made a judgement on the financial and technical viability of the proposed development, within the market framework and taking account of Government interventions'*. It goes on to note that where a decision maker considers *'... that the financial viability and technical feasibility of the proposal has been properly assessed by the applicant it is unlikely to be of relevance in decision making.'*



- 2.4.7 Decision makers should, according to NPS EN-1 paragraph 3.1.3 'assess all applications for development consent for the types of infrastructure covered by the energy NPSs on the basis that the Government has demonstrated that there is a need for those types of infrastructure...'.
assess all applications for development consent for the types of infrastructure covered by the energy NPSs on the basis that the Government has demonstrated that there is a need for those types of infrastructure...'
- 2.4.8 NPS EN-1 paragraph 3.1.4 goes on to state that decision makers '...should give substantial weight to the contribution which projects would make towards satisfying this need when considering applications for development consent under the Planning Act 2008'.
...should give substantial weight to the contribution which projects would make towards satisfying this need when considering applications for development consent under the Planning Act 2008'
- 2.4.9 NPS EN-1 paragraph 4.1.2 goes further to state that 'Given the level and urgency of need for infrastructure of the types covered by the energy NPSs set out in Part 3 of this NPS, the (decision maker) should start with a presumption in favour of granting consent to applications for energy NSIPs'.
Given the level and urgency of need for infrastructure of the types covered by the energy NPSs set out in Part 3 of this NPS, the (decision maker) should start with a presumption in favour of granting consent to applications for energy NSIPs'
- 2.4.10 The NPS then goes on to provide specific policy for each energy sector. In relation to nationally significant oil infrastructure projects, NPS EN-1 paragraph 3.9.1 notes that Government policy is encouraging reduced dependence on oil by improving vehicle efficiency and using new alternative fuelled vehicles. It goes on to state, however, that 'demand is projected to increase in the short to medium term, because although consumption of petrol in the UK is forecast to fall, demand for diesel and aviation fuel is expected to continue to rise'.
demand is projected to increase in the short to medium term, because although consumption of petrol in the UK is forecast to fall, demand for diesel and aviation fuel is expected to continue to rise'
- 2.4.11 NPS EN-1 paragraph 3.9.3 identifies that 'The UK needs to ensure it has safe and secure supplies of the oil products it requires. Sufficient fuel and infrastructure capacity are necessary to avoid socially unacceptable levels of interruption to physical supply and excessive costs to the economy from unexpectedly high or volatile prices. These requirements can be met by sufficient, diverse and reliable supplies of fuel, with adequate capacity to import, produce, store and distribute these supplies to customers. This in turn highlights the need for reliable infrastructure including refineries, pipelines and import terminals and the need for flexibility in the supply chain to accommodate the inevitable risk of physical outages'.
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- 2.4.12 Paragraph 3.9.4 notes that 'Finished petroleum products are distributed from the refineries to around 50 major distribution terminals in the UK by pipeline...'. Paragraph 3.9.5 identifies the importance of this pipeline network, highlighting that it provides '... an extensive network of private and Government owned pipelines in the UK, with around 4,800km of pipeline currently in use. The 2,400km of privately owned UK pipeline network carries a variety of oil products from road transport fuels to heating oil and aviation fuel. The network provides an efficient and robust distribution system across the UK and directly provides jet fuel for some of the UK's main airports'.¹
Finished petroleum products are distributed from the refineries to around 50 major distribution terminals in the UK by pipeline...'
*... an extensive network of private and Government owned pipelines in the UK, with around 4,800km of pipeline currently in use. The 2,400km of privately owned UK pipeline network carries a variety of oil products from road transport fuels to heating oil and aviation fuel. The network provides an efficient and robust distribution system across the UK and directly provides jet fuel for some of the UK's main airports'*¹
- 2.4.13 NPS EN-1 notes in paragraph 3.9.6 that the potential drivers for new oil infrastructure such as pipelines include:

¹ Note, that subsequent to the publication of the NPS, the 'Government owned' network referred to in the NPS is no longer Government owned.



- *'meeting increasing demand by end users, particularly for diesel and aviation fuel; ...*
- *market requirements to improve supply resilience in order to meet demand in full in a timely fashion under credible emergency scenarios.'*

2.4.14 NPS EN-1 paragraph 3.9.8 notes that any consideration of applications for new oil distribution pipelines should *'start its assessment from the basis that there is a significant need for this infrastructure to be provided'*.

2.4.15 NPS EN-4 section 2.19 relates specifically to gas and oil pipelines, noting in paragraph 2.19.1 that *'The gas and oil pipeline networks extend between storage and distribution facilities, and provide an important transport mechanism for natural gas, petrol, gas oil, heating oil, diesel and aviation fuel'*. It recognises nationally significant pipelines as being those meeting the thresholds in the 2008 Act and in the NPS.

2.4.16 Paragraph 2.1.2 of NPS EN-4 notes that its policies are *'additional to those on generic impacts set out in EN-1 and do not replace them'*. Decision makers are required to consider the two NPSs together. NPS EN-4 paragraph 2.1.2 goes on to repeat the statements from NPS EN-1, noting that *'In particular, EN-1 sets out the Government's conclusion that there is a significant need for new major energy infrastructure generally (see Part 3 of EN-1). EN-1 Part 3 includes assessments of the need for gas supply infrastructure and gas and oil pipelines. In the light of this and for the reasons given in Part 3 of EN-1, (decision makers) should act on the basis that the need for the infrastructure covered by this NPS has been demonstrated.'*

2.4.17 From the above it is clear that oil distribution pipelines such as is proposed in this project are considered nationally significant, and that the Government requires decision makers to start from an assessment point of there being a significant need for the provision of such infrastructure.

National need for this specific pipeline

2.4.18 In NPS EN-1 paragraph 3.2.3 the Government states that *'The weight which is attributed to considerations of need in any given case should be proportionate to the anticipated extent of a project's actual contribution to satisfying the need for a particular type of infrastructure'*. The NPS does not identify the need for any specific energy infrastructure project, that being a matter for the applicant to describe as part of its DCO application.

2.4.19 Petroleum refinery capacity in the UK comprises six refineries. The 2018 UKPIA statistical report identifies that demand for diesel and aviation fuel in the UK has increased beyond the UK's refining capacity and that, as a result, the UK has a production deficit of aviation fuel and diesel, needing to import both to meet demand. Conversely, the UK produces more petrol and fuel oil than there is domestic demand for, and so exports both of these products. Since 1990, the UKPIA identifies that demand for petrol in the UK has almost halved, whereas aviation fuel and diesel has experienced demand increasing by over 70% and 50% respectively. Research for DECC (2012) predicts that as overall demand for oil



products reduces towards 2030 (from 61 million tonnes to 50 million tonnes), the proportion of this demand that is for aviation fuel will increase from 18% in 2012 to a predicted 28% by 2030.

- 2.4.20 The UKPIA (2018) has found that from 2000 onwards the demand for aviation fuel has been in the region of 11 to 11.5 million tonnes a year (with an annual peak of just over 12 million tonnes). The UKPIA notes that the relatively flat demand for aviation fuel is mainly due to increased engine efficiencies, meaning less fuel is required even though aviation miles is increasing over time.
- 2.4.21 As noted in paragraph 2.4.17 above, the Government has identified the national importance of resilient fuel supply infrastructure, in the context of economic and social wellbeing. The replacement pipeline will form part of the 1,500 miles of privately owned oil pipelines in England and Wales, 435 miles of which are owned and operated by Esso. An additional ~1,500 miles of pipeline are part of the former Government owned network, now privatised and owned and operated by CLH Pipeline System Ltd. (CLH-PS). These pipelines are essential to the safe and efficient transportation of oil based products between ports and refineries and the 50 major oil terminals around the UK.
- 2.4.22 The replacement pipeline will transfer aviation fuel from the Esso refinery and import facility at Fawley in Hampshire, to the West London Terminal storage facility near Heathrow. This pipeline forms a key part of the national infrastructure supporting Heathrow airport, being one of only a small number of pipelines serving the airport. There is also supply via a railhead at Colnbrook and an element of road supply at peak times.
- 2.4.23 Although its assessment of infrastructure needs was ten years ago, the Wood Mackenzie research for DECC (2008) highlighted '*...fuel imports to supply the London airports appears to be the most significant potential 'pinch point'...*'. It identified the need for investment in new pipeline capacity to Heathrow to transfer fuel inland from import points as one of a number of investment requirements.
- 2.4.24 NPS EN-1 specifically highlighted the conclusions of the Wood Mackenzie research in a footnote to paragraph 3.9.8, the paragraph going on to note '*In the light of the above, the [Planning Inspectorate] should expect to receive a small number of significant applications for oil pipelines and start its assessment from the basis that there is a significant need for this infrastructure to be provided*'.
- 2.4.25 In DECC's (2014) review of the refining and fuel import sectors, the aviation sector was noted as highlighting concerns about the adequacy of existing infrastructure for aviation fuel, noting that '*...good pipelines were needed to meet the significant volumes of fuel required, that could not be delivered by road and rail*'.
- 2.4.26 In order to ensure a resilient and secure fuel supply to Heathrow, it is essential that multiple pipelines serve the facilities at the airport, in addition to rail and road transport, because:
- Supply locations (refineries and storage terminals) need to be shut down from time to time for essential maintenance and inspection of the process equipment, limiting the supply for a period.



- Operational or quality control issues within refineries can result in a lack of supply from time to time from a particular supply location.
- The individual supplying pipelines need to be shut down from time to time for maintenance and inspection of the process equipment, thus limiting the supply for a period.
- The supplying pipelines can have operational or quality control issues which result in a lack of supply from time to time.
- Airport demand is not constant and can fluctuate at short notice (e.g. weather conditions, peak holiday seasons, disruptions to flights etc.). Sufficient storage capacity needs to be maintained at key locations to manage these daily fluctuations at airports. This is particularly important for Heathrow Airport, which has limited 'on airport tankage'.
- Transit times for aviation fuel being transported through long distance cross country pipelines such as the proposed pipeline can be more than 24 hours. Due to limitations on storage capacity at major airports, they need to be able to plan on the basis of consistent and on-time supplies from a variety of sources.
- There is a risk of shut down due to extreme weather events such as flooding.
- There is a risk of shut down as a result of industrial action.

2.4.27 The replacement pipeline will provide essential aviation fuel transport infrastructure to the West London Terminal storage facility, which serves a critical purpose in support of Heathrow's continued airport operations. This comprises a key element of the need for the project.

2.4.28 The pipeline is not linked to, or necessary for the proposed expansion of Heathrow through the construction of a third runway. Consultation documents published by Heathrow for the third runway identify a requirement for additional fuel storage, not additional pipeline supplies.

Need for a replacement pipeline

2.4.29 As noted in section 2.2 above, the existing pipeline was built between 1969 and 1972 to transport a type of oil used by large industrial sites and oil-fired power stations. This pipeline was constructed differently to the other pipelines in the UK network, as the type of oil had to be kept above 50°C to enable it to flow through the pipeline.

2.4.30 During the 1980s when natural gas became more widely available in the UK, the need for this type of heavy fuel dwindled. With the growth of air travel, the pipeline was then used to transport aviation fuel instead.

2.4.31 While the existing pipeline is working adequately, given its initial design and construction for the transport of a hot product, the need for inspections and maintenance is increasing. The pipeline will require replacing earlier than the other fuel and gas pipelines which run adjacent to it.

2.4.32 Esso is safely able to continue to operate the current pipeline, utilising its highly sophisticated 24 hour monitoring and control systems associated with the pipeline.



However, as a responsible pipeline operator with knowledge of the pipeline's condition, it has decided that an application for development consent should be prepared and submitted now. This will ensure that the necessary consents can be secured and the replacement pipeline constructed and commissioned, to enable the existing pipeline to be decommissioned.

- 2.4.33 The replacement pipeline is purposely designed for transporting aviation fuel and will have a longer design life than the current pipeline. Once constructed, the pipeline will require limited maintenance and inspection for the foreseeable future, and so avoid or substantially reduce the current levels of inspection and maintenance versus the existing pipeline.
- 2.4.34 Given the critical nature of the aviation fuel supply provided by the pipeline, it is clear that there cannot be any prolonged interruption of supplies through the construction and commissioning of any new pipeline. It is, therefore, not possible to lift and replace the existing pipeline on its current alignment without a very lengthy and prolonged interruption to these critical fuel supplies.
- 2.4.35 As a result, Esso has determined that a replacement pipeline will need to be built, commissioned, and brought into operation, before the existing pipeline is decommissioned. This will ensure the continuous supply of aviation fuel to the West London Terminal storage facility and onwards for final use.

Need for the pipeline to be future proofed

- 2.4.36 The replacement of the existing pipeline will future proof aviation fuel supplies to the West London Terminal storage facility through the provision of a modern and resilient aviation fuel pipeline. As part of its preparation of the Development Consent Order application, Esso has given consideration to the most appropriate size and capacity of the proposed replacement pipeline.
- 2.4.37 There is a balance to be struck between the increased cost, construction activity and environmental footprint of a larger diameter pipe, with the anticipated greater operational flexibility and capacity that a larger pipe diameter would provide.
- 2.4.38 Esso has decided that it will replace the existing 10inch (25cm) pipeline with a new 12inch (30cm) pipeline. This is a business decision by Esso, based on its consideration of the current and potential future economics of aviation fuel supply to the West London Terminal storage facility. This increased pipeline diameter will enable Esso to respond flexibly to both seasonal fluctuations in aviation fuel demand, and shorter term changes in demand.

Need for the pipeline to provide flexible and resilient supply infrastructure

- 2.4.39 The existing aviation fuel pipeline is routed from Fawley to the West London Terminal storage facility. Although it passes close to the Alton pumping station, there is currently no direct connection to the pumping station.
- 2.4.40 The Alton pumping station currently links the existing multi-products pipeline, which is routed from Fawley to the West London Terminal storage facility, to the pipeline to the Purfleet Terminal, which also serves Gatwick.



- 2.4.41 As part of the replacement pipeline, Esso proposes to link directly the replacement pipeline to the Alton pumping station. This is an important connection which will provide additional pipeline flexibility and operational resilience. Once the replacement pipeline is operational, Esso will have greater flexibility over the operation of its pipelines serving the West London Terminal and Purfleet storage facilities. This will improve supply resilience and give greater protection against planned and unplanned maintenance affecting supplies.

Need for the pipeline to protect against potential supply interruptions elsewhere affecting aviation fuel supplies

- 2.4.42 In his forward to the Downstream Oil Resilience Consultation Paper (Oct 2017), the Minister for Energy and Industry states that *'The Government are committed to ensuring a secure and resilient energy supply'*. He went on to note that *'Ensuring fuel continues to flow is therefore an essential part of our work'*, and *"...the ability of the UK supply system to protect the continuity of fuel supplies and be resilient to disruptions needs to be maintained'*. In the introduction to the same document it is stated that the fuel supply sector *'plays a key role in our energy security, supplying products that are vital to our economy and way of life'*.
- 2.4.43 The Government's response to the consultation (April 2018) repeated the importance of the *'ability of the system to protect the continuity of fuel supplies and be resilient to disruptions must be maintained'*. The paper continues to state that the Government is committed to ensuring a secure and reliable energy supply and *'is working to ensure that the ability of the supply system to protect the continuity of fuel supplies and be resilient to disruptions is maintained'*. It is a sign of the seriousness of the issue that the Government is proposing to take powers to establish Industry led schemes to maintain and strengthen fuel supply resilience, for example through the establishment of an industry led reserve fuel tanker fleet.
- 2.4.44 The existing pipeline has played an essential role in protecting against the economic and social consequences of supply interruptions. In December 2005 an explosion occurred at a Buncefield oil storage depot in Hertfordshire. The resulting fire destroyed most of the depot and an adjacent aviation fuel storage depot, which was an important supply source of aviation fuel to Heathrow. The effect of this, as described in the Downstream Oil Resilience Consultation Paper (Oct 2017), resulted in rationing of aviation fuels on airlines using Heathrow, with severe implications for long distance carriers.
- 2.4.45 During the interruption to aviation fuel supplies resulting from Buncefield, Esso increased its supply of aviation fuel through its pipelines serving Heathrow, and airlines carried extra supplies on inbound flights, but fuel rationing continued for some time. The cost to the aviation industry was estimated in the Buncefield Investigation Report at £250m in the Oct 2017 consultation paper. The proposed replacement pipeline will provide a modern and resilient supply of aviation fuel to the West London Terminal storage facility, and Heathrow, with improved capacity to accommodate or offset interruptions to alternative supplies.
- 2.4.46 It is also the case that in 2008 a tanker driver dispute led to industrial action which affected fuel supplies to consumers. Below ground pipelines are resilient to industrial action by tanker drivers, transportation delays on the road networks, and



to extreme weather. Underground pipelines, such as is proposed in this project, provide a resilient source of supply to customers.

Local economic need

- 2.4.47 Paragraph 4.1.3 of NPS EN-1 notes that decision makers for energy NSIPs should take into account *'its potential benefits including its contribution to meeting the need for energy infrastructure, job creation and any long-term or wider benefits'*.
- 2.4.48 The April 2018 BEIS response to the consultation on fuel resilience notes the importance of the downstream oil sector to the UK economy. The sector comprises *'over 200 companies involved in the refining, importing, distribution and marketing of petroleum products'*. The paper went on to state that the *'sector estimates it supports the employment of over 150,000 people and contributes to around 7% of the Exchequer's total receipts'*.
- 2.4.49 The Esso Fawley site directly employs over 1,000 people, with many more employed within the supply chain. Although the pipeline itself does not give rise to significant local employment, the pipeline transports aviation fuel whose refining and import does support considerable local employment.
- 2.4.50 During the construction of the proposed pipeline, there will be a number of local economic benefits, although these may be limited in extent. The pipeline construction will give rise to local employment and supply opportunities, which will benefit the local and wider economy.

Need for sustainable transport of fuels

- 2.4.51 Based on an estimate of the volume of aviation fuel transferred from the Fawley Refinery to the West London Terminal storage facility via pipeline in 2015, the pipeline keeps around 100 road tankers off the road every day.²
- 2.4.52 Underground pipelines are considered to be a more sustainable form of fuel transport than the equivalent road transport by tanker, and the need for sustainable transport choices is recognised and supported by Government.

2.5 Conclusions on the need for the project

- 2.5.1 There is a national need for the provision of new energy infrastructure, and especially for oil pipeline infrastructure.
- 2.5.2 In NPS EN-1 paragraph 3.9.8 the Government notes that any consideration of applications for new oil distribution pipelines should *'start its assessment from the basis that there is a significant need for this infrastructure to be provided'*.
- 2.5.3 NPS EN-1 paragraph 4.1.2 goes further to state that *'Given the level and urgency of need for infrastructure of the types covered by the energy NPSs set out in Part*

² Based on Esso's 2015 data for its existing pipeline.



3 of this NPS, the (decision maker) should start with a presumption in favour of granting consent to applications for energy NSIPs'.

- 2.5.4 The proposed pipeline will form part of a small but critical number of pipelines transporting aviation fuel to Heathrow, and through the proposed connection at Alton pumping station to Gatwick. The pipeline will increase the resilience of the fuel supply to the airports, and to Esso's West London Terminal and Purfleet storage facilities, consistent with Government policy and guidance.
- 2.5.5 The existing pipeline was constructed between 1969 and 1972 to transport fuel oils, and then used for aviation fuel from the 1980s. Although able to be safely operated, the nature and construction of the existing pipeline is such that it is requiring inspections and maintenance and needs to be replaced earlier than other existing pipelines. The replacement pipeline will specifically be designed for aviation fuel.
- 2.5.6 As part of the replacement of the pipeline Esso has decided to future proof the pipeline capacity through increasing the pipeline diameter from 10 inches to 12 inches. This will enable Esso to flexibly respond to both seasonal fluctuations in aviation fuel demand, and shorter term changes in demand.
- 2.5.7 Unlike the existing pipeline, the replacement pipeline has a proposed connection to the existing Alton pumping station, providing additional flexibility in Esso's pipeline operations, with onward connection to Gatwick and the Purfleet storage facility.
- 2.5.8 The provision of the replacement aviation fuel pipeline is an important part of the protection against supply interruptions elsewhere affecting fuel supplies to the West London Terminal storage facility, and to Heathrow. Underground pipelines are necessarily resilient to road transport delays, adverse weather or industrial action by tanker drivers, all of which can affect road or rail transport. Experience has also shown, as was the case with the Buncefield explosion and fire, that it is essential that there are a number of alternative supplies of aviation fuel, in case any individual supply route is not available.
- 2.5.9 The Esso Fawley site directly employs over 1,000 people, with many more employed within the supply chain. Although the pipeline itself does not give rise to significant local employment, the pipeline transports aviation fuel whose refining and import does support considerable local employment. The pipeline construction will give rise to limited local economic benefits, including through employment and supply opportunities.
- 2.5.10 Finally, the sustainable transport of fuels by underground pipeline avoids the use of road tankers for aviation fuel transport. On 2015 figures it is estimated that over 100 tankers a day would be required to transfer the volume of fuel that the pipeline will transfer.
- 2.5.11 For all of the above reasons, it is considered that there is a clear and compelling need for the proposed pipeline. Supported by Government as nationally significant infrastructure, for which there is a '*significant need*' for the infrastructure to be



provided. Government policy is that there should be a *'presumption in favour of granting consent'* for the pipeline proposal.

3 Scheme Development

3.1 Introduction

- 3.1.1 This chapter provides a summary of the processes which resulted in the identification and selection of the proposals that are the subject of this application for development consent. A full description is provided in Environmental Statement Chapter 4 (Design Evolution) and related appendices.
- 3.1.2 Throughout the iterative design development process, the proposed pipeline route and above ground permanent and temporary infrastructure were systematically reviewed. This was achieved through feedback from the multi-disciplinary project team being recorded and incorporated as appropriate in the next stage of the proposed design. Routes and designs have been identified and selected taking into account feedback from consultation, engineering and environmental surveys, and land and planning assessments. Environmental considerations have had a key influence on the project, with knowledge gained through the Environmental Impact Assessment (EIA) process, and input from consultees.
- 3.1.3 Section 3.2 of this chapter describes the selection of consultation corridors and the preferred corridor, and outlines the overall Project Objectives and Guiding Principles, which underpinned the scheme development process. Section 3.3 explains the development and refinement of the pipeline route. Section 3.4 describes the process followed for the design of above ground infrastructure, and Section 3.5 for the design of temporary construction infrastructure.
- 3.1.4 This chapter only describes the processes followed to arrive at the selection of the proposals for which development consent is sought. The need for the development is set out separately in Chapter 2 of this Planning Statement. Chapter 4 of this Planning Statement describes the proposed development. Alternatives to the proposed development are set out within Chapter 4 of the Environmental Statement.

3.2 Selection of Consultation Corridors and the Preferred Corridor

Project Objectives and Guiding Principles

- 3.2.1 To enable the identification of a preferred pipeline corridor and a pipeline route that followed the corridor, a number of project objectives and guiding principles were established against which all options could be objectively reviewed. These are set out below.

Project Objectives

- 3.2.2 The following project objectives were developed as fundamental requirements for delivering a successful project:
- to replace the pipeline from Boorley Green to the West London Terminal storage facility in Hounslow, via Alton in Hampshire, to connect to existing pipeline infrastructure;



- to meet all the relevant planning requirements;
- to maintain fuel supply during replacement; and
- to develop and install a safe, buildable, operational and economically feasible pipeline.

Guiding Principles

- 3.2.3 By definition, a feasible corridor must meet the project objectives. To ensure this was the case, a set of guiding principles were prepared to support the selection process.
- 3.2.4 Any individual corridor was considered as having an advantage over other feasible alternatives if it:
- would benefit from existing equipment (infrastructure) and relationships with landowners;
 - would be likely to have better environmental outcomes versus the other options considered, especially relating to internationally and nationally important features along the final route;
 - would provide social and economic outcomes of greater benefit compared to the other corridors;
 - would pass through less complex or built-up areas (where possible);
 - would achieve compliance with relevant National Policy Statements; and
 - could be installed in a timely and realistic manner at reasonable cost.

Overview of Corridor Selection Methodology

Evaluation Approach

- 3.2.5 The corridor selection process was an iterative approach and included the evaluation of multiple corridor options to identify corridors, incorporating sub-options where required, that provided the best opportunity against all the known constraints to meet the project objectives and guiding principles.
- 3.2.6 There were three key steps to the corridor selection process:
- Step 1: corridor creation to produce a longlist of pipeline corridor options;
 - Step 2: sifting of the longlist to create a shortlist of pipeline corridor options (the term sifting describes the process of comparing longlist options to create the shortlist); and
 - Step 3: review of shortlist appraisal taking into account information received from the Corridor Options consultation (non-statutory) held between 19 March 2018 and 30 April 2018, and the selection of a preferred corridor.
- 3.2.7 During the corridor creation, longlist sifting and shortlist appraisal stages, available data was progressively collected from publicly available data sources. Based on the collected data and further information gathering, an assessment was then



undertaken, including site visits and targeted desk-based assessments to identify specific constraints.

Longlist of corridors

3.2.8 The following three key geographical constraints informed the creation of the longlist:

- the existing aviation fuel pipeline had already been renewed between Hamble and Boorley Green in Hampshire. Therefore, the pipeline must begin at Boorley Green;
- the replacement pipeline must be routed via the existing pumping station facility at Alton to connect to existing infrastructure; and
- the replacement pipeline must terminate at the West London Terminal storage facility.

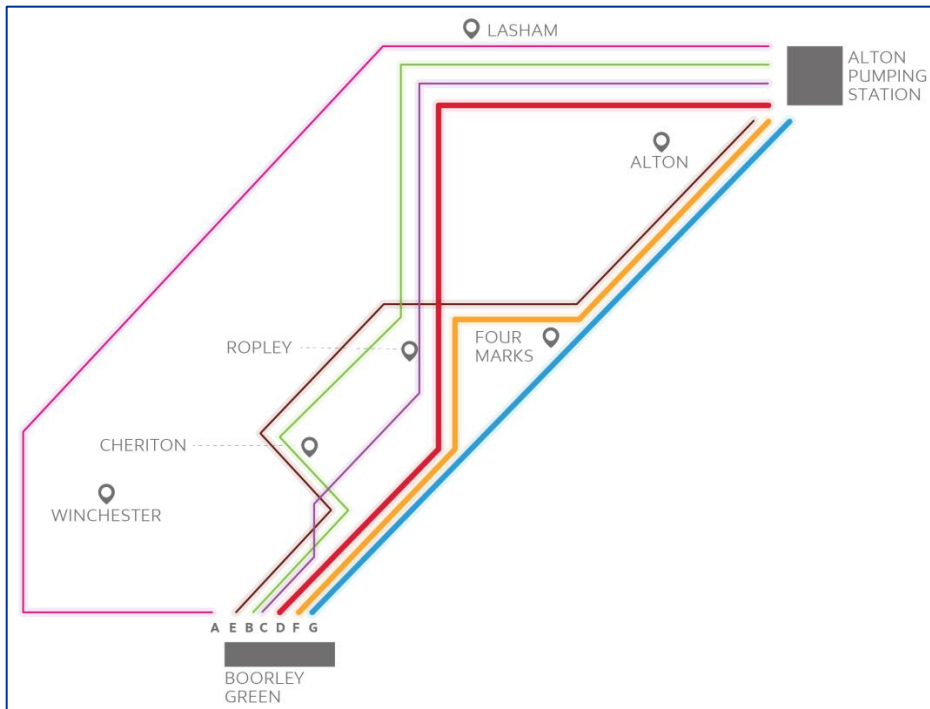
3.2.9 These constraints split the replacement pipeline into two geographic areas; south of Alton and north of Alton, so it was decided that a longlist of corridor options would be progressed separately for the north and south areas.

3.2.10 Following a comprehensive review against criteria established for the purpose (as set out in Environmental Statement section 4.5) a longlist of seven corridors to the south of Alton Pumping Station, and ten to the north of Alton Pumping Station were identified. The identification of the corridors was consistent with the approach advocated in National Policy Statement EN-4, paragraph 2.19.8, which states:

“When designing the route of new pipelines applicants should research relevant constraints including proximity of existing and planned residential properties, schools and hospitals, railway crossings, major road crossings, below surface usage and proximity to environmentally sensitive areas, main river and watercourse crossings. These can be undertaken by means of desk top studies in the first instance, followed up by consulting the appropriate authority, operator, or conservation body if necessary.”

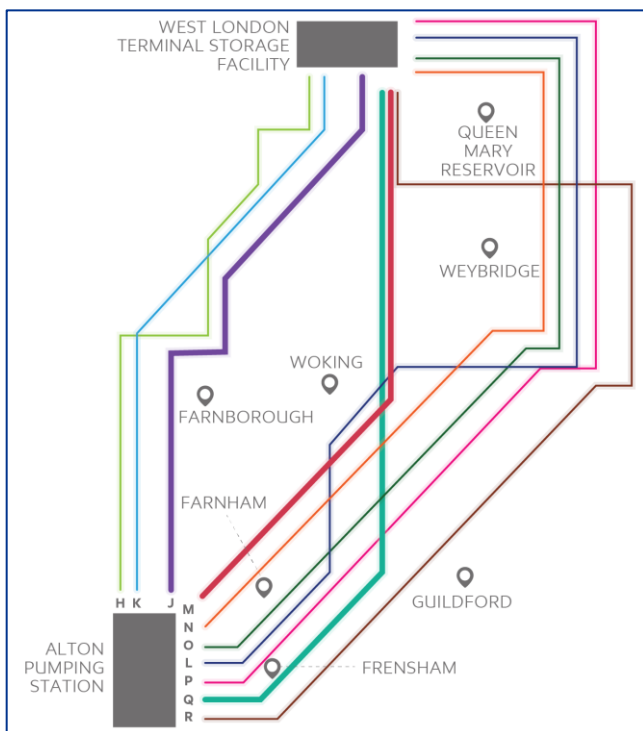
3.2.11 The corridors to the south of Alton would either be likely to cross the South Downs National Park in some way, or be routed around the National Park. Initial work included one corridor option to avoid the National Park, by way of a significant deviation to the south of Eastleigh and to the west of Winchester, and six corridors that crossed the National Park to greater or lesser extents, as shown in Illustration 3.1 below. Corridor options were identified to potentially avoid re-entering the National Park to the south of Alton, by way of a diversion north of the National Park boundary and to the south of the town.

Illustration 3.1: Longlist South of Alton Options



3.2.12 The corridors to the north of Alton illustrated in Illustration 3.2 below similarly sought to provide options to take account of significant constraints within the area, including the Thames Basin Heaths, common land, AONB, and urban population centres along the route. Given the extent of existing development and environmental constraints, there was a greater number of potential corridors identified in the north than the south.

Illustration 3.2 Longlist North of Alton Options





3.2.13 The longlist corridors were then sifted in accordance with the adopted methodology in a multi-disciplinary workshop. Each corridor option was assessed using a set of sifting criteria developed to cover the same topic areas as were used to produce the longlist, namely engineering/constructability, environmental and social, planning and cost/schedule (details are in Environmental Statement Chapter 4). At this stage the planning assessment was necessarily at a reasonably high level, taking account of the environmental and engineering assessments to provide planning comments on the potential constraints to securing consent for the corridors. The planning assessment also took into account potential impacts on allocated or committed major developments, areas of known special category land and other major planning constraints.

3.2.14 The assessment identified strengths and weaknesses, with each specialist discipline using a five-grade system ('very weak' to 'very good') to inform selection of the shortlist. Assessments considered the project objectives and guiding principles.

Shortlist of corridors

3.2.15 As a result of the longlist sifting process, the following six corridors were taken forward to the shortlist (justification for selection is set out in Environmental Statement Section 4.5), as shown in Illustration 3.3 below:

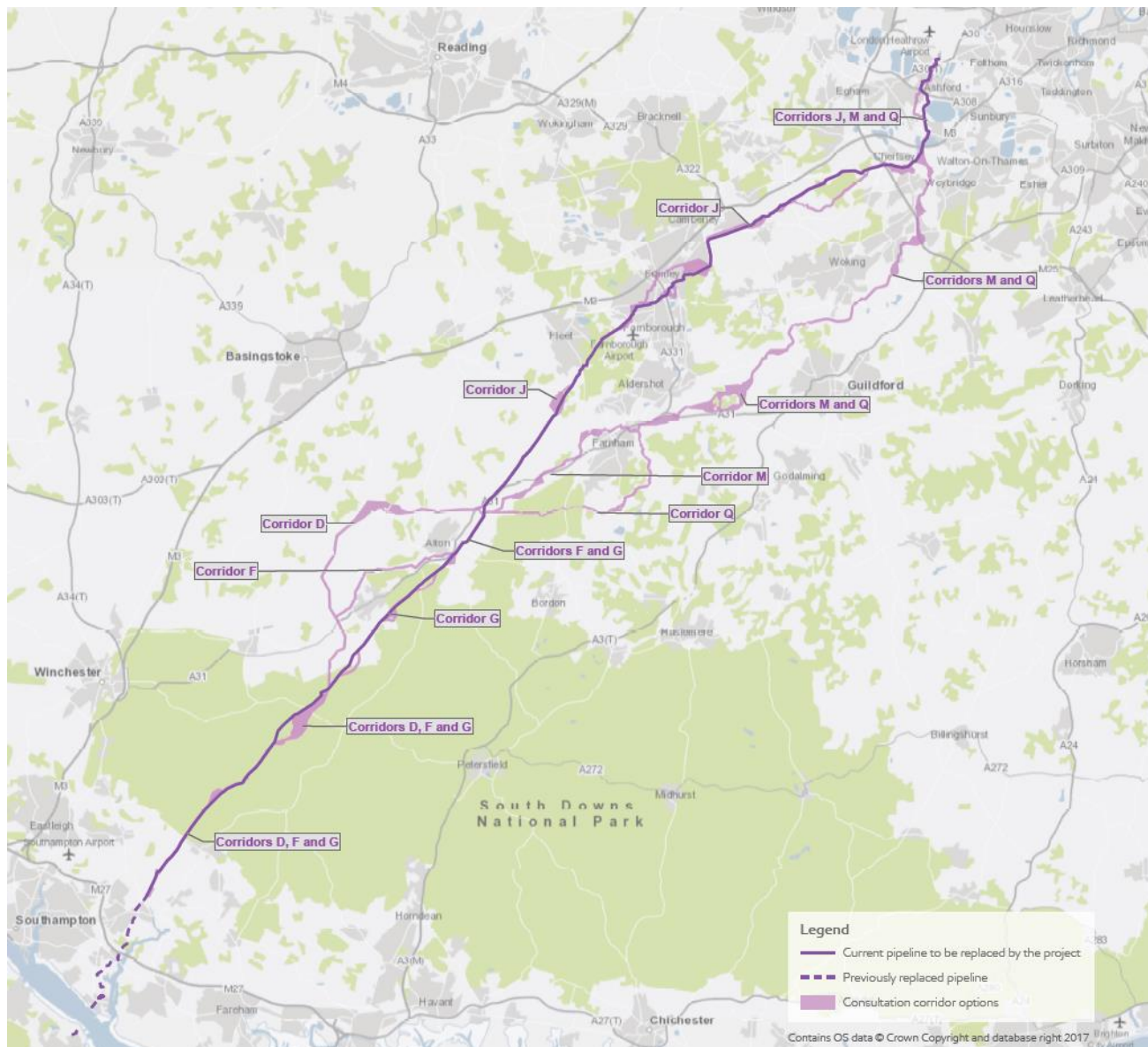
- South of Alton: Options D, F and G; and
- North of Alton: Options J, M and Q.

3.2.16 The corridor option that avoided the National Park, through the diversion to the west of Winchester, was discounted as part of the corridor selection process. Although avoiding the National Park, it passed through environmentally sensitive areas between Otterbourne and Colden Common, including the River Itchen Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC), and an important Groundwater Source Protection Zone 1. Therefore, this corridor was unlikely to have better environmental outcomes than others. The cultural heritage features around the northeast of Winchester, as well as emerging housing allocations, were also considered to be material challenges for this corridor. This approach was subsequently agreed with by the South Downs National Park Authority in its non-statutory consultation response.

3.2.17 Each of the shortlist corridors was assessed using a set of appraisal criteria developed to cover the same topic areas used for sifting the longlist, namely engineering/constructability, environmental and social, planning and cost/schedule.

3.2.18 The outcome of the detailed assessment was that each discipline assessed strengths and weaknesses using the five-grade system ('very weak' to 'very good'). The corridor shortlist was taken forward for non-statutory consultation, held between 19 March and 30 April 2018.

Illustration 3.3 Shortlist of Options for Non-Statutory Consultation



Selection of Preferred Corridor

- 3.2.19 Following the close of the non-statutory consultation on Corridor options on 30 April 2018, an independent consultation organisation collated all of the consultation responses, which were then analysed by the project's senior management team with support from the environmental, engineering and planning teams.
- 3.2.20 Following further review of technical data, one southern corridor and one northern corridor was selected.
- 3.2.21 Corridor Option G in the south and corridor Option J in the north were selected and combined to progress as the preferred corridor. These corridors performed best when measured against the project objectives and guiding principles and are those that most closely follow the existing pipeline.



3.2.22 The selection of the preferred pipeline corridor was announced on 30 May 2018.

3.3 Development and Refinement of the Pipeline Route

3.3.1 Key considerations for development of the pipeline route, in addition to the project objectives and guiding principles, included:

- avoiding or reducing effects to environmentally sensitive areas, e.g. SSSI, SAC, ancient woodland;
- reducing impacts to residential areas, farmhouses and businesses;
- ensuring that the routeing took account of constraints imposed by major infrastructure crossings (e.g. motorways, trunk roads, canals, rivers and railways);
- reducing crossing and diversions of other services;
- avoiding steep gradients and side slopes where feasible; and
- avoiding difficult geological features and unsuitable ground conditions where feasible.

Initial Working Route

3.3.2 Following announcement of the preferred corridor on 30 May 2018, an initial working route, which refined the 200m corridor to approximately 30m in width, was then released via the project's website in June 2018.

3.3.3 The Scoping Report was submitted to the Planning Inspectorate in July 2018 and set out anticipated embedded design measures, reflecting the design evolution at that stage of the project. Ten overarching project commitments were identified in the Scoping Report to help guide the development of the initial working route, and ultimately the final route. These are listed in Table 4.6 in Chapter 4 of the Environmental Statement.

Sub-options

3.3.4 Through an iterative process, the initial working route design evolved into the preferred route with numerous sub-options. Sub-options were identified where route refinement decisions remained outstanding. There were 20 locations where sub-options were identified and consulted on as part of the statutory consultation in September/October 2018. In order to help that the location of each of these sub-options was clear, the pipeline route was divided into Sections for ease of reference and to aid meaningful discussion during statutory consultation. The sub-options are identified within Chapters 8 to 15 Sections A to H Planning Assessment.

Design Refinement

3.3.5 Following the initial statutory consultation on the preferred route, a further review was undertaken in response to the feedback and alongside environmental and engineering information in relation to the sub-options. Sub-option selection was



made based on the outcomes. The reasons for sub-option selection are identified within Chapters 8 to 15 Sections A to H Planning Assessment.

- 3.3.6 Changes continued to be made as part of the design development following statutory consultation on the preferred route, including to incorporate design measures to reflect outcomes from ongoing environmental and engineering assessments and Consultation feedback. A list of location-specific embedded design measures is provided in Table 3.1 of Environmental Statement Appendix 4.1. Minor modifications to the route or width of Order Limits and Limits of Deviation were incorporated as part of the development of the project design.

Design Refinements Consultation

- 3.3.7 The purpose of the Design Refinements consultation was to let consultees know about proposed design refinements to the route and potential logistics hubs, and to invite views on them. The views expressed would enable Esso to reach an informed decision about the final design of the project. These design refinements were published and consulted on between 21 January and 19 February 2019.
- 3.3.8 As well as a number of refinements to the pipeline route, access and other detailed design arrangements, the design refinements consultation included proposals to de-select a small number of sub-options from earlier consultation and the selection of alternative routes to replace them. These are identified within Chapters 8 to 15 Sections A to H Planning Assessment.

Route finalisation

- 3.3.9 Following the design refinement the project reviewed feedback and information from ongoing technical and environmental assessment work and studies and made a series of decisions in order to further refine the route. Details of the final pipeline route were published on 27 March 2019.
- 3.3.10 This final pipeline route is included in the application for development consent, including Order Limits, Limits of Deviation and the commitments presented in Chapter 16 Environmental Measures and Mitigation in the Environmental Statement.

3.4 Design of Above and Below Ground Infrastructure

- 3.4.1 Alongside the development of the pipeline route, initial outline designs for permanent infrastructure were developed, comprising the following elements:
- the new pipeline inspection gauge (PIG or “pigging”) station at Boorley Green;
 - 14 remotely operated in-line valves along the pipeline
 - 1 pressure transducer;
 - 6 new above ground cathodic protection (CP) transformer rectifier cabinets;
 - replacement pump at Alton Pumping Station; and
 - modifications to the PIG station at the West London Terminal storage facility.



- 3.4.2 Outline designs were also created for temporary infrastructure that would be required for the installation of the pipeline, including:
- construction and pipe storage compounds;
 - additional working areas; and
 - access to the working areas.

3.5 Design of Temporary Construction Infrastructure

- 3.5.1 Temporary logistics hubs and construction compounds, required during installation of the pipeline are described in ES Chapter 3 Project Description. The design development for these also followed an iterative design development process, particularly in terms of siting. Areas of high environmental and social sensitivity were avoided where practicable, and the design development sought to reduce potential effects on receptors.

Logistics Hubs

- 3.5.2 Up to six logistics hubs would be established in locations, close to the strategic road network. The logistic hubs would serve as points for accepting deliveries and storage of materials. Each of the hubs would include a pipe laydown area, secure plant storage area, bunded fuel storage, single-storey offices, staff welfare facilities and a vehicle parking area.
- 3.5.3 The six proposed locations were selected, taking into account environmental considerations. The proposed logistics hubs were consulted on as part of the targeted second statutory consultation (design refinements), held between 21 January 2019 and 19 February 2019.

Construction Compounds

- 3.5.4 The fenced compounds would be accessed from the existing road network. These are small satellite areas close to the route that are used for storing equipment, hosting staff facilities, and laying down pieces of the pipeline.
- 3.5.5 The compounds need to be adjacent to the working area. The location and number of construction compounds was determined through a balanced appraisal of the most efficient locations for construction management purposes, while accounting for potential environmental impacts.

Working Areas

- 3.5.6 Working areas are needed along the route to provide working space for specific construction operations, such as trenchless working and road crossings.
- 3.5.7 The working areas were sized giving consideration to the types of construction operations that could potentially be used in each location.



Access Tracks

- 3.5.8 Access tracks and haul routes are utilised to secure access from the public highway to construction compounds, and along the working corridor. The access routes have been identified to seek to utilise as many existing farm or other access tracks as possible, thereby reducing the number of new temporary construction access points.



4 Project Description

4.1 Overview

- 4.1.1 Esso Petroleum Company, Limited (Esso) intends to replace 90km of its 105km aviation fuel pipeline that runs from its Fawley refinery near Southampton to its West London Terminal storage facility in Hounslow. The replacement pipeline is 97km long taking into account that it cannot follow the line of the existing pipeline along its whole length due to new developments and environmental constraints.
- 4.1.2 The existing pipeline was built between 1969 and 1972. It was originally installed to transport a type of oil used by large industrial facilities and oil-fired power stations. During the 1980s when natural gas became more widely available in the UK, the need for this type of heating fuel dwindled. With the growth of air travel, the pipeline was then used to transport aviation fuel.
- 4.1.3 The existing pipeline is working adequately, but the need for inspections and maintenance is increasing, and a decision has been made by Esso to replace the existing pipeline to ensure the continued supply of aviation fuel across the southeast, long into the future. Esso is starting the Southampton to London Pipeline project (the project) now to allow sufficient time to gain approval and install the replacement, while maintaining the safe and secure movement of fuel along the existing pipeline.
- 4.1.4 In 2002, Esso replaced 10km of the existing pipeline between Hamble and Boorley Green in Hampshire. The current project is to replace the 90km between Boorley Green and the West London Terminal storage facility in Hounslow.
- 4.1.5 The installed pipe will have a nominal internal diameter of 30cm (12 inches) and a nominal wall thickness of 11.9mm. The wall thickness is greater than British Standard PD8010 standards to provide additional long-term protection from deterioration or damage.
- 4.1.6 A preferred corridor for the replacement pipeline was selected and announced to the public on 30 May 2018.
- 4.1.7 The preferred corridor largely follows the existing pipeline with the exception of locations where constraints require the corridor to be widened or diverted.
- 4.1.8 After announcing the selection of the preferred corridor, Esso continued to develop the route that follows the preferred corridor. In June 2018 an initial working route was released via the project's website and by writing to affected landowners. Early feedback received from affected landowners on the initial working route was taken into account for the development of the Order Limits for the route presented at the statutory consultation in September/October 2018.
- 4.1.9 The design and routing of the replacement pipeline and associated Order Limits described within this Chapter have been developed following analysis of responses received from the preferred route consultation carried out in September/October 2018. Where the outcome of this consultation led to material changes, there was a design refinement consultation in January 2019.



- 4.1.10 The replacement pipeline starts near Boorley Green at the end point of the previously replaced pipeline. The route runs generally in a northeast direction via the Pumping Station in Alton. It terminates at the West London Terminal storage facility.
- 4.1.11 Inspection vehicles used inside the pipeline are known as Pipeline Inspection Gauges (PIGs). A new 'pigging station' (see Section 4.4) will be constructed close to the start point of the replacement pipeline near Boorley Green. This will allow inspection of the replacement pipeline as well as the previously replaced pipeline between Hamble and Boorley Green (which has a smaller internal diameter of 25cm). The purpose of the pigging station at Boorley Green is to enable receipt of PIGs from the 25cm diameter pipeline between Hamble and Boorley Green and launching of PIGs for the 30cm diameter pipeline between Boorley Green and Esso's West London Terminal storage facility. The replacement pipe will therefore be 25cm internal diameter for circa 1.5km up to the location of the pigging station and 30cm internal diameter thereafter.
- 4.1.12 The replacement pipeline will be routed through the existing Alton Pumping Station where it will connect to existing infrastructure to continue fuel supply to London Gatwick. There are currently three existing external pumps at Alton Pumping Station. The project will replace one pump, with the replacement located near to the remaining pumps. A small amount of additional above ground pipework will be installed for the tie-ins to the replacement pump.
- 4.1.13 The replacement pipeline will be buried underground for its entire length. The minimum depth from the top of the pipe to the ground surface will be 1.2m in open cut sections, and deeper for trenchless crossings. A slightly shallower depth may conceivably be necessary in exceptional circumstances, but all indications are that this will not be required. The pipeline will also be buried deeper, typically 1.5m from the top of the pipe to ground surface in roads and streets to account for other existing infrastructure such as utility pipes, cables and sewers.
- 4.1.14 Fourteen remotely operated valves will be installed along the route of the replacement pipeline to allow isolation for maintenance or to limit the impact of a potential leak. Other than valve 1 which is located within the pigging station near Boorley Green and Valve 7 which is located within the existing compound at Alton pumping station, the remaining 12 valves will be located below ground in chambers within a fenced enclosure.
- 4.1.15 There is also a single Pressure Transducer (PT). The pressure transducer's primary purpose is to monitor pressure and is also located in a chamber within a fenced enclosure.
- 4.1.16 A Cathodic Protection (CP) system will be used to protect the pipeline against corrosion. The CP system is buried underground with the exception of the CP marker posts at approximately 1km intervals, six CP transformer rectifier cabinets (see Section 4.4). The CP system will mainly use existing *in situ* infrastructure but will need additional connections including cabling to the existing ground beds (a ground bed is an array of electrodes, installed in the ground to provide a low resistance electrical path to ground or earth).



- 4.1.17 The working width for the route is typically 30m. Where the new pipeline is routed adjacent to Esso's existing pipelines, a 36m wide Order Limit is designed to provide flexibility for detailed routeing and construction methodologies for pipeline installation adjacent to these existing pipelines. A wider working width may be required at some locations, for example, the Order Limits are wider to allow for potentially problematic ground conditions. Where specific width restrictions exist, for example for highway works in urban areas, the working width will be narrowed. To reduce vegetation loss the project will only utilise a 10m width when crossing through boundaries between fields where these include hedgerows, trees or watercourses.
- 4.1.18 Open-cut trenching methods will be used for the majority of the route. For major crossings of A-roads and motorways (including the M25 and M3) and other heavily trafficked roads, railways (including main and branch lines) and some watercourses (including the River Thames), specialist trenchless techniques will be used (see Section 4.3 and 4.6). At these locations additional working space will be required and therefore the Order Limits have been widened. The Order Limits also include other temporary working areas such as access routes, construction compounds and logistics hubs.
- 4.1.19 In order to facilitate the installation of the replacement pipeline, six logistics hubs will be provided at locations along the length of the pipeline to provide for storage of materials and act as centres for the co-ordination of the installation work.
- 4.1.20 Taking the existing pipeline out of service, known as decommissioning, is covered by the original pipeline consent and therefore does not form part of this project. The existing pipeline will be decommissioned once the replacement pipeline is operational. The nature of the pipeline network means that at no point can both pipelines be operational at the same time.
- 4.1.21 Decommissioning of the replacement pipeline is addressed in Section 4.10.

4.2 Design Principles

- 4.2.1 The replacement pipeline will be designed to comply with the HSE's Pipelines Safety Regulations 1996 and the latest edition of BSI PD 8010, an internationally recognised code of practice for pipeline systems. The design of the pipeline will also take account of Esso's own operating experience.
- 4.2.2 Key principles of the design include:
- a design life of 60 years;
 - protection against corrosion;
 - necessary equipment required for pipeline inspection;
 - telemetry to allow remote operation of valves; and
 - continuous remote monitoring using leak detection software.



4.2.3 The replacement pipeline will be a butt-welded steel pipe with external coating (three-layer polyethylene or equivalent) providing a robust corrosion barrier to the pipe exterior.

4.2.4 In addition to the corrosion protection coating, the replacement pipeline will have an impressed current cathodic protection system in line with established industry practice. This system works to reduce corrosion potential where the pipe coating may have become damaged, perhaps by differential settlement of subsoil surrounding the pipe over time or by inadvertent contact by third parties. The performance of the cathodic protection system will be monitored and tested in accordance with industry standards.

4.3 The Replacement Pipeline

4.3.1 This section summarises the route design of the replacement pipeline. It includes general descriptions and characteristics of the route and Order Limits.

Route Description and Characteristics

4.3.2 To aid design development and environmental assessment, the route was broken down into eight separate sections (Section A to Section H) as follows:

- Section A – Boorley Green to Bramdean
- Section B – Bramdean to South of Alton
- Section C – South of Alton to Crondall
- Section D – Crondall to Farnborough
- Section E – Farnborough to Bisley and Pirbright Ranges
- Section F – Bisley and Pirbright Ranges to M25
- Section G – M25 to M3
- Section H – M3 to the West London Terminal storage facility.

4.3.3 Within this Chapter information is provided about the entire length of the final route, including more detailed descriptions of Section A to Section H.

4.3.4 Additional information regarding the types of construction techniques that could be used is provided in Section 4.6.

Sub-options

4.3.5 A number of sub-options were identified as part of the development of the preferred route, with the preferred sub-option chosen after more detailed environmental and engineering assessments, statutory and non-statutory consultation responses, and communication with landowners and other relevant stakeholders.



Project Features and Terms

- 4.3.6 *Order Limits*: The outer limits for the project, including the route and any temporary working areas that will be required to install the pipeline, such as access routes, mitigation areas and working compounds. This will also include the easement strip that will be protected along the pipeline following installation.
- 4.3.7 *Limits of Deviation (LOD)*: These limits show the maximum area within which the pipeline could be installed, if granted development consent. This flexibility is required in order to deal with unforeseen circumstances, such as ground conditions and local features.
- 4.3.8 *Working Width*: The width required within the Order Limits to install the pipeline. It does not include any working compounds, laydown areas, stringing out areas or off-site access roads.
- 4.3.9 *Temporary trenchless construction stringing out areas*: These areas are used to weld segments of the pipeline together above the ground and to provide space to feed sections of the pipeline into openings during trenchless installation.
- 4.3.10 *Temporary construction site access roads*: These are temporary roads for machinery vehicles. They are used to provide access to the highway from the work sites to reduce the impact on local roads.
- 4.3.11 *Temporary logistics hubs*: These are areas which may be remote from the route of the replacement pipeline, that will be used for pipe storage and distribution as well as providing site offices, welfare and storage facilities.
- 4.3.12 *Temporary construction compounds and laydown areas*: These are small satellite areas close to the route and within the Order Limits that are used for storing equipment, hosting staff facilities, and laying down pieces of the pipeline.
- 4.3.13 *Narrow Working*: This approach involves the contractor(s) using less space than standard working width due to localised constraints, such as working in roads or ecologically sensitive areas.

Section A – Boorley Green to Bramdean

Summary of This Section

- 4.3.14 Section A is largely rural and runs through agricultural land. Most of this section is within the South Downs National Park (SDNP). It spans Eastleigh Borough and Winchester City Councils.
- 4.3.15 As the majority of the length of the replacement pipeline will have a larger diameter (30cm) than the existing pipeline south of Boorley Green (25cm), a pigging station will be required southwest of Netherhill Lane between Boorley Green and Durley. The replacement pipe between the end of the existing 25cm diameter pipe and the location of the pigging station will be 25cm diameter.



Application Route Description

- 4.3.16 Section A is approximately 20km (12 miles) long and starts just south of Maddoxford Lane to the east of Boorley Green. The route heads east along Maddoxford Lane before crossing Maddoxford Lane and heading north across open land, then crosses Ford Lake Stream. The section then crosses the B2177 between Bishop's Waltham and Upham, where it enters the SDNP. The route diverts away from the existing pipeline to avoid the chalk grassland and established vegetation areas at Stephen's Castle Down. The route passes Joan's Acre Wood, then passes the village of Bramdean, before this section ends just after crossing the A272.

Use of Trenchless Installation Techniques

- TC 001 - Ford Lake Stream: A trenchless crossing will be used to minimise disruption to the stream and its habitats.
- TC 002 - Stakes Lane: A trenchless crossing is under this rural road to avoid traffic disruptions based on feedback from the Hampshire Highway Authority.
- TC 003 - Riversdown Road (sub-option A2b only): A trenchless crossing under this rural road is to avoid impacts on ancient woodland and Site of Importance for Nature Conservation (SINC) on either side of this road.
- TC 004 - A272: Trenchless techniques will be used to avoid the need to close this main road between Bramdean and Petersfield.

Sub-options in Section A

- 4.3.17 In this section there is one part of the application route in the area around Hinton Ampner that still includes sub-options as described below. It is proposed that the project will commit to one of these sub-options at submission or during the examination of the application for development consent, and request that the other be withdrawn.

A2: Hinton Ampner Sub-options

- 4.3.18 There are two sub-options just east of Joan's Acre Wood, designed to take account of sites of environmental and cultural importance in the area.
- The A2a sub-option passes Joan's Acre Wood, avoiding Brockwood Copse and Roadside Strips Site of Importance for Nature Conservation (SINC) before heading northwest past Malthouse Plantation. This option is routed through the Hinton Ampner National Trust estate.
 - The A2b sub-option crosses Brockwood Copse and Roadside Strips SINC before heading northwest past The Firs and Godwin's Plantation. The eastern option is routed around the Hinton Ampner National Trust estate. It then re-joins the western sub-option.



Section B – Bramdean to South of Alton

Summary of This Section

- 4.3.19 Section B is also largely rural, similar to Section A, and lies mainly within the SDNP – with a short section between Monkwood and near Four Marks outside the SDNP. It spans Eastleigh Borough and Winchester City Councils.

Application Route Description

- 4.3.20 Section B is around 15km (9 miles) long and starts just after the A272 crossing. It avoids Woodcote Copse and Bramdean Common before running north of West Tisted. It then runs through the Four Marks golf course followed by the crossing of the A32, before running outside the southern boundary of Chawton House Registered Park and Garden. The section ends at the boundary of the SDNP after the B3006 crossing.

Use of Trenchless Installation Techniques

- TC 005 - Petersfield Road: A trenchless crossing will be used under this rural road to avoid traffic disruptions based on feedback from the Hampshire Highways Authority.
- TC 006 - A32: Trenchless techniques will be used as this is a main road into Chawton and Alton.

Section C – South of Alton to Crondall

Summary of This Section

- 4.3.21 Section C is largely rural with long stretches passing through agricultural land. It spans East Hampshire and Hart District Councils.

Route Description

- 4.3.22 Section C is approximately 15km (9 miles) long and starts at the boundary of the SDNP after the B3006 crossing. It deviates slightly from the existing pipeline route to avoid local businesses. The application route runs east of Alton, skirting around Worldham golf course before crossing Caker's Lane (B3004). This is followed by a crossing of the River Wey and the Alton to Waterloo railway line before it approaches Alton Pumping Station, which is located between the railway line and the A31.
- 4.3.23 From Alton Pumping Station the route passes under the A31 and the application route then runs to the southeast of Upper and Lower Froyle. It avoids Locks Grove and Lee Wood SINC. The section ends at Dippenhall Street, Crondall.

Use of Trenchless Installation Techniques

- TC 007 - Caker Lane: The crossing of Caker Lane may be trenchless or open cut. This is still to be determined. This is a heavily trafficked route and the traffic diversion route will be very long.



- TC 008 & 009 - River Wey, Alton to Waterloo railway line, A31 and minor access road: Two trenchless crossings will be used to pass under the River Wey and Alton to Waterloo railway line, and then the A31 Alton Bypass. This will mean that people can still use the major road out of Alton and the railway during installation. The crossing under the River Wey will protect the river from the potential disturbance that could result from open-cut trench installation.

Section D – Crondall to Farnborough

Summary of This Section

- 4.3.24 Section D runs through both rural and urban areas with a significant proportion passing through land owned by the Ministry of Defence (MoD). There are several Sites of Special Scientific Interest (SSSI) and European designated wildlife sites. Potential impacts on these designated sites will be mitigated. This will be achieved by routeing (where appropriate) along an existing track and taking into account factors such as bird nesting seasons in programming the installation of the pipeline. This section spans Hart District Council and Rushmoor Borough Council.

Application Route Description

- 4.3.25 Section D is approximately 9km (6 miles) long and starts at Dippenhall Street shortly after which it crosses Oak Park Golf Course. The section continues, crossing the A287 before entering MoD land at Ewshot Lane. It runs alongside Naishes Lane to Quetta Park and towards Fleet Business Park, where it deviates from the existing pipeline and passes through Wakefords Copse to avoid crossing Fleet Business Park. After running along the B3013 for approximately 300m the application route then passes north of a development site, before re-entering MoD land. From this point, the section crosses the northern part of Tweseldown Racecourse, Ewshot, and the Bourley and Long Valley SSSI. At Norris Hill the haul road diverges from the pipe route in order to utilise an established track. This is followed by a crossing of the Basingstoke Canal and A323.
- 4.3.26 The route passes along the northern boundary of Eelmoor Marsh SSSI before leaving the MoD land. The section crosses Cody Technology Park and the western part of Southwood golf course and finishes just after the crossing of the A327.

Use of Trenchless Installation Techniques

- TC 010 - A287 Ewshot Hill: Trenchless techniques will be used to avoid disruption to the A287, which is a major route into Farnham.
- TC 011 & 012 - Bourley and Long Valley SSSI: Two consecutive trenchless crossings will be used to avoid wetland areas in this SSSI.
- TC 013 - Basingstoke Canal SSSI and A323: A single trenchless crossing of both features, this will avoid disruption of the A323 between Fleet and Aldershot and takes account of the SSSI and Conservation Area designations.
- TC 014 - A327 Ively Road: A major route into Farnborough, the A327 will be crossed using trenchless techniques to avoid disruption to local residents.



Section E – Farnborough to Bisley and Pirbright Ranges

Summary of This Section

- 4.3.27 Section E runs through both rural and urban areas with a significant proportion passing through land owned by the MoD. It spans Rushmoor Borough Council and Surrey Heath Borough Council and crosses from Hampshire into Surrey.

Route Description

- 4.3.28 Section E is approximately 9km (5 miles) in length and starts just after the A327 crossing. It runs north through the western section of Southwood golf course and then through open land to the west of Cove Brook. The route then runs along Cove Road (B3014) for a short distance and then along Nash Close before crossing the South Western main railway line to the west of Farnborough.
- 4.3.29 After the railway crossing the section runs east alongside the railway line to Stake Lane and then along the southern boundary of the allotments located off Prospect Road. Due to the restricted space alongside the railway line trenchless techniques will be required for much of this length.
- 4.3.30 The section then continues east through Queen Elizabeth Park to the north of Farnborough Station, followed by a crossing of the A325. The section then crosses open land owned by Farnborough Hill School, after which a long crossing will be made under the North Downs railway line, A331, River Blackwater, Blackwater Valley and the Ascot to Guildford railway line.
- 4.3.31 The route then runs along the south eastern boundary of SC Johnson Ltd land before crossing Frimley Green Road (B3411) near the roundabout with Balmoral Drive. From the B3411 the route follows Balmoral Drive to Frith Hill, crossing MoD land, where it follows the existing pipeline across Pine Ridge Golf Course. This section finishes immediately after the B3015 at the junction of Old Bisley Road, The Maultway and Deepcut Bridge Road.

Use of Trenchless Installation Techniques

- TC 015 - South Western Main railway line: A trenchless crossing of the South Western Main railway line will reduce impacts on rail travel.
- TC 016 - Cove Brook: Along the northern side of the South Western Main railway line a trenchless crossing is to avoid the Cove Brook watercourse.
- TC 017 & 018 - North side of railway embankment: Two consecutive trenchless crossings are on the north side of the South Western Main railway line, parallel to West Heath Road and adjacent to the railway embankment. The first crossing will reduce disruption to back gardens and the second crossing will reduce disruption on Stake Lane and avoid disruption on Prospect Road.
- TC 019 - A325 Farnborough Road: A trenchless crossing will be used to avoid the A325, which is a major route through Farnborough.
- TC 020 - Blackwater Valley: Trenchless techniques will be used to go under the North Downs railway line, the A331, River Blackwater, and Ascot to Guildford railway line. This will reduce impacts on travel for local people and minimise



disturbance to the wildlife in the River Blackwater. The crossing of the remaining elements of the Blackwater Valley may be trenchless or open cut. This is still to be determined.

Section F – Bisley and Pirbright Ranges to M25

Summary of This Section

- 4.3.32 Section F runs through both rural and urban areas, including one area of land owned by the MoD and also a number of SSSIs such as Colony Bog and Bagshot Heath. It spans Surrey Heath Borough Council and Runnymede Borough Council.

Route Description

- 4.3.33 Section F is approximately 17km (11miles) long and starts immediately after the B3015, where it enters MoD land associated with the Bisley and Pirbright Ranges, Colony Bog and Bagshot Heath SSSI. The route continues north running adjacent to The Maultway (B3015) then turning east to follow Red Road (B311) and through an area of woodland before running alongside Guildford Road for a short distance.
- 4.3.34 The section then crosses Guildford Road, followed by a crossing of the A322 Lightwater Bypass, continuing through Windlemere Suitable Alternative Green Space (SANG). The application route will then cross the Hale Bourne. The route then continues generally northeast, crossing Windlesham Road, before passing through Chobham Common SSSI and Foxhills Country Club and Resort to the B386. The section then crosses the B386 and continues north of St Peter's Hospital. It passes under the A320, through the grounds of Salesian School and under the M25.

Use of Trenchless Installation Techniques

- TC 021 - A322 Lightwater Bypass: A trenchless crossing will be used to avoid the A322 Lightwater Bypass and reduce impacts on travel in the local area.
- TC 022 - Hale Bourne: A trenchless crossing will be used to minimise impacts on the ecology of the watercourse.
- TC 023 - Windlesham Road: Although this is a minor road, the currently available buried services information suggests that crossing the road using open cut techniques may lead to a lengthy road closure. Until trial trenches have been excavated across the road and detailed plotting of a pipe route is done, the option to cross the road using trenchless techniques has been allowed for in the design of the Order Limits.
- TC 024, 025 & 026 - Chobham Common SSSI: Three trenchless crossings are in Chobham Common to cross areas of wetland.
- TC 027 - Accommodation Road: A trenchless crossing will be used to minimise disruption on this busy road.
- TC 028 - Holloway Hill woods: Trenchless techniques will be used when passing through Holloway Hill woods to reduce the need to cut down mature trees or damage roots. This trenchless crossing will also traverse under the strip



of possible ancient woodland along the south verge of Longcross Road (B386) in Foxhills Country Club and Resort.

- TC 029 - Hardwick Lane: A trenchless crossing will be used to minimise disruption on this road as well as traversing under trees which are subject to tree preservation orders.
- TC 030 - A320 Guildford Road, Salesian School grounds and M25: A single trenchless crossing will be used. This will avoid impacts on the main school campus, the A320, which is a major road into Chertsey and the school. A trenchless crossing of the M25 will ensure that one of the UK's busiest motorways can remain open throughout installation.

Section G – M25 to M3

Summary of This Section

- 4.3.35 Section G is largely urban, but also includes a SSSI. It spans Runnymede Borough Council and Spelthorne Borough Council.

Route Description

- 4.3.36 Section G is around 4km (3 miles) long and starts after the trenchless crossing of the A320/M25, before continuing through Abbey Moor golf course. There is then a crossing of the Chertsey Branch railway line between Chertsey and Addlestone Stations. The route then follows Canford Drive before crossing the A317 Chertsey Road and subsequently passing through the playing fields at Addlestone Moor.
- 4.3.37 The section then crosses the Chertsey Bourne before heading towards the River Thames. The application route diverts away from the existing pipeline crossing of the Thames to avoid Dumsey Meadow SSSI, which lies just north of the river. The River Thames is 55m wide at this location. The trenchless crossing of the River Thames will continue under the B375 and Old Littleton Lane. The section ends at the M3 Motorway west of Littleton Lane.

Use of Trenchless Installation Techniques

- TC 031 - Chertsey Branch railway line: Trenchless installation will be used to avoid the Chertsey Branch railway line, reducing impacts on travel in the area.
- TC 032 - A317 Chertsey Road: Trenchless installation will be used to reduce impacts on traffic in the built-up area of Chertsey.
- TC 033 - Chertsey Bourne: A trenchless crossing will be used to minimise impacts on the ecology of the watercourse.
- TC 034 - River Thames and B375 Chertsey Bridge Road: A trenchless crossing under the River Thames will mitigate impacts on river habitats and people travelling by boat. The B375 is a busy road between Chertsey and Walton-on-Thames, and the use of a trenchless technique will avoid disruption to travel in the area.
- TC 035 - M3: A trenchless technique will be used to pass under the M3. This technique will mean that this major UK motorway can remain open throughout installation.



Section H – M3 to the West London Terminal Storage Facility

Summary of This Section

- 4.3.38 Section H is largely urban. It spans Spelthorne Borough Council and ends just within the London Borough of Hounslow.

Application Route Description

- 4.3.39 Section H is around 8km (5 miles) long and starts after the crossing of the M3, proceeding north, before crossing the B376 Shepperton Road. The Lower Thames Flood Alleviation Scheme will also cross the route in this area.
- 4.3.40 The section then heads north to cross the Queen Mary Reservoir Intake Canal before following Ashford Road (B377) west of the Queen Mary Reservoir. This is followed by a crossing of the Staines Reservoir Aqueduct and Ashford Road just south of the A308. The section then passes through Fordbridge Park using narrow working where possible to avoid or limit the impact on memorial trees before crossing the Staines Bypass (A308).
- 4.3.41 After crossing the A308, the section continues north adjacent to and along Woodthorpe Road, crossing the Waterloo to Reading railway line just east of Ashford Station. This will be accomplished by heading east to cross Church Road (B378) into the grounds of Clarendon Primary School and then crossing the railway line heading north. The section passes on the east side of the grounds of St James Senior Boys' School and through the eastern part of the Thomas Knyvett College playing fields before crossing under the A30. The application route finishes at the West London Terminal storage facility in Hounslow.

Use of Trenchless Installation Techniques

- TC 036 - B376 Shepperton Road: Trenchless techniques will be used to go under the B376 Shepperton Road, avoiding disruption to this road.
- TC 037 - Queen Mary Reservoir Intake Canal: Trenchless techniques will be used to minimise obstruction to the canal and the habitats within it.
- TC 038 - Staines Reservoir Aqueduct and B377 Ashford Road: Trenchless techniques will be used to pass under the aqueduct avoiding disruption to a strategic watercourse and the B377.
- TC 039 - Staines Bypass A308, River Ash and Woodthorpe Road: Trenchless techniques will be used to go under the Staines Bypass, the River Ash and Woodthorpe Road from Fordbridge Park, avoiding disruption to these busy roads.
- TC 040 - B378 Church Road: Trenchless techniques will be used to go under the B378, avoiding disruption to the travelling public around Ashford Station.
- TC 041 - Waterloo to Reading Railway Line: Trenchless techniques will be used to avoid disruption to the rail services in the area.
- TC 042 - Staines Road A30: A trenchless crossing will be used under Staines Road to avoid travel disruption in the area.



4.4 Above Ground Permanent Infrastructure

4.4.1 This section summarises the design of new permanent above ground infrastructure that will need to be constructed for the replacement pipeline. Information is also provided regarding modifications that will be required to machinery and equipment located within permanent above ground infrastructure that already exists.

New Pigging Station Near Boorley Green

4.4.2 Pigging stations allow the insertion and withdrawal of pipeline inspection gauges (PIGs) into and out of the pipeline. A new pigging station will be constructed, southwest of Netherhill Lane between Boorley Green and Durley. The pigging station will contain valves, a PIG receiver associated with maintain the line to the south with a nominal internal diameter of 36cm (14 inches), and a PIG launcher, associated with maintaining the line to the north, with a nominal internal diameter of 40cm (16 inches).

4.4.3 The pigging station will be provided with power and telecoms. The pigging station will be located within a fenced compound approximately 23m x 30m in size (excluding its access track) with secure fencing up to 3m high incorporating a double access gate for vehicles. The compound will be provided with manually operated lighting for when the station is operated in low light conditions. It will not be permanently lit.

4.4.4 An indicative layout design for the new pigging station is shown on drawing in Other Plans in (**application document 2.7**).

Valves

4.4.5 Fourteen remotely operated in-line valves will be installed along the replacement pipeline route to allow isolation for maintenance or to limit the impact of a potential leak.

4.4.6 The fourteen valves are located as follows (in south to north direction):

- Valve 1: Boorley Green Pigging Station
- Valve 2: Cross Lane
- Valve 3: Betty Mundy's Cottage access track
- Valve 4: Uncle Bills/Wolfhanger Farm
- Valve 5: Kitwood Lane
- Valve 6: Selbourne Road
- Valve 7: Alton Pumping Station
- Valve 8: Tweseldown Racecourse
- Valve 9: Ively Road
- Valve 10: Frimley Green Road



- Valve 11: Guildford Road (Lightwater)
- Valve 12: Steep Hill
- Valve 13: Pannells Farm (M25 crossing)
- Valve 14: Ashford Road.

- 4.4.7 Twelve of these valves will be installed below ground level in chambers, with only limited above ground visible elements including secure chamber access covers with associated handrail and a control cabinet. Subject to detailed design, the handrailing could be made retractable or detachable so that it is not visible above ground when not in use. Valve 1 at the pigging station near Boorley Green and Valve 7 at Alton pumping station will be above ground as part of the infrastructure located within the fenced area.
- 4.4.8 Each of the 12 valve chambers will be located within an enclosure, typically the maximum dimensions of the enclosure will be approximately 7m x 5m in size with secure fencing up to 2m high, incorporating up to two pedestrian access gates. The enclosures will not be lit.
- 4.4.9 An indicative layout design for a typical valve enclosure is shown in Other Plans in **(application document 2.7)**.
- 4.4.10 The valves will be powered and controlled via existing electrical and telecoms utilities infrastructure. Should the utility companies need to undertake additional works to provide the required service at the connection point, then they will undertake these works using their own statutory powers.
- 4.4.11 The valves will be remotely operated from the pipeline control centre located at Esso's West London Terminal storage facility.
- 4.4.12 In addition, there is a single pressure transducer located at the highest point on the pipeline to the east of Headmore Lane near Four Marks Golf course. The pressure transducer is used to monitor pressure in the pipeline. The pressure transducer is housed within a below ground chamber within a fenced compound measuring 5.8m by 4.3m with up to two pedestrian access points. Indicative details of the pressure transducer are shown in Other Plans in **(application document 2.7)**.

Cathodic Protection (CP)

- 4.4.13 The CP system currently helps protect the existing pipeline against corrosion. Most elements of the CP system including cabling and ground beds are buried below ground and not visible. The ground beds for the existing pipelines will be used as part of the CP system for the replacement pipeline.
- 4.4.14 Six above ground CP transformer rectifier cabinets will be needed close to the replacement pipeline to supply power to the CP system. Where possible the cabinets for the existing pipeline will be refurbished and reused and internal components replaced.

4.4.15 The CP transformer rectifier cabinets will be powered by connections to existing electrical supplies associated with the CP system for the existing pipeline.

4.4.16 A photograph of an existing CP transformer rectifier cabinet is shown in Photograph 4.1.

Photograph 4.1: Existing CP transformer rectifier cabinet.



4.4.17 The CP system includes small above ground industry standard CP test posts, which are installed approximately every 1km of the existing pipeline route, and will also be installed on the replacement pipeline every 1km and usually placed directly above the pipeline to a maximum height of 1.2m. The colour, appearance and size of a typical CP test post is very similar to that of a pipeline marker post (as described below).

Pipeline Markers

4.4.18 The replacement pipeline will be marked at intervals along the pipeline and at all watercourse and road crossings and boundaries by installing new industry standard marker posts. The spacing of the marker posts will vary according to location. The maximum spacing will typically range from every 500m in rural areas to every 50m in high density residential areas, however, markers will need to be located such that ideally each adjacent marker is visible from any location along the pipeline.

4.4.19 A photograph of an existing industry standard marker post is shown in Photograph 4.2.

Photograph 4.2: Typical industry standard pipeline marker post



4.4.20 The route of the replacement pipeline will also be marked with new red and black colour-coded flight marker posts at a frequency of about 500m. These will be for use when the pipeline is inspected by helicopter and will be positioned at field boundaries where possible.

4.4.21 A photograph of an existing flight marker post is shown in Photograph 4.3.

Photograph 4.3: Existing flight marker post





Modification of Existing Pigging Station at Esso's West London Terminal Storage Facility

- 4.4.22 The existing pigging station at Esso's West London Terminal storage facility will be modified, including installation of a new 40cm (16 inch) PIG receiver for the 30cm (12 inches) diameter PIGs.
- 4.4.23 The works will include minor changes to alignment of pipework, renewal of equipment and some positional change. The existing pipework and PIG receiver will become redundant and will be removed, with the result that there will be little change to the location, layout, size and appearance of the pigging station when viewed from outside the fence line.

Installation of a Replacement Booster Pump at Alton Pumping Station

- 4.4.24 The replacement pipeline will be routed through the existing Alton Pumping Station, where it will connect to existing infrastructure. There are currently three existing external pumps at Alton Pumping Station. The project includes installing a single replacement external pump near to the existing pumps. A small amount of additional above ground pipework will be installed for the tie-ins to the replacement pump.

4.5 Temporary Infrastructure for the Construction Phase

- 4.5.1 This section summarises the design of the main elements of temporary infrastructure that will need to be provided for the project.

Construction Logistics Hubs

- 4.5.2 Six logistics hubs will be established in locations close to the strategic road network before commencement of the main construction works. The logistic hubs will be used as points for accepting deliveries and storage of pipe. From the logistics hubs pipe sections will be transported directly to the pipe storage areas within the various temporary construction compounds by HGV. Each of the hubs will include a pipe laydown area, secure plant storage area, bunded fuel storage, single-storey offices, staff welfare facilities and a vehicle parking area.
- 4.5.3 The logistics hubs are in the following locations (running in south to north order):
- A31 Ropley Dean;
 - A31/A32 Junction Northfield Lane, Alton;
 - Hartland Park Village, Farnborough;
 - MoD land: Deepcut Bridge Road, Frimley Green;
 - M3 Junction 3: New Road, Windlesham;
 - Brett Aggregates, Littleton Lane, Shepperton.
- 4.5.4 The construction logistics hubs will vary in size and shape depending on the location. They will range from approximately two to five hectares. However, the hubs at Hartland Park Village and Windlesham may be enlarged to nine hectares



(approximately 300m x 300m). The logistics hubs will have temporary fencing incorporating both pedestrian and vehicle access gates.

- 4.5.5 The topsoil will be stripped from the logistics area and stockpiled around the hub perimeter within the site fence. A stone road and apron will be laid on a geotextile membrane to provide an all-weather surface access to the local highway.
- 4.5.6 Where viable, the logistics hubs will utilise temporary connections to existing utility networks (e.g. sewers, telecoms, power and water). Where these connections are not viable, self-contained welfare units and generators will be used.
- 4.5.7 The construction logistics hubs will require lighting. To ensure safety and security low-level lighting will be permanently on during periods of darkness. Lighting will be in accordance with relevant industry good practice standards as outlined in the Register of Environmental Actions and Commitments (REAC). The lighting will be of the lowest luminosity necessary for safe delivery of each task. It will be designed, positioned and directed to reduce the intrusion into adjacent properties and habitats.
- 4.5.8 Where practicable, construction deliveries to the logistics hubs will generally be timed to avoid adding to local congestion. Over the two-year construction period the estimated number of vehicle movements to and from the logistics hubs are given in the table below. Whilst average daily figures are given, it is noted that there will be an increase in traffic movements during initial set up of the hubs.

Table 4.1 Estimated Two-Way Vehicle Movements – average number per working day at each Logistics Hub

Logistics Hub	HGV	LGV / Cars
A31 Ropley Dean	7	46
A32/A31 Junction Northfield Lane	13	74
Hartland Park Village, Farnborough	25	150
MoD land: Deepcut Bridge Road, Frimley Green	5	31
M3 Junction 3: New Road, Windlesham	29	159
Brett Aggregates, Littleton Lane, Shepperton	11	74

- 4.5.9 Indicative layout designs for a construction logistics hubs are shown in Other Plans in **(application document 2.7)**.

Temporary Construction Compounds

- 4.5.10 There will be 52 temporary construction compounds established along the route of the new pipeline for the storage of pipe, materials, plant and equipment. The fenced compounds will be accessed from the existing road network and will include single-storey staff welfare facilities, visitor parking, waste storage, and wheel washing areas. The temporary compounds will also include hardstanding areas, with apron and access areas comprising stone laid on a geotextile membrane. Compound access points to the public highway will be constructed with temporary hard surfacing. Construction compound sizes will vary but will have



a fenced area of approximately 40m x 60m for a typical rural construction compound. Minimum 2m high, temporary fencing incorporating both pedestrian and vehicle access gates will be installed around the perimeter of each construction compound.

- 4.5.11 In general, the construction compounds will not be connected to existing utilities, using self-contained mobile welfare facilities, generators and mobile communications. Lighting will be of the lowest luminosity necessary for safe delivery of each task. It will be designed, positioned and directed to reduce the intrusion into adjacent properties and habitats.
- 4.5.12 Indicative layout design for typical construction compounds is shown Other Plans in **(application document 2.7)**.

Temporary Access for Construction

- 4.5.13 Temporary access tracks will be provided to link the pipeline construction areas to the local road network. Where new or additional surfacing is required on any access tracks and compound areas, these will be permeable surfaces where ground conditions allow. Where these temporary access tracks are across open ground, the topsoil will be stripped and the access track constructed by treating the subsoil with a soil binder or laying the track with stone on a geotextile membrane or timber bog mats. Reinstatement of the access track will be similar to the reinstatement of the pipeline working width as described in Section 4.6.
- 4.5.14 The access tracks will be fenced and gated to aid control of vehicle access between the construction areas and the local road network.
- 4.5.15 The locations of temporary access tracks have been incorporated into the Order Limits for the replacement pipeline.

4.6 Pipeline Construction

General

- 4.6.1 The replacement pipeline construction works will mainly take place in rural areas using standard construction methodologies and sequences. The construction in the more urban areas will follow a similar sequence. However, as a result of the increased constraints, the construction process will be more complex.
- 4.6.2 Open cut trenching methods will be used for the majority of the route. Where the pipeline crosses significant obstructions, for example motorways, railways and major roads and watercourses, installation will be carried out using trenchless techniques.
- 4.6.3 An overview of standard construction methodologies and sequences for both rural and urban areas is provided, along with typical pipeline construction techniques within the remainder of this section.



Pipeline Construction Methodology in Rural Areas

4.6.4 Typical methods and sequencing for pipeline construction in rural areas are summarised in this section. These have been developed to allow the pipeline to be constructed efficiently across areas of rural land whilst reducing impacts to the surrounding environment.

Working Area Preparation

4.6.5 All working areas will need to be prepared prior to installation of the pipeline. This will generally consist of:

- Erecting advance warning signs at road crossings.
- Opening the entrance to the working area through field boundaries.
- Making sure that pre-existing services are well protected where the access/egress to temporary construction compounds are created.
- Erecting 'goal post' protection and location/warning notices where overhead cables are present. These govern the height at which plant can pass safely underneath.
- Opening entrances to subsequent field boundaries.
- Installing temporary watercourse crossings to maintain uninterrupted flows.
- Pruning and protecting trees.
- The location of all known buried services will be identified, marked and surveyed, including digging of trial holes where appropriate. Location/warning notices will be erected for all known services.

Temporary Fencing

4.6.6 Working areas will be appropriately fenced. The choice of fencing will be decided following a risk assessment, relevant to the work location. Specific areas such as compounds may require additional security measures such as lighting or CCTV

4.6.7 Within all urban areas, and areas where an interface with the general public is anticipated, the use of either strong wall or block and mesh fencing e.g. Heras fencing will be used; if the area is near a school, or on a pedestrian route to a school, double thickness fencing that has been multi-clipped may be used.

4.6.8 Where construction activities are in such close proximity to residential properties, the fence used may also serve to provide acoustic and visual screening of the work sites and reduce the potential for disturbance of users in the surrounding areas.

4.6.9 When working within a field environment, fencing requirements will be discussed with the landowners. This will determine what kind of fencing will be required, on a field-by-field basis.



Public Rights of Way (PRoWs)

- 4.6.10 All designated PRoWs will be identified, and temporary closures applied for/detailed in the DCO. All designated PRoWs crossing the working area will be managed, including National Trails, with access only closed for short periods while construction activities occur.

Pre-Construction Drainage

- 4.6.11 Runoff across the site will be controlled by the use of a variety of methods including header drains, buffer zones around watercourses, on site ditches, silt traps and bunding. Reinstatement of any existing land drains once the pipeline construction has been completed forms part of land reinstatement as described below.

Topsoil Removal and Storage

- 4.6.12 Where topsoil stripping is required, the normal working practice (where not otherwise specified within a method statement) will be to strip full depth of topsoil (where present), which will not be expected to exceed 0.3m. Topsoil and subsoil intended for reinstatement will be temporarily stockpiled as close to where they were stripped from as practicable, unless the working width is reduced, to such an extent the topsoil will be stored at an alternative agreed location close by.

Haul Road Construction

- 4.6.13 Haul roads will be formed through most of the working area. Where soils are suitable, the haul roads may be formed from the exposed subsoil. Appropriate techniques will be used when necessary to provide protection for subsoils from compaction and smearing in areas subject to heavy trafficking. The specific protection measures and their required locations will be set out in the appointed contractor(s)' method statement

Pipe Storage

- 4.6.14 Six logistics hubs will be established in locations close to the strategic road network. The logistics hubs will serve as points for accepting deliveries and storage of pipe.
- 4.6.15 From the logistics hubs pipe sections will be transported directly to the pipe storage areas within the various temporary construction compounds by HGV. From each pipe storage area, the pipe sections will then be transported along the working area and spaced accordingly.

Welding

- 4.6.16 Each length of pipe will be welded at the work front, often at the surface before laying the pipe into the trench.
- 4.6.17 All welds will be subjected to a range of non-destructive testing techniques, including ultrasonic phased array or X-ray radiography tests. Any identified weld



quality issues will be rectified at the job site and re-tested. All welders will be qualified and tested.

- 4.6.18 Prior to lowering into the trench, each joint is coated for additional protection and the whole pipeline section is checked for any holes in the coating. Any areas with coating defects will be re-coated and tested again.

Dewatering

- 4.6.19 In some locations, groundwater levels may be too high and dewatering will be required to aid pipeline construction. There will be no intentional discharge of site runoff to ditches, watercourses, drains or sewers without appropriate treatment and agreement of the appropriate authority (except in the case of emergency).

Trench Excavation and Backfill

- 4.6.20 Open cut trenching techniques will be used for the majority of the route. The trench will be excavated, with temporary storage of subsoil on the opposite side of the working width to previously removed topsoil. Selected backfill or granular pipe bedding material will then be placed within the excavation and, following pipe installation, suitable surround materials will be placed as required. In field locations the trench will then be backfilled with suitable subsoil arisings from the temporary storage, compacted above the installed pipe. The soil backfilled over the pipe will have large stones or sharps removed to prevent damage of the pipe coating. Where the pipe trench is in a highway, imported backfill material will be used.
- 4.6.21 The minimum depth of the pipeline reduces the risk of damage from agricultural or other external activities on the ground surface. In addition, the land rights for the pipeline will restrict potentially damaging operations that can be conducted near to the pipeline.
- 4.6.22 The amount of trench opened in any one day will match the progress of the welding crew, so that a trench is not opened for a prolonged period before pipe installation.

Pipeline Hydrostatic Testing

- 4.6.23 Installed lengths of the pipeline will be subjected to a hydrostatic test procedure, where the pipeline length is filled with water, pressurised to a level greater than the maximum operating pressure of the installed pipe initially for four hours and then for a period of 24 hours. This test further measures the integrity of the pipeline as a whole, with any deficiency or loss during the test leading to investigation, replacement and retest until a satisfactory test condition is achieved. All tie-in welds which will not be subjected to a pressure test will be subjected to a rigorous regime of weld inspection and testing in line with industry standards.
- 4.6.24 Hydrostatic testing will be undertaken in sections. It is expected that water for hydrotesting will be sourced from a local water supply for each of the test sections. Should this not be available, water will be tankered in. On completion of the hydrostatic tests, the water will be discharged at three locations: Boorley Green, Alton and the West London Terminal. Appropriate discharge consents will be



sought for the discharge of the water to suitable public sewers. If discharge consents cannot be obtained, the used test water will be tankered away and disposed of with a sewerage undertaker.

Land Reinstatement

- 4.6.25 Land drains will be reinstated to maintain the integrity of pre-existing land drainage patterns. The working width will then be cleared, any subsoil reinstated and loosened, and topsoil re-laid and seeded as required. Where possible, reinstatement of vegetation would generally be using the same or similar species to that removed (subject to restrictions for planting over and around the pipeline easements). Any affected hedgerow sections and trees will be replanted and any other affected boundaries reinstated as appropriate. Land will be returned to its original use, which is typically agriculture. Temporary fencing will remain in place until grazing land has sufficiently recovered to withstand grazing pressure.
- 4.6.26 In rural areas it is not anticipated that stripping or trenching will generate any significant volume of excavated material that needs to be removed from site, with all excavated material expected to be replaced within the working area.

Crossings

- 4.6.27 The crossings of motorways, A-roads and railways will be made using trenchless techniques, such as auger bore and horizontal directional drilling (HDD). These technologies can install a pipeline underneath major obstructions without disturbance or interruption to the feature being crossed. A small number of non-A-roads will also be crossed using trenchless techniques, either to minimise disruption on heavily trafficked routes, or where these roads are immediately adjacent to another feature being crossed.
- 4.6.28 Minor roads will typically be open cut. Roads being crossed using open cut techniques will need to be partially or completely closed during construction of the crossing, with appropriate traffic management measures and temporary diversions being put in place for the duration of the works. Partial and complete road closures will be kept as short as possible, typically a maximum of three working days for complete road closures, to reduce effects on local traffic and communities.
- 4.6.29 Crossings of watercourses including rivers, streams and ditches will typically be open cut, however, a number of watercourses will require trenchless techniques. These include watercourses which carry a large flow, are strategic man-made reservoir channels, are adjacent to roads and railways or other obstacles that require a trenchless crossing or have sensitive ecology where it will not be appropriate to use open cut.

Mobile Cranes

- 4.6.30 Mobile cranes and/or other lifting equipment such as telehandlers will need to be temporarily deployed during construction. Such locations include the six construction logistics hubs and trenchless crossings.



- 4.6.31 Crane arcs will be confined within the site boundary unless agreed otherwise with the relevant statutory undertaker and property owners/occupiers whose air space may be affected.
- 4.6.32 Works under or adjacent to High Voltage and Extremely High Voltage overhead cables will be in accordance with protective provisions agreed with the relevant statutory undertakers.

Temporary Drainage Works

- 4.6.33 Where necessary, additional drainage for site yards, mobilisation areas and accesses will be installed in accordance with the design.

Consents, Permits, Licences and Authorisations for Construction

- 4.6.34 The DCO contains requirements for certain pre-construction approvals and the project will consult as necessary to obtain such approvals. Where the appropriate authorisation is not provided under the DCO, the project will seek such further consents, permits, licences and authorisations as may be required.

Route Survey, Setting Out and Record of Condition

- 4.6.35 Photographic records will be compiled during route survey and setting out of the works. Detailed records of the condition of the roads in the vicinity of the route will be made. Photographic records will also be taken of features that are likely to be affected by the project.

Utility Diversions

- 4.6.36 Surveys to establish the full extent of underground services and public utilities will be undertaken prior to commencing works.
- 4.6.37 Any previously unidentified services may be diverted as necessary.

Pipeline Construction in Urban Areas

- 4.6.38 The construction of the replacement pipeline in built-up urban areas will follow a similar sequence to that for rural areas, although as a result of the increased number of constraints, the construction process will be more complex. The key differences to the approach for work in urban areas as compared to work in rural areas include:
- increased need for implementation of road closures, diversions and traffic management measures;
 - more constrained working widths associated with increased obstructions and other constraints;
 - a greater need for the breaking out of road and other hard surfaces when excavating the pipeline trench;
 - increased likelihood that material excavated from the pipeline trench will require off-site disposal; i.e. material excavated when laying pipelines in or across



roads cannot be re-used, with suitable imported material having to be used for backfilling of the trench;

- shorter pipe lengths resulting in more pipe welds; and,
- increased need for reinstatement of road surfaces, footpaths and landscaped areas.

4.6.39 Further details of construction in urban areas is given below.

Trench Excavation in Roads

4.6.40 Where trench excavation is required in the road this will commence with the breaking out of the hard surfaces prior to excavation of the trench. Arisings generated by these activities will typically be tested for contamination and where suitable sent to a recycling facility, possibly after collation at a logistics hub. As a guide the typical length of trench open in a carriageway at any one time will not normally exceed 100m.

4.6.41 The project will, where practicable, employ methods such as a Vacuum Excavation Unit or similar, which uses an auxiliary lance to allow the ground to be broken out with a reduced risk of damage to existing utilities.

4.6.42 The trench will be backfilled and reinstated as soon as practically possible, allowing the fencing and all traffic management to be removed and the area returned to normal use. Permanent reinstatement will be used in the first instance where possible.

4.6.43 The works will require road, lane and footpath (pavement) closures and diversions for reasons of safety and the project will work to limit the impact of these works. Any work areas will be suitably designed and fenced off with appropriate safety signage and secure fencing.

HGV and LGV Movements

4.6.44 Logistical movements of pipe into the urban areas, and the removal of spoil and placing of backfill material by grab lorries will be undertaken outside of peak traveling hours where practicable.

Demolition

4.6.45 The project will not require the demolition of any houses. However, the removal of a separate ancillary structure such as a garage or shed, temporary loss of land such as a garden and/or parking area, and the temporary loss of access and boundary features may be required for construction.

Lighting

4.6.46 Site lighting may be required for working areas in consideration of winter working hours and non-standard working arrangements. All lighting will be set up to avoid nuisance as far as is practicable so will be low-level and directional to avoid glare into residential properties.

- 4.6.47 In consideration of the general public and other amenity users affected by construction, low-level and directional site lighting may be required to illuminate footpaths adjacent to work area boundaries.

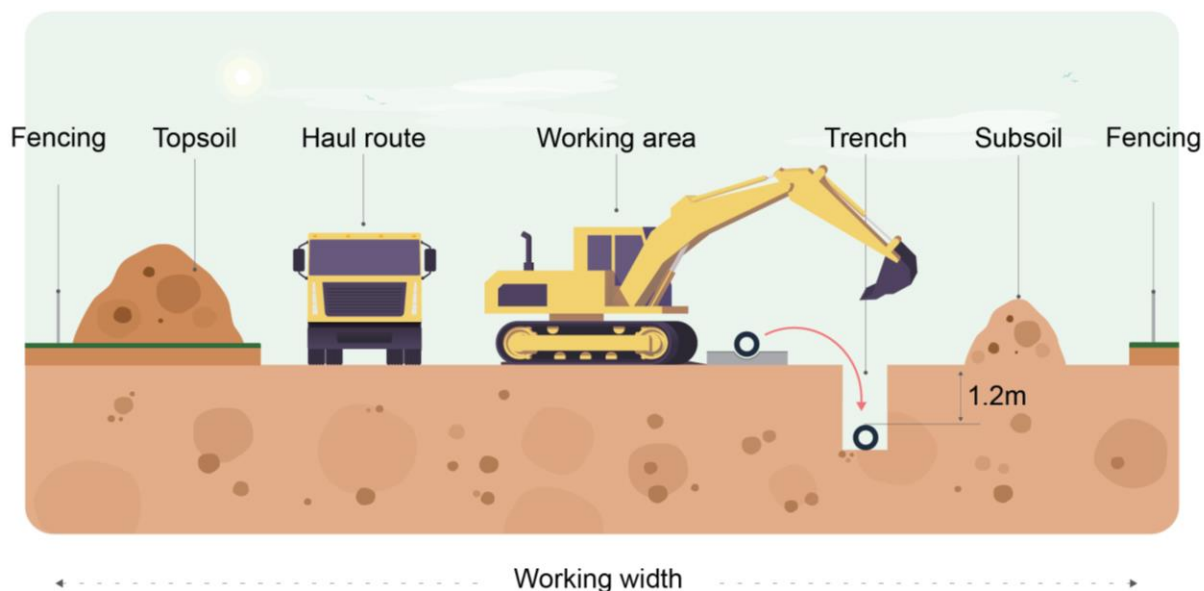
Construction Techniques

- 4.6.48 The various open cut and trenchless techniques that will typically be used to construct the pipeline are described in this section.

Open Cut Trenching Methods

- 4.6.49 Open cut trenching is the most commonly used pipeline construction technique on this project. A typical cross section showing open cut trenching for standard working widths are shown on Illustration 3.4, which is an artistic representation and not to scale.

Illustration 3.4: Example of Open Cut Working



- 4.6.50 Where the new pipeline is routed adjacent to Esso's existing pipelines, a 36m wide Order Limit is designed to provide flexibility for detailed routeing and construction methodologies for pipeline installation adjacent to the existing pipelines. The minimum depth from the top of the pipe to the ground surface will be 1.2m in open cut sections, and deeper for trenchless crossings. A slightly shallower depth may conceivably be necessary in exceptional circumstances, but all indications are that this will not be required. The pipeline will also be buried deeper, typically 1.5m from top of pipe to ground surface, in roads and streets to account for other existing infrastructure such as utility pipes, cables and sewers.
- 4.6.51 In some areas obstacles are present on both sides of the works creating a more constrained working width. At such locations, the pipeline may have to be constructed using a 'dead-end' working technique. This is where short lengths of trench are excavated, a section of pipeline installed, and the trench backfilled before the work moves forward to the next section.



- 4.6.52 When crossing through boundaries between fields where these include hedgerows, trees or watercourses, a commitment has been made to only utilise a 10m width. In such locations, the working width will be constrained, and alternative layouts considered.

Open Cut Trench Watercourse Crossings

- 4.6.53 A number of watercourses will be crossed using open cut techniques. The typical approach for such open cut trench crossings of watercourses is described here.
- 4.6.54 A flume pipe (or pipes) will be installed into the bed of the watercourse, sized to allow the flow of the watercourse through it during the works. The watercourse will be dammed at each end of the flume to form a dry area in between. This will create a temporarily culverted section of the watercourse in the area of the crossing.
- 4.6.55 A vehicle haul road will be constructed over one half of the flume. A trench will then be excavated under the other half of the flume and the pipe installed at least 1m below the true cleaned bottom of the watercourse/ditch. Concrete protection slabs will be installed above the pipeline as additional protection from future watercourse dredging/cleaning works. Once the watercourse bed and banks are reinstated and all works complete, the flume will be removed allowing the watercourse to flow naturally.

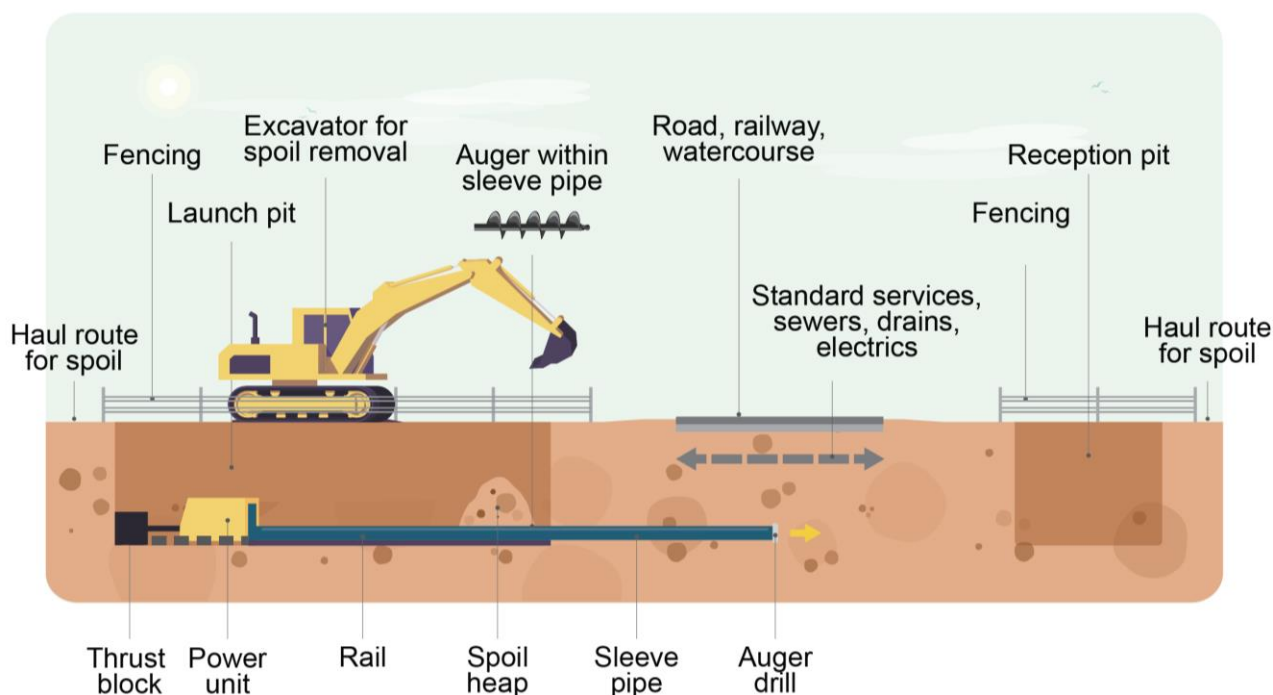
Trenchless Construction

- 4.6.56 The sections below describe the trenchless construction techniques that are to be used for the installation of the pipeline.
- 4.6.57 The choice of technique at any particular crossing is dependent on a number of site-specific factors including ground conditions, the space available for pipe stringing either side of the obstruction, and the sensitivity of the obstruction to potential settlement. Where a certain type of trenchless technique has been selected for a particular crossing, this is listed in the ES Appendix 3.1 Table of Trenchless Crossings (**application document 6.4**). However, for a number of crossings the particular technique has not been predetermined by consideration of the site-specific factors and the choice of technique will be determined by the installation contractor.

Auger Bore Technique

- 4.6.58 Auger bore is a trenchless method used over relatively short distances and usually at shallow depths. Shallow launch and reception shafts will be dug on either side of the obstacle. An auger (an Archimedes screw or helix on a shaft) will bore horizontally to install a sleeve pipe beneath the obstacle and connect each pit.
- 4.6.59 Typical details of an auger bore are on Illustration 3.5, which is an artistic representation and not to scale.

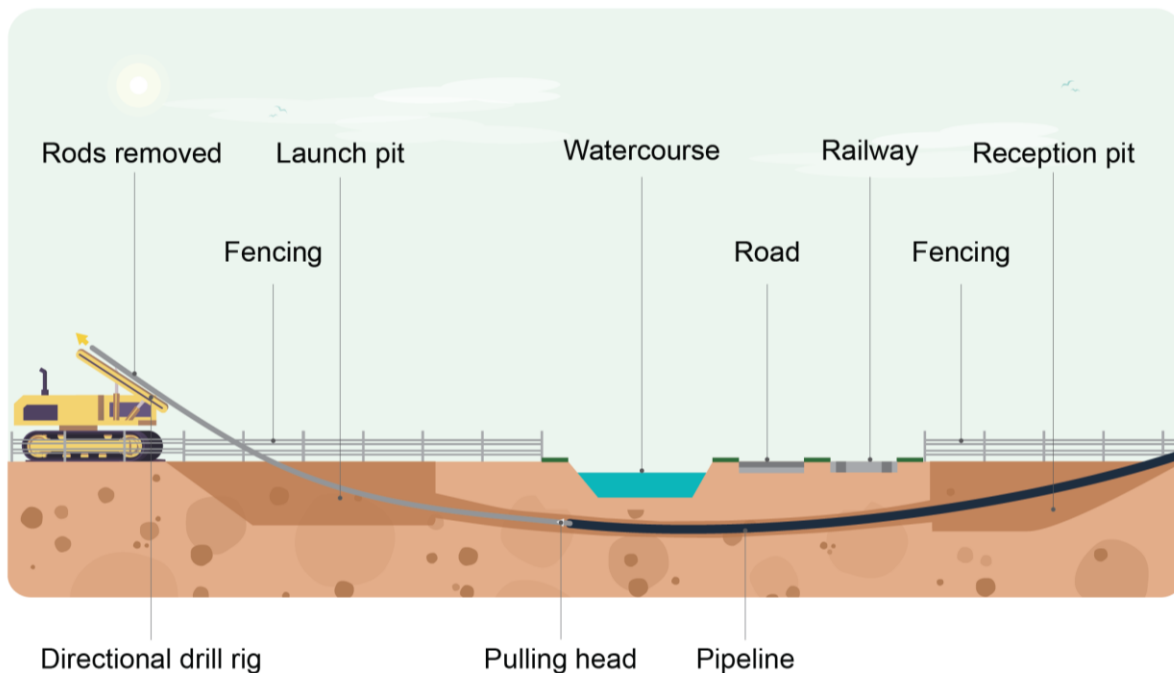
Illustration 3.5: Example of Auger Bore Technique



Horizontal Directional Drilling (HDD) Technique

- 4.6.60 HDD is a trenchless method of pipeline construction. A series of flexible rods will be driven through the earth from a 'launch pit' to form a small tunnel. A mud slurry will be used as a hydraulic fluid and coolant.
- 4.6.61 As the rods progress through the earth, extra rods will be added until the drill head emerges at the 'reception pit'. At the reception pit, the drill head will be removed and a larger one attached. This will continue to enlarge the tunnel until it is a size greater than the pipe.
- 4.6.62 A length of pipeline will be laid out and welded (pipe stringing) beyond the crossing. The welded pipe will then be pulled back through the tunnel completing the drilling operation. Typical details of a directional drill crossing are shown in Illustration 3.6, which is an artistic representation and not to scale.

Illustration 3.6: Example of Horizontal Directional Drilling (HDD) Technique



Drilling Mud

- 4.6.63 Where bentonite and/or polymers are to be utilised when undertaking HDD or another type of trenchless crossing, these will be limited to the exact requirements of the crossing and not used as standard.
- 4.6.64 Where possible, all muds will be captured in a lagoon close to the works where, once naturally dried, they can be re-used. Alternatively, they will be passed through separation/centrifuge equipment to separate out solids and the water from the slurry passed through settlement tanks/lagoons prior to discharge. When the works are within an urban environment and it is not possible to have on-site treatment facilities, the mud will be removed from site using a sealed tanker. The mud can then be dried and re-used at a later date.

Construction Plant and Equipment

- 4.6.65 A variety of different types of plant and equipment will need to be deployed during construction, as briefly summarised below.

Pipeline

- 4.6.66 The construction of the pipeline will require use of plant and equipment including: welders; air compressors; excavators; mobile cranes; telehandlers; excavator mounted breakers; tipper lorries; haulage lorries; automatic welding machines; angle grinders; vibratory piling rigs; auger units; HDD units and concrete pumps.

Earthworks

- 4.6.67 The earthworks associated with the construction of the pipeline will require use of plant and equipment including: rubber tyre and tracked excavators; water pumps; bulldozers; dumper trucks; vibratory rollers; and tipper lorries.



4.7 Above Ground Infrastructure Construction

- 4.7.1 The construction of the new pigging station at Boorley Green and valves along the route of the replacement pipeline will generally follow a sequence of activities similar to that outlined below:
- pre-construction activities (e.g. site access and the formation of compound and material stores);
 - erection of secure fencing for construction works;
 - construction of drainage measures (where required);
 - earthworks to establish foundation levels;
 - formation of plant foundation bases, chambers and above ground structures;
 - construction of pipework and equipment and associated infrastructure; and,
 - perimeter reinstatement landscape works and removal of temporary infrastructure.

4.8 Construction Schedule

- 4.8.1 Works to install and commission the pipeline are expected to start from grant of the DCO and be completed by early 2023. Certain advance works may take place prior to development consent where consented under alternative regimes, for example, the Town and Country Planning Act 1990.
- 4.8.2 The construction schedule has yet to be developed in detail, as this would be undertaken during the detailed design stage. For the purposes of assessment, a short-term duration is assumed to be less than 6 months based on the criteria set out in Table 4.2 and includes mobilisation and reinstatement.
- 4.8.3 Connections to the existing cathodic protection systems, valves and associated infrastructure will be installed whilst the pipeline is being laid as they are an integral part of the pipeline.
- 4.8.4 Marker posts, flight markers and CP markers will be erected after reinstatement.
- 4.8.5 Throughout the installation of the pipeline there would be a number of work fronts. A work front is a specific area or location where a crew generally comprising up to 10 construction workers are carrying out a particular aspect of the main pipeline construction activities, including topsoil stripping, trench excavation, pipe installation and backfilling of trenches. There may be several work fronts operating simultaneously. Each work front would typically continue in the same direction, south to north, but starting from a different point.
- 4.8.6 There are a number of alternative methodologies for installing the pipeline where open cut trenching will be more difficult and is not a preferred construction technique, such as crossing a railway or major road. In these cases, trenchless technology will be employed.



4.8.7 Trenchless techniques are proposed in a number of locations. The duration of such techniques varies according to the length of the pipe being installed and the technique used. For example, with horizontal directional drilling (HDD), the construction of a 100m long crossing would take around four to five weeks, with a further two weeks required per 100m increase in the length of the crossing. This also assumes that the works to install trenchless crossings would not be unduly restricted with regards to working hours and weather conditions. Certain activities would require continual 24 hours a day working, for example the pipe pulling phase for a HDD. If working hours for trenchless crossings are restricted, then the installation would take longer.

4.8.8 The construction schedule is based on a number of key assumptions for pipeline installation in differing terrain. These assumptions are presented in Table 4.2.

Table 4.2: Key Working Assumptions

Assumption	Undeveloped Areas	Urban Areas
Pipe length laid per week	450m	90m
Excavated spoil off-site	Limited	Yes
Standard construction working	Monday – Saturday 0700 to 1900	
Typical pipe lengths	12m	3-6m
Road closures for open cut pipeline crossings of carriageways	Up to three working days, Class B roads and lower.	
Traffic management	Traffic signals to be provided where pipe is laid along or adjacent to carriageways. Mostly two-way working.	

4.9 Operation and Maintenance

4.9.1 Once the replacement pipeline is installed and operational, it will be protected by an easement strip that extends 3m either side of the pipeline. This is an area where no building, tree planting or other below-ground activity is permitted to take place without prior approval to protect the pipeline from damage. Normal agricultural or other operations will still be allowed.

4.9.2 Once the pipeline is operational, Esso will carry out a programme of inspection and maintenance in accordance with good practice and regulatory requirements. This will typically include:

- inspections of valves (including the pressure transducer), typically on a monthly basis;
- pipeline route walkover inspections, typically completed in the winter months every two years;
- pipeline route helicopter inspections, typically every other week;
- pipeline route patrols by vehicle/on foot in discrete areas, typically on a weekly basis;
- CP transformer rectifier cabinet inspections, typically on a monthly basis;



- testing of CP system (measurement of current at CP test points), typically on a biannual basis; and,

Remote Flow and Pressure Monitoring

- 4.9.3 Esso operates a 24/7 pipeline operation and monitoring regime with continuous flow monitoring capable of detecting pressure and flow differentials in the pipeline. Changes in flow can be detected and identified to a specific section of the pipeline.
- 4.9.4 Each cross-country valve on the pipeline will be powered and capable of remote and automated operation. Esso uses sophisticated tools to monitor all aspects of the pipeline. If a change is detected, an automatic system sets off an alarm. If necessary, Esso can immediately shut down the pipeline.
- 4.9.5 Esso operates its assets to strict protocols and procedures, supported by emergency response plans developed to react immediately to potential incidents and to provide a co-ordinated and thorough response.

Cleaning and Inspection using PIGs

- 4.9.6 Typically, Esso will clean the inside of the pipeline twice a year using a cleaning PIG.
- 4.9.7 With regards to inspection, Esso employs the use of in-line inspection tools providing intelligent monitoring of the pipeline from inside the pipe. This involves sending a PIG through the length of the pipe whilst the pipe remains operational. The PIGs are able to detect minute differentials in pipe wall thickness enabling ongoing monitoring of the pipe and facilitating further investigation or intervention at specific locations if required. These intelligent PIGs are run typically at five-year intervals.
- 4.9.8 Pigging operations require the pipework at the pigging station to be drained. The drained fluid is contained and transported back to Fawley refinery for re-processing.

4.10 Decommissioning

- 4.10.1 Decommissioning of the existing pipeline does not form part of this project.
- 4.10.2 When the operator of the replacement pipeline determines that it will permanently cease pipeline operations, it will consider and implement an appropriate decommissioning strategy taking account of good industry practice, its obligations to land owners under the relevant pipeline deeds and all relevant statutory requirements.
- 4.10.3 At the time that decommissioning will take place, the regulatory framework, good working practices and the future baseline could have altered. It is not possible to assess the probable future effects at the present time.



5 Managing Effects

5.1 Introduction

- 5.1.1 This application for development consent contains proposals that would result in environmental, social and economic effects. In developing the proposals through an iterative process of public consultation, engagement with stakeholders and by undertaking an Environmental Impact Assessment (EIA), Esso sought to identify these effects and incorporate suitable mitigation for any adverse effects in the proposed designs. The findings of the assessment, consultation and engagement are reported in the Environmental Statement (ES) and the Consultation Report, which accompany the application (**application documents 6.1-6.4 and 5.1** respectively).
- 5.1.2 The mitigation measures identified through this process form part of the proposals for which development consent is being sought. This chapter outlines how the mitigation identified will be secured and provided.

5.2 Securing Mitigation

- 5.2.1 Mitigation is either 'embedded' in the design of the development for which development consent is sought – i.e. the design of the development includes mitigation to avoid or reduce an effect – or mitigation measures will be employed during the construction of the development to avoid or reduce effects. It is important that potential environmental effects are controlled, and mitigation for them are implemented, all secured as part of the Development Consent Order (DCO) (**application document 3.1**). This is achieved in a number of ways.
- 5.2.2 The works description in draft DCO Schedule 1 is only seeking powers to construct a project that reflects the embedded design mitigation.
- 5.2.3 Schedule 2 of the draft DCO sets out the requirements that Esso must comply with in undertaking the construction, operation and maintenance of the Project. In addition to the detailed requirements set out in Schedule 2 of the DCO, Schedule 2 will also reference a number of control documents which will implement more detailed aspects of the Register of Environmental Actions and Commitments (REAC) as set out in ES Chapter 16: Environmental Management and Mitigation and which must be approved by the relevant planning authorities prior to the commencement of development. These control documents establish the framework for the construction, operation and maintenance of the Project.
- 5.2.4 The control documents for the project include:
- Code of Construction Practice (CoCP) – Appendix 16.1 of the ES, and secured by draft DCO Requirement 5;
 - Construction Environment Management Plan (CEMP) – Outline CEMP at Appendix 16.2 of the ES, with approval of final CEMP secured by draft DCO Requirement 6;
 - Construction Traffic Management Plan (CTMP), approval of the CTMP secured by draft DCO Requirement 7;



- Archaeological Mitigation Strategy (AMS) – Appendix 9.5 of the Environmental Statement (ES), and secured by draft DCO Requirement 11;
- Landscape and Ecological Management Plan (LEMP), approval secured by draft DCO Requirement 12;
- Habitats Regulation Assessment (HRA) (**application document 6.5**); and
- Flood Risk Assessment (FRA) (**application document 7.3**)

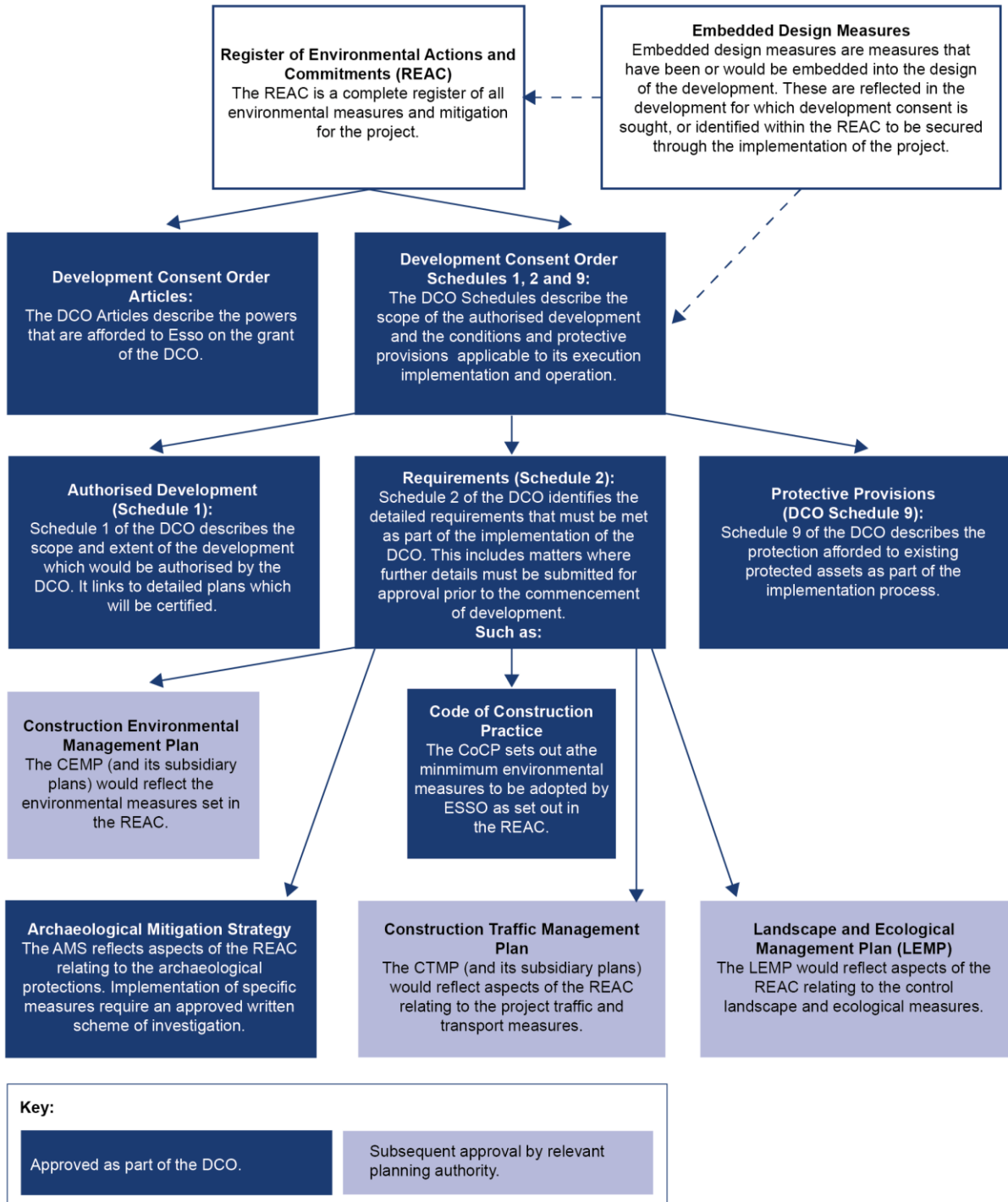
5.2.5 The application documents, particularly the REAC identify the measures that are being committed to through the proposed development. These are secured through the requirements of the DCO, (including the later submission of more detailed plans for approval by the relevant authorities prior to the commencement of development). The REAC indicates how each commitment is secured.

5.2.6 Many of the good practice principles contained in the REAC are captured within the project's CoCP. This CoCP is submitted as part of the application, will be approved as part of the DCO, and it will be a DCO requirement that the development must be carried out in accordance with the CoCP. Other measures are secured through other DCO requirements such as the requirement to comply with the AMS or the CEMP.

5.2.7 Where more detailed plans and measures are to be prepared, submitted for approval to the relevant authorities, and then implemented, it is a DCO Requirement that these reflect the measures set out in the REAC. This ensures that environmental measures underpinning the project's EIA are secured through the DCO, and potential environmental effects controlled and mitigated.

5.2.8 The flowchart below (Illustration 5.1) identifies the inter-relationship between the REAC, the DCO and its requirements.

Illustration 5.1 Securing Mitigation through the DCO Process



5.3 Register of Environmental Actions and Commitments (REAC)

5.3.1 The REAC (Tables 16.1 to 16.3 in ES Chapter 16: Environmental Management and Mitigation) is a complete register of all environmental measures and mitigation incorporated into the project. The measures and mitigation listed in the REAC derive from three main areas;

- Embedded Design Measures;



- Good Practice Measures; and
- Environmental mitigation identified in ES topic chapters 7 – 15.

- 5.3.2 All of the measures and mitigation listed in the REAC will be secured through the DCO requirements or through the control documents. For example, the REAC includes good practice construction measures, which will be set out in and secured through the CoCP.
- 5.3.3 Furthermore, the REAC also takes account of embedded design measures identified and included during the design development to reduce impacts to the environment and communities. The REAC includes overarching project commitments which were made at the outset of the project to act as guiding principles for the project design and which have been incorporated into the design as it has evolved, as set out in ES Chapter 4 Design Evolution.
- 5.3.4 The embedded design measures (Table 16.1 in ES Chapter 16) include the positioning of the Order Limits, where it would be beneficial to either move the alignment of the Order Limits or reduce the working width within them to reduce the impacts on sensitive environmental receptors.
- 5.3.5 In addition, trenchless crossings have been incorporated into the design to limit impacts to areas of environmental sensitivity.

5.4 Code of Construction Practice

- 5.4.1 The CoCP will set out a series of proposed measures and standards of work that would be applied by the contractor throughout the construction period. The purpose of the CoCP is to provide effective planning, management and control during construction with the aim of controlling potential impacts on people, businesses and the natural and historic environment. The CoCP applies to all project contractor(s) and compliance is secured through draft DCO Requirement 5.
- 5.4.2 The CoCP has been produced in conjunction with the ES with the aim of ensuring that likely construction impacts identified during the Environmental Impact Assessment (EIA) would be reduced. The impact assessments in the ES have assumed that the measures within the CoCP would be carried out during construction as good practice. The CoCP attached as ES Appendix 16.1 Code of Construction Practice divides the good practice measures into topics, as assessed by the ES.
- 5.4.3 All measures contained within the CoCP are mandatory for the project and particularly the contractor(s) and sub-contractor(s) working on the site. The CoCP is one of several documents submitted as part of the application for development consent and should be read in conjunction with those other documents.
- 5.4.4 The CoCP and the outline CEMP would form the basis of the contractor(s)' CEMP. As detailed design progresses, more measures may be included within the CEMP, consistent with the CoCP. The CEMP would also include other environmental mitigation measures as itemised within the REAC.



5.5 Construction Environmental Management Plan

- 5.5.1 An outline CEMP has been produced (ES Appendix 16.2 Outline Construction Environmental Management Plan) to provide a consistent approach to the control of construction activities along the entire pipeline. Prior to the commencement of each stage of development, draft DCO Requirement 6 secures the need for a CEMP to be produced and submitted for approval by the relevant local planning authorities. The outline CEMP contains the key headings that would need to be included within each individual CEMP to be produced by the relevant contractor(s). The roles and responsibilities and site-specific information would be added to this document by individual contractor(s) as applicable.
- 5.5.2 The CoCP would form the basis of the contractor(s) CEMP. The CEMP would also include embedded design measures as itemised within the REAC. In addition, environmental mitigation secured within the HRA, FRA or otherwise secured within the DCO process would be included within the CEMP.
- 5.5.3 All measures and method statements within licences and permits would be incorporated into the CEMP.
- 5.5.4 When completed, each contractor(s)' CEMP would contain all the environmental requirements for that specific stage of the project, and allocate responsible persons, indicators for completion, and site-specific control measures for where and when the measures would apply. The CEMP would continue to evolve and would be a 'living' document for the lifetime of the project.
- 5.5.5 The CEMP will contain several 'daughter' documents, as annexes to the CEMP which include the following;
- Emergency Action Plan;
 - Erosion and Sediment Control Plan;
 - Water Mitigation and Management Measures;
 - Site Waste Management Plan;
 - Soil Management Plan;
 - Community Engagement Plan;
 - Construction Traffic Management Plan;
 - Dust Management Plan;
 - Noise and Vibration Management Plan; and
 - Construction Method Statements.
- 5.5.6 The outline CEMP is a template for the contractor(s)' CEMP. However, the CEMP must be substantially in accordance with the outline CEMP, reflect the mitigation measures set out in the REAC; contain a record of all sensitive environmental features that have the potential to be affected by the construction of the authorised development; contain details of local community liaison responsibilities; and include any additional management plans.



5.6 Acquisition of land

- 5.6.1 Article 20 of the draft DCO relates to the compulsory acquisition of land- This article authorises the acquisition of the land described in the Book of Reference (BoR) and shown on the Land Plans compulsorily. It grants the power to acquire such of that land as is required for the proposed development, or to facilitate it, or is incidental to it. Article 22 of the draft DCO gives Esso the power to acquire existing rights and restrictions or create new rights and restrictions over the Order Land as described in the BoR and shown on the Land Plans
- 5.6.2 Esso is actively negotiating voluntary agreements for easement rights required for the pipeline and any land required for valves or other associated facilities. Esso's land agents have issued offers of terms to all affected landowners, and it is anticipated that a large proportion of the voluntary agreements required will be concluded or at an advanced stage of negotiation prior to the Preliminary Meeting.

5.7 Managing Generic Impacts

Air Quality and Emissions

- 5.7.1 Measures to manage effects upon air quality will be implemented through general good practice measures where these are listed in the REAC (Table 16.2 – Pages 43 to 46 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6).

Biodiversity and Geological Conservation

- 5.7.2 Measures to manage effects upon biodiversity and geological conservation reflect the requirements of the draft HRA and will be implemented through specific measures listed in the REAC (Table 16.2 – Pages 29 to 34 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6).

Civil and Military Aviation and Defence Interests

- 5.7.3 There are no civil and military aviation and defence interests which require measures to manage any effects.

Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation

- 5.7.4 Measures to manage the effects of dust and artificial light will be implemented through general good practice measures where these are listed in the REAC (Table 16.2 – Pages 43 to 46 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6).
- 5.7.5 One of the measures listed in the outline CEMP is the requirement for each contractor to produce a Dust Management Plan (Annex G to ES Appendix 16.2: Outline CEMP).



Flood Risk

- 5.7.6 Measures to manage any flood risk effects will be implemented through specific water measures listed in the REAC (Table 16.2 – Pages 34 to 38 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6) and Article 17.
- 5.7.7 Specific details on flood risk measures such as dewatering, construction site run-off and any abstraction or discharge points will be detailed within the Water Mitigation and Management Measures set out in each contractor's CEMP (Annex C to ES Appendix 16.2: Outline CEMP).

Historic Environment

- 5.7.8 Measures to manage the effects on the historic environment will be implemented through specific cultural heritage measures listed in the REAC (Table 16.2 – Page 38 Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CEMP (DCO Requirement 6) and the AMS (DCO Requirement 11).

Landscape and Visual

- 5.7.9 Measures to manage the effects on the landscape will be implemented through specific landscape and visual measures listed in the REAC (Table 16.2 – Pages 38 to 40 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CEMP (DCO Requirement 6), the LEMP (DCO Requirement 12) and Hedgerows and Trees (DCO Requirement 8).

Land Use Including Open Space, Green Infrastructure and Green Belt

- 5.7.10 Measures to manage the effects on land use and open space will be implemented through specific measures listed in the REAC (Table 16.2 – Page 43 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).
- 5.7.11 All designated Public Rights of Way will be identified within the application for Development Consent and any potential temporary closures applied for/ detailed in the application and secured through the DCO Requirement for a CoCP (DCO Requirement 5).

Noise and Vibration

- 5.7.12 Measures to manage the effects of noise will be implemented through specific measures listed in the REAC (Table 16.2 – Pages 44 to 46 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).



- 5.7.13 One of the measures listed in the outline CEMP is the requirement for each contractor to produce a Noise and Vibration Management Plan (Annex H to ES Appendix 16.2: Outline CEMP).

Soil and Geology

- 5.7.14 Measures to manage the effects on soils and geology will be implemented through specific measures listed in the REAC (Table 16.2 – Pages 40 to 43 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).
- 5.7.15 One of the measures listed in the outline CEMP is the requirement for each contractor to produce a Soil Management Plan (Annex E to ES Appendix 16.2: Outline CEMP).

Traffic and Transport

- 5.7.16 Measures to manage the effects of traffic and transport will be implemented through specific measures listed in the REAC (Table 16.2 – Pages 26 to 29 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CEMP (DCO Requirement 6) and Construction Traffic Management Plan (DCO Requirement 7).

Waste Management

- 5.7.17 Measures to manage waste management will be implemented through general good practice listed in the REAC (Table 16.2 – Pages 26 to 29 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).
- 5.7.18 One of the measures listed in the outline CEMP is the requirement for each contractor to produce a Site Waste Management Plan (Annex D to ES Appendix 16.2: Outline CEMP).

Water Quality and Resources

- 5.7.19 Measures to manage any water quality effects will be implemented through specific measures listed in the REAC (Table 16.2 – Pages 34 to 38 of ES Chapter 16: Environmental Management and Mitigation) and secured by the DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the Surface and Foul Water Drainage Requirement (DCO Requirement 9).
- 5.7.20 The outline CEMP also requires for an Erosion and Sediment Control Plan (Annex B to ES Appendix 16.2: Outline CEMP) and Water Mitigation and Management Measures (Annex C to ES Appendix 16.2: Outline CEMP) to be produced by each contractor in their CEMP.



6 Planning Policy Context

6.1 The Planning Act 2008 and the Relevant NPS

- 6.1.1 As explained in Chapter 1 Introduction, the Southampton to London Pipeline (SLP) is a Nationally Significant Infrastructure Project (NSIP) within section 14(1)(g) of the Planning Act 2008 (as amended) (the 2008 Act) for which development consent is required under section 31 of the 2008 Act. Development consent is required before the development can proceed.
- 6.1.2 The 2008 Act also enables a Development Consent Order to be issued which includes development associated with the NSIP. The project details, which are contained in Chapter 4 of this document, describe the development to be included within the Development Consent Order.
- 6.1.3 Section 5 of the 2008 Act established the principle of National Policy Statements (NPS). These statements set out the national policy in relation to specified descriptions of development in England and Wales.
- 6.1.4 Section 104(2) of the 2008 Act indicates that in deciding an application for development consent the decision maker must have regard to:
- any relevant National Policy Statement;
 - any local impact report submitted to the Secretary of State;
 - any matters prescribed in relation to development of the description to which the application relates (there are none in this case); and
 - any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State's decision.
- 6.1.5 Section 104(3) further indicates that applications must be decided in accordance with any relevant NPS, except where the Secretary of State is satisfied that the adverse impact of the proposed development would outweigh its benefits, that any condition prescribed for deciding an application otherwise than in accordance with the NPS is met or to do so would:
- lead to the UK being in breach of its international obligations;
 - lead the Secretary of State to be in breach of any duty imposed on him by or under any enactment; or
 - be unlawful by virtue of any enactment.
- 6.1.6 The relevant NPS, therefore, has a particularly important status in the decision to be made on the application. The two NPSs that are relevant to the project are:
Overarching National Policy Statement for Energy (EN-1); and
Gas Supply Infrastructure and Gas and Oil Pipelines NPS (EN-4).
- 6.1.7 The applicant's explanation as to why these are the relevant NPSs for this application is set out in Chapter 1 Introduction.



- 6.1.8 National Policy Statement EN-1 indicates that, given the level and urgency of need for infrastructure of the types covered by the energy NPSs, the decision maker should *'start with a presumption in favour of granting consent to applications for energy NSIPs ... unless any more specific and relevant policies set out in relevant NPSs clearly indicate that consent should be refused'* (NPS EN-1, paragraph 4.1.2). Further information about the needs case for the project can be found in Chapter 2 Statement of Need.
- 6.1.9 NPS EN-4 forms part of a suite of energy NPSs and should be read in conjunction with the Overarching Energy NPS (EN-1). NPS EN-4 paragraph 1.3.2 states that: *'This NPS [EN-4] does not seek to repeat the material set out in EN-1, which applies to all applications covered by this NPS, unless stated otherwise.'*

6.2 Relationship Between NPS and Other Policy Documents

- 6.2.1 Under section 104(2)(a) of the 2008 Act, the decision maker must have regard to *'any other matter which [it] thinks is both important and relevant'* in determining the application, including the Development Plan Documents or other documents in the Local Development Framework (NPS EN-1, paragraph 4.1.5). The potential weight of planning policy set out in other local or national policy documents is reduced by the following factors:
- The 2019 National Planning Policy Framework (NPPF) confirms (in paragraph 5) that it does not set policy for NSIPs and that relevant policy is to be found within the NPS.
 - Unlike normal planning applications considered under the Town and Country Planning regime, the Planning Act 2008 contains no requirement to decide an application for development consent in accordance with the policies of the local development plan.
 - NPS EN-1 paragraph 4.1.5 advises that, in the event of a conflict between the NPS and any other document, the NPS prevails for the purposes of decision making given the national significance of the infrastructure.
 - NPS EN-1 paragraph 4.1.5 advises that it has already taken account of relevant Planning Policy Statements (PPS) and Planning Policy Guidance Notes. Both PPSs and PPGs were cancelled on publication of the NPPF except for PPS 10, which deals with waste.
- 6.2.2 This chapter of the Planning Statement, therefore, considers the principal requirements of the policies in the NPS for applicants. The project was also progressed having regard to local planning policies that are important and relevant. NPS EN-1 paragraph 5.10.5 advises that applicants should assess any effects of precluding a new development or use proposed in the development plan. When it comes to assessing the acceptability of the application proposals on that development or use (or in assessing any other effect), however, it is the NPS that sets the relevant criteria to be applied to the application. The NPS is the primary basis for decision making on all planning issues raised by the application and will be the primary policy focus of the assessment in this document.
- 6.2.3 The NPS identifies relevant factors for consideration and generic impacts, and these are identified and summarised in Section 6.3 below, supported by the

assessment in Chapter 7 Planning Assessment: Project-wide, and a detailed assessment found in the NPS Accordance Table in Appendix 7.1. These are then used to comprehensively assess the application section by section along the pipeline route against the terms of the NPS in Chapters 8 to 15 of this Planning Statement. This assessment considers the whole project as a single NSIP proposal.

6.3 NPS EN-1: Government Policy Objectives

6.3.1 Paragraph 2.1.2 of NPS EN-1 confirms that:

'...energy is vital to economic prosperity and social well-being and so it is important to ensure that the UK has secure and affordable energy. Producing the energy the UK requires and getting it to where it is needed necessitates a significant amount of infrastructure, both large and small scale.'

6.3.2 Energy is vital to economic prosperity and social well-being. NPS EN-1 paragraph 3.2.1 states that:

'Energy underpins almost every aspect of our way of life. It enables us to heat and light our homes; to produce and transport food; to travel to work, around the country and the world. Our businesses and jobs rely on the use of energy. Energy is essential for the critical services we rely on – from hospitals to traffic lights and cash machines. It is difficult to overestimate the extent to which our quality of life is dependent on adequate energy supplies.'

6.3.3 The Government's commitment to meeting its legally binding target to cut greenhouse gas emission targets by at least 80% by 2050 is set out in paragraph 2.2.1 of NPS EN-1. Paragraph 2.2.2 of NPS EN-1 is clear in identifying the Government's role:

'in transformation to a secure, low carbon energy system as focusing on developing a clear long-term policy framework which facilitates investment in the necessary new infrastructure (by the private sector) and in energy efficiency.'

6.3.4 NPS EN-1 paragraph 2.2.20 identifies that it is critical for the UK to have secure energy supplies and in particular, there is a need for *'reliable associated supply chains to meet demand as it arises.'*

6.3.5 NPS EN-1 paragraph 2.2.27 also identifies the Government's wider policy objectives for energy infrastructure. This states that energy infrastructure is important for achieving sustainable development, in respect to the well-being of society and the economy, as well as addressing climate change.

6.3.6 NPS EN-1 paragraph 2.2.28 confirms that both NPS EN-1 and EN-4 take full account of the objective of contributing to sustainable development as proven by the Appraisal of Sustainability (AoS) required by the Planning Act 2008. Furthermore *'the AoS has examined whether the NPS framework for the*

development of new energy infrastructure projects is consistent with the objectives for sustainable development, including consideration of other Government policies such as those for the environment, economic development, health and transport.'

6.4 NPS EN-1: Meeting the Need

6.4.1 In respect to meeting the UK's need for energy infrastructure, paragraph 3.1.1 in NPS EN-1 states that: *'The UK needs all the types of energy infrastructure covered by this NPS in order to achieve energy security at the same time as dramatically reducing greenhouse gas emissions.'*

6.4.2 NPS EN-1 paragraph 3.9.1 states that the demand for oil is projected to increase in the short to medium term, particularly the demand for diesel and aviation fuel which is projected to rise. Indeed paragraph 3.9.3 specifies that there is a need for sufficient fuel and infrastructure capacity in order to avoid *'socially unacceptable levels of interruption to physical supply and excessive costs to the economy from unexpectedly high or volatile prices.'* The NPS states that this requirement can be met by *'reliable supplies of fuel, with adequate capacity to import, produce, store and distribute these supplies to customers.'* Critically, as the NPS states at paragraph 3.9.3, this in turn highlights *'the need for reliable infrastructure including refineries, pipelines and import terminals.'*

6.4.3 The NPS recognises that there is an extensive network of privately-owned pipelines in use across the UK, which distribute a variety of oil products from refineries to major distribution terminals. The NPS confirms, at paragraph 3.9.5, that this network provides an *'efficient and robust distribution system across the UK.'*

6.4.4 Specifically, the NPS identifies the main drivers for new oil infrastructure pipelines in NPS EN-1 paragraph 3.9.6 as:

- *'meeting increasing demand by end users, particularly for diesel and aviation fuel;*
- *compliance with EU and International Energy Agency obligations for compulsory oil stocking, which are set to increase as North Sea resources decline;*
- *meeting requirements for sulphur-free diesel and petrol blended with biofuels (including ethanol distribution), which are set to increase;*
- *increasing imports of refined products (due to changing demand patterns);*
- *emerging planning, safety and environmental protection requirements; and*
- *market requirements to improve supply resilience in order to meet demand in full in a timely fashion under credible emergency scenarios.'*

6.4.5 The NPS recognises, at paragraph 3.9.7, that new pipeline infrastructure *'could require associated works...'* Critically, the NPS, in paragraph 3.9.8, states that *'a small number of significant applications for oil pipelines'* should be expected and the assessment of them should *'begin from the basis that there is a significant need for this infrastructure to be provided'*.



6.5 NPS EN-1: NSIP General Assessment Principles

- 6.5.1 Part 4 of NPS EN-1 considers a number of general policies that are relevant to decision making on energy infrastructure NSIPs. In considering any proposed development, and in particular when weighing its adverse impacts against its benefits, the decision maker should take account of (NPS EN-1 paragraph 4.1.3):
- *‘its potential benefits including its contribution to meeting the need for energy infrastructure, job creation and any long-term or wider benefits; and*
 - *its potential adverse impacts, including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts’.*
- 6.5.2 In this context, the decision maker should take into account environmental, social and economic benefits and adverse impacts at national, regional and local levels. NPS EN-1 notes that these may be identified in EN-1, the relevant technology-specific NPS (i.e. NPS EN-4 for this application), in the application itself, or elsewhere (including in local impact reports).

Environmental Statement (ES) and Habitats Regulations Assessment (HRA)

- 6.5.3 Part 4 of NPS EN-1 sets out application criteria for development consent for energy NSIPs. These include the criterion to prepare an Environmental Statement (ES) and, where appropriate, an assessment under the terms of the Habitats Regulations, including the requirement for an Appropriate Assessment. Guidance is provided in the NPS on the scope of assessment that is required to be undertaken for both processes.

Alternatives

- 6.5.4 NPS EN-1 does not contain a general requirement to consider alternatives or to establish whether the proposed project represents the best option. However, a duty to consider alternatives may arise in other contexts and is legally required to be included within both the ES and the Habitats Regulations Assessment (HRA), as set out in the legislation which applies to each of those processes.
- 6.5.5 However, notwithstanding the absence of a general requirement to consider alternatives, NPS EN-1 paragraph 4.4.3 sets out a number of principles to guide the decision maker in deciding what weight should be given to alternatives, given the level and urgency of need for new energy infrastructure.

Criteria for “Good Design” for Energy Infrastructure

- 6.5.6 NPS EN-1 sets out the requirement (NPS EN-1 paragraph 4.5.1) for applying ‘good design’ to energy projects to produce sustainable infrastructure that is:
- sensitive to place;
 - efficient in the use of natural resources and energy used in the construction and operation; and
 - matched by an appearance that demonstrates good aesthetic.



- 6.5.7 NPS EN-1 does acknowledge (paragraph 4.5.1) '*that the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area.*' However, good design is also a means by which many of the NPS policy objectives can be met.
- 6.5.8 NPS EN-1 paragraph 4.5.3 indicates that the decision maker needs to be satisfied that energy infrastructure developments are sustainable and as attractive, durable and adaptable as they can be, taking account of natural hazards such as flooding. In so doing, the decision maker should satisfy itself that the applicant has taken account of both aesthetics (including contribution to the quality of the area in which it would be located) and functionality (including fitness for purpose and sustainability).
- 6.5.9 NPS EN-1 recognises that the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, but that there may be opportunities to demonstrate good design through siting relative to existing landscape character, landform and vegetation. NPS EN-1 advises that applicants and the examining authority should consider taking independent professional advice on the design aspects of a proposal, for example from the Design Council and Chartered Association of Building Engineers (CABE).
- 6.5.10 Applicants should demonstrate how the design process was undertaken and how the design evolved, what the main design alternatives were and the reasons why the favoured choice was selected taking into account the ultimate purpose of the infrastructure and the operational, safety and security requirements that the design has to satisfy. The design development process for this project is outlined in Chapter 3 Scheme Development.

Climate Change Adaptation

- 6.5.11 The Government has a statutory duty to adapt to climate change through the Climate Change Act 2008 and the production of a statutory climate change adaptation programme. NPS EN-1 paragraph 2.2.10 confirms that '*adaptation needs are built into planning...to ensure the continued and improved success of businesses and new energy NSIPs.*' The NPS also sets out how the energy sector can help deliver the Government's climate change objectives by clearly setting out the need for new low carbon energy infrastructure to contribute to climate change mitigation.
- 6.5.12 NPS EN-1 paragraph 4.8.5 recognises that new energy infrastructure will typically be a long-term investment that will remain operational over many decades and through a changing climate. The NPS requires applicants to consider the impacts of climate change when planning the location, design, build, operation and potentially, decommissioning, of new energy infrastructure. The application, including the ES, should set out how the proposal takes account of the projected impacts of climate change using the latest UK Climate Projections available at the time of preparation. The decision maker should be satisfied that the proposals take account of the potential impacts of climate change and identify appropriate mitigation or adaptation measures over the lifetime of the proposed infrastructure (NPS EN-1, paragraph 4.8.6).

- 6.5.13 NPS EN-1 paragraph 4.8.8 indicates that the decision maker should be satisfied that no critical features of the design could be seriously affected by more radical changes in the climate beyond that projected in the latest set of UK Climate Projections. Paragraph 4.8.9 indicates that a risk-averse approach should be taken for any safety critical elements of the proposed infrastructure and that a high emissions scenario (high impact, low likelihood) should be applied to those elements.
- 6.5.14 Any adaptation measures should be based on the latest set of UK Climate Projections, however, if any adaptation measures give rise to consequential impacts then the decision maker will need to consider those impacts in relation to the application as a whole (NPS EN-1 paragraphs 4.8.10 to 4.8.11). Paragraph 4.8.12 indicates that the implementation of adaptation measures may be at the time of construction, or at the point that the need arises, should it have an effect on other aspects of the project.

Pollution Control and Other Environmental Regulatory Regimes

- 6.5.15 The planning and pollution control systems are separate but complementary. NPS EN-1 (paragraph 4.10.3) states that:

'in considering an application for development consent, the [examining authority and the decision maker] should focus on whether the development itself is an acceptable use of the land, and on the impacts of that use, rather than the control of processes, emissions or discharges themselves. The [examining authority and the decision maker] should work on the assumption that the relevant pollution control regime and other environmental regulatory regimes, including those on land drainage, water abstraction and biodiversity, will be properly applied and enforced by the relevant regulator. It should act to complement but not seek to duplicate it.'

- 6.5.16 NPS EN-1 (paragraph 4.10.6) recommends early engagement and close cooperation with relevant pollution control regulators to discuss their requirements for environmental permits and other consents. This will *'help ensure that applications take account of all relevant environmental considerations, and that the relevant regulators are able to provide timely advice and assurances'* to the decision maker. This approach should demonstrate to the decision maker that development consent can be granted taking full account of environmental impacts. Decision makers will need to be satisfied that:
- potential releases can be adequately regulated under the pollution control framework; and
 - the potential cumulative effects of existing sources of pollution together with the proposed development would not render the new development unacceptable, particularly in relation to statutory environmental quality limits (NPS EN-1 paragraph 4.10.7).
- 6.5.17 NPS EN-1 (paragraph 4.10.8) clarifies that an application should not be refused consent on the basis of pollution impacts, unless the decision maker believes that



any relevant necessary pollution control permit or licence will not subsequently be granted.

Safety

- 6.5.18 NPS EN-1 paragraph 4.11.1 states that '*HSE is responsible for enforcing a range of occupational health and safety legislation some of which is relevant to the construction, operation and decommissioning of energy infrastructure. Applicants should consult with the Health and Safety Executive (HSE) on matters relating to safety.*'
- 6.5.19 The decision maker will need to be satisfied that an application meets all of the required safety objectives.

Hazardous Substances

- 6.5.20 NPS EN-1 paragraph 4.12.3 specifies that the applicant should consult the local planning authority at pre-application stage '*to identify whether its proposed site is within the consultation distance of any site with hazardous substances consent and, if so, should consult the HSE for its advice on locating the particular development on that site.*'

Health

- 6.5.21 NPS EN-1 paragraph 4.13.1 recognises that access to energy infrastructure is clearly beneficial to society and to public health as a whole. However, the possibility of some adverse effects, resulting from the production, distribution and use of energy cannot be discounted. The direct impacts on health may include increased traffic, air pollution, dust, water pollution, odour, hazardous waste and substances, noise, exposure to radiation and increases in pests. New energy infrastructure may also affect the composition, size and proximity of the local population and have indirect health impacts, for example, if it affects access to key public services, transport or use of open space for recreation and physical activity (paragraph 4.13.4).
- 6.5.22 NPS EN-1 paragraph 4.13.2 confirms that where a proposal has an effect on humans, these will need to be assessed in the ES for each element of the project, identifying adverse health impacts and identifying measures to avoid, reduce or compensate for those impacts as appropriate. The cumulative impact on health of multiple developments should also be considered by the applicant and the decision maker. However, NPS EN-1 paragraph 4.13.5 also clarifies that:

'Generally, those aspects of energy infrastructure which are most likely to have a significantly detrimental impact on health are subject to separate regulation (for example for air pollution) which will constitute effective mitigation of them, so that it is unlikely that health concerns will either constitute a reason to refused consents or require specific mitigation under the Planning Act 2008. However, the [examining authority and the decision maker] will want to take account of health concerns when setting requirements relating to a range of impacts such as noise.'



Common Law Nuisance and Statutory Nuisance

- 6.5.23 NPS EN-1 paragraph 4.14.1 provides detailed advice on the relationship between statutory and common law nuisance and the extent to which the powers conferred by a Development Consent Order can be relied on as a defence against a claim of nuisance.
- 6.5.24 NPS EN-1 paragraph 4.14.2 confirms that at the application stage the decision maker will need to consider possible sources of nuisance under Section 79(1) of the Environmental Protection Act 1990 and how they may be mitigated or limited so that appropriate requirements can be included in any subsequent order granting development consent.

Security Considerations

- 6.5.25 National security considerations are acknowledged to apply across all national infrastructure sectors (NPS EN-1 paragraph 4.15.1). Overall responsibility for security of the energy sector lies with the Department for Business, Energy & Industrial Strategy (BEIS) which works closely with Government security agencies including the Centre for the Protection of National Infrastructure (CPNI) to reduce the vulnerability of the most 'critical' infrastructure assets in the sector to terrorism and other national security threats.
- 6.5.26 NPS EN-1 paragraph 4.15.2 states that Government policy is to ensure that, where possible, proportionate protective security measures are designed into new infrastructure projects at an early stage in the project development. Where applications for development consent for infrastructure covered by NPS EN-1 relate to potentially 'critical' infrastructure, there may be national security considerations. Where such security considerations are identified, NPS EN-1 (paragraph 4.15.3) requires the applicant to *'consult with relevant security experts from CPNI, OCNS and DECC (now BEIS) to ensure that physical, procedural and personnel security measures have been adequately considered in the design process and that adequate consideration has been given to the management of security risks.'*
- 6.5.27 NPS EN-1 paragraph 4.15.4 states that the applicant *'should only include sufficient information in the application as is necessary'* for the decision maker to examine the development consent issues and make a properly informed decision on the application. Furthermore, paragraph 4.15.5 states that *'In exceptional cases, where examination of an application would involve public disclosure of information about defence or national security which would not be in the national interest, the Secretary of State can intervene and examine a part or the whole of the application. In that case, the Secretary of State may appoint an examiner to consider evidence in closed session, and the Secretary of State would be the decision maker for the application.'*
- 6.5.28 The NPS EN-1 sections on Combined Heat and Power (CHP), Carbon Capture Readiness (CCR) and grid connection have not been included within this chapter as they are not relevant to the project.



6.6 NPS EN-1: NSIP Generic Impacts and Assessment Criteria

Introduction

- 6.6.1 Part 5 of NPS EN-1 defines the generic impacts that may arise from the development of energy infrastructure. These include impacts such as landscape and visual impact and air quality impact. Specific impacts which arise from specific types of energy infrastructure are known as 'technology-specific' and are set out separately in NPS EN-4.
- 6.6.2 NPS EN-1 states that the list of impacts and means of mitigation identified is not exhaustive. It addresses those impacts that are anticipated to arise most frequently and is not intended to be a list of all possible effects or means of mitigation. NPS EN-1 paragraph 5.1.2 requires applicants to identify the impacts of proposals covered in the ES as well as any others that may be relevant to the application.
- 6.6.3 NPS EN-1 paragraph 5.1.4 identifies the need for applicants to consult with bodies with respect to proposals. Applicants must also undertake consultation in accordance with the 2008 Act and the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.
- 6.6.4 By way of background, it is relevant to note that Part 1 of NPS EN-1 explains that, in developing the energy NPSs, the Government undertook a high-level Appraisal of Sustainability (AoS) which also incorporate the analysis of likely significant environmental effects required by the Strategic Environmental Assessment (SEA) Directive. The analysis set out in paragraph 1.7.2 and 1.7.3 of NPS EN-1 identifies both positive and negative effects of NPS EN-1. It is clear, however, that proposed energy developments are subject to project-level assessment, including EIA, which will need to address location-specific effects.
- 6.6.5 An assessment of reasonable alternatives, required by the SEA Directive, was included as part of the AoS for NPS EN-1 (paragraphs 1.7.5 to 1.7.12). Furthermore, high level strategic HRAs were carried out on both NPS EN-1 and NPS EN-4. The HRAs concluded that:

'the lack of spatial information within the EN-1 to EN-5 made it impossible to reach certainty on the effect of the plan on the integrity of any European Site, the potential for proposed energy infrastructure projects of the kind contemplated by EN-1 to EN-5 to have adverse effects on the integrity of such sites cannot be ruled out.'

- 6.6.6 NPS EN-1 paragraph 1.7.13 does confirm that the NPS HRAs are without prejudice to any project-level HRA.

Air Quality and Emissions

- 6.6.7 The construction, operation and decommissioning phases of infrastructure developments can have adverse effects on air quality, which could lead to adverse impacts on health, on protected species or habitats, or on the wider countryside. In

such cases, an assessment of the impacts of the proposed project is required as part of the ES. NPS EN-1 paragraph 5.2.7 states that the ES should describe:

- *'any significant air emissions, their mitigation and any residual effects distinguishing between the project stages and taking account of any significant emissions from any road traffic generated by the project;*
- *the predicted absolute emission levels of the proposed project, after mitigation methods have been applied;*
- *existing air quality levels and the relative change in air quality from existing levels; and*
- *any potential eutrophication impacts.'*

6.6.8 NPS EN-1 advises that the decision maker should *'generally give air quality considerations substantial weight where a project would lead to deterioration in air quality in an area or leads to a new area where air quality breaches any national air quality limits'*. However air quality effects are also important where substantial changes in air quality are expected, even if the level of deterioration does not lead to any breaches of national air quality limits (NPS EN-1 paragraph 5.2.9).

6.6.9 NPS EN-1 paragraph 5.2.10 indicates that in all cases the decision maker must take account of relevant statutory air quality limits. Where a project is likely to lead to a breach of such limits, applicants should work with the relevant authorities to secure appropriate mitigation measures to enable the proposal to proceed. In the event that a project will lead to non-compliance with a statutory limit, the decision maker should refuse consent.

6.6.10 NPS EN-1 paragraph 5.2.11 indicates that the decision maker may require additional specific mitigation measures over and above any which may have been identified by the applicant in the application.

Biodiversity and Geological Conservation

6.6.11 NPS EN-1 paragraph 5.3.7 states that as a general principle, development proposals *'should aim to avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives; where significant harm cannot be avoided, then appropriate compensation measures should be sought.'*

6.6.12 NPS EN-1 advises that where a development is subject to EIA, applicants should ensure that any effects on international, national or local designated sites of ecological or geological conservation importance, on protected species and habitats and other species identified as being of principal importance for the conservation of biodiversity are clearly set out in the ES. Where EIA is not required, the applicant must provide information that is proportionate to the infrastructure to enable the decision maker to thoroughly consider the potential effects of the proposal.

6.6.13 NPS EN-1 paragraph 5.3.4 also requires the applicant to show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.



- 6.6.14 In taking decisions, NPS EN-1 paragraph 5.3.8 confirms that the examining authority should ensure that appropriate weight is attached to designated sites of international, national and local importance; protected species; habitats and other species of principal importance for the conservation of biodiversity; and to biodiversity and geological interests within the wider environment.
- 6.6.15 In respect of mitigation, NPS EN-1 paragraph 5.3.18 states that: *'The applicant should include appropriate mitigation measures as an integral part of the proposed development. In particular, the applicant should demonstrate that:*
- during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works;*
 - during construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised, including as a consequence of transport access arrangements;*
 - habitats will, where practicable, be restored after construction works have finished; and*
 - opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals.'*
- 6.6.16 Where appropriate mitigation measures cannot be demonstrated by the applicant, the decision maker should consider what appropriate requirements should be attached to a consent (NPS EN-1 paragraph 5.3.19). The decision maker should also take account of any mitigation measures that have been agreed between the applicant and Natural England, and whether Natural England intends to grant or refuse any relevant licences (including mitigation licences) (NPS EN-1 paragraph 5.3.20).

Civil and Military Aviation and Defence Interests

- 6.6.17 NPS EN-1 paragraph 5.4.10 states that where the proposed development may have an effect on civil or military aviation and/or other defence assets, an assessment of potential effects should be set out in the ES.
- 6.6.18 Where a likely effect is identified, NPS EN-1 paragraph 5.4.11 requires that the applicant consult the Ministry of Defence (MoD), Civil Aviation Authority (CAA), NATS and, *'any aerodrome – licensed or otherwise – likely to be affected by the proposed development when preparing an assessment of the proposal on aviation or other defence interests'*.
- 6.6.19 NPS EN-1 paragraph 5.4.14 states that the decision maker *'should be satisfied that the effects on civil and military aerodromes, aviation technical sites and other defence assets have been addressed by the applicant and that any necessary assessment of the proposal on aviation or defence interests has been carried out. In particular, [examining authority and the decision maker] should be satisfied that the proposal has been designed to minimise adverse impacts on the operation and safety of aerodromes and that reasonable mitigation is carried out.'*



Coastal Change

- 6.6.20 NPS EN-1 paragraph 5.5.5 confirms that the coastal change section of the NPS only applies to onshore energy infrastructure projects situated on the coast. The SLP project is not located on or near to the coast, therefore this section is not relevant to this application.

Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation

- 6.6.21 NPS EN-1 paragraph 5.6.1 confirms that: *'During the construction, operation and decommissioning of energy infrastructure there is potential for the release of a range of emissions such as odour, dust, steam, smoke, artificial light and infestation of insects. All have the potential to have a detrimental impact on amenity or cause a common law nuisance or statutory nuisance under Part III, Environmental Protection Act 1990.'*
- 6.6.22 NPS EN-1 paragraph 5.6.3 recognises that for energy NSIPs covered by EN-1, *'some impact on amenity for local communities is likely to be unavoidable. The aim should be to keep impacts to a minimum, and at a level that is acceptable.'*
- 6.6.23 The applicant should *'assess the potential for insect infestation and emissions of odour dust, steam, smoke and artificial light to have a detrimental impact on amenity'* within the ES for the application (NPS EN-1 paragraph 5.6.4) and to consult the relevant local planning authority (and Environment Agency if appropriate) about the scope and methodology of the assessment (NPS EN-1 paragraph 5.6.6). The details required by the NPS within the applicant's assessment are set out in NPS EN-1 paragraph 5.6.5.
- 6.6.24 In decision making, NPS EN-1 paragraph 5.6.7 states that the decision maker should satisfy itself that all reasonable steps have been and would be taken, to minimise any detrimental impact on amenity from artificial light, dust, odour, smoke, steam and insect infestation.

Flood Risk

- 6.6.25 NPS EN-1 paragraph 5.7.3 indicates that the aims of planning policy on development and flood risk are to ensure that flood risk from all sources of flooding is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk. Where new energy infrastructure is, exceptionally, necessary in such areas, policy aims to make it safe without increasing flood risk elsewhere and, where possible, by reducing flood risk overall.
- 6.6.26 NPS EN-1 paragraph 5.7.4 requires applications for energy projects of 1 hectare or greater in Flood Zone 1 in England, and all proposals for energy projects located in Flood Zones 2 and 3 in England be accompanied by a flood risk assessment (FRA). An FRA will also be required where an energy project less than 1 hectare may be subject to sources of flooding other than rivers and the sea (for example surface water), or where drainage problems have been identified. The FRA should identify and assess the risks of all forms of flooding to and from the project and demonstrate how these flood risks will be managed, taking climate



change into account. The minimum FRA requirements are set out in NPS EN-1 paragraph 5.7.5.

- 6.6.27 Applicants for projects which may be affected by, or may add to, flood risk should arrange pre-application discussions with the EA, and other relevant bodies. Such discussions should identify the likelihood and possible extent and nature of the flood risk, help scope the FRA, and identify the information that will be required by the decision maker to reach a decision on the application when submitted (NPS EN-1 paragraph 5.7.7).
- 6.6.28 NPS EN-1 paragraph 5.7.9 states that: *'In determining an application for development consent, the [examining authority and the decision maker] should be satisfied that, where relevant:*
- *the application is supported by an appropriate FRA;*
 - *the Sequential Test has been applied as part of site selection;*
 - *a sequential approach has been applied at the site level to minimise risk by directing the most vulnerable uses to areas of lowest flood risk;*
 - *the proposal is in line with any relevant national and local flood risk management strategy;*
 - *priority has been given to the use of sustainable drainage systems (SuDs)...; and*
 - *in flood risk areas the project is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed over the lifetime of the development.'*
- 6.6.29 Any construction work that has drainage implications, will need approval as part of the development consent. NPS EN-1 paragraph 5.7.10 also states that consent will need to make provision for the adoption and maintenance of SuDS, by a responsible body.
- 6.6.30 NPS EN-1 paragraph 5.7.12 indicates that development proposals should not be given consent if they are within Flood Zone 2, unless the sequential test requirements have been met, and consent not given within Flood Zone 3 unless both the Sequential Test and Exception Test requirements have been met. These tests are explained in the following paragraphs.
- 6.6.31 The Sequential Test requires preference to be given to locating projects in Flood Zone 1. Location in Zone 2 can only be considered if there is no reasonably available site in Zone 1, whilst the location of energy infrastructure in Zone 3, can only be considered if no reasonably available sites in Zones 1 and 2 are available and subject to the Exception Test (NPS EN-1 paragraph 5.7.13).
- 6.6.32 Following application of the Sequential Test, if it is not possible for the project to be located in zones of lower probability of flooding than Flood Zone 3, the Exception Test may be applied (NPS EN-1 paragraph 5.7.14). The test provides a method of managing flood risk while still enabling necessary development to be implemented. A project must pass all three elements of the test for development to be consented. To pass the Exception Test (NPS EN-1 paragraph 5.7.16):

- *'it must be demonstrated that the project provides wider sustainability benefits to the community that outweigh flood risk;*
- *the project should be on developable, previously developed land or, if it is not on previously developed land, that there are no reasonable alternative sites on developable previously developed land subject to any exceptions set out in the technology-specific NPSs; and*
- *an FRA must demonstrate that the project will be safe, without increasing flood risk elsewhere [subject to the exception in NPS EN-1 paragraph 5.7.17] ... and, where possible, would reduce flood risk overall.'*

6.6.33 NPS EN-1 paragraph 5.7.17 states that *'Exceptionally, where an increase in flood risk elsewhere cannot be avoided or wholly mitigated, the [examining authority and the decision maker] may grant consent if it is satisfied that the increase in present and future flood risk can be mitigated to an acceptable level and taking account of the benefits of, including the need for, nationally significant energy infrastructure'*.

6.6.34 Where flood risk is required to be managed, mitigation is required to manage impacts on people and property. Mitigation should consider SuDS, surface water drainage systems, site layout, surface water attenuation storage and infiltration (NPS EN-1 paragraph 5.7.18 – paragraph 5.7.22).

6.6.35 Where energy infrastructure is essential and has to be located in flood risk areas, NPS EN-1 paragraph 5.7.24 requires this *'to be designed to remain operational when floods occur'*. Any infrastructure required within Flood Zone 3b (the functional floodplain) will only be permitted if the proposal will not result in a net loss of floodplain storage and will not impede flows (NPS EN-1 paragraph 5.7.24).

Historic Environment

6.6.36 NPS EN-1 paragraph 5.8.1 states that: *'The construction, operation and decommissioning of energy infrastructure has the potential to result in adverse impacts on the historic environment'*.

6.6.37 NPS EN-1 paragraph 5.8.8 requires the applicant to *'provide a description of the significance of the heritage assets affected by the proposed development and the contribution of the asset's setting to that significance. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset.'*

6.6.38 NPS EN-1 paragraph 5.8.10 notes that the applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage assets affected can be adequately understood from the application and supporting documents. Paragraph 5.8.9 confirms that this includes the consideration of heritage assets with an archaeological interest and also the setting of a heritage asset.

6.6.39 NPS EN-1 paragraphs 5.8.12 to 5.8.13 confirm that the decision maker should take into account the *'significance of the heritage assets and the value that they hold for this and future generations'*, the desirability of new development making a



positive contribution to the character and local distinctiveness of the historic environment, as well as the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets.

6.6.40 NPS EN-1 paragraph 5.8.14 is also clear in stating that:

'There should be a presumption in favour of the conservation of designated heritage assets, and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be. ... Loss affecting any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated assets of the highest significance, including Scheduled Monuments; registered battlefields; grade I and II listed buildings; grade I and II* registered parks and gardens; and World Heritage Sites, should be wholly exceptional.'*

6.6.41 Furthermore, NPS EN-1 paragraph 5.8.15 states that:

'Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of the development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification will be needed for any loss. Where the application will lead to substantial harm to or total loss of significance of a designated heritage asset, the [examining authority and the decision maker] should refuse consent unless it can be demonstrated that the substantial harm to or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm'.

6.6.42 The NPS states that the decision maker *'should consider imposing a condition on the consent or requiring the applicant to enter into an obligation that will prevent the loss occurring until it is reasonably certain that the relevant part of the development is to proceed'* (NPS EN-1 paragraph 5.8.17).

6.6.43 For applications for developments that affect the setting of a designated heritage asset, NPS EN-1 paragraph 5.8.18 requires the decision maker to *'treat favourably applications that preserve elements of the setting that make a positive contribution to, or better reveal the significance of the asset'*. However, where there is a negative effect on setting, the decision maker should weigh those effects against the wider benefits of the application.

Landscape and Visual

6.6.44 NPS EN-1 paragraph 5.9.1 acknowledges that the landscape (as well as townscape) and visual effects of energy projects will vary on a case by case basis according to the type of development, its location and the landscape setting of the proposed development.

6.6.45 NPS EN-1 paragraph 5.9.5 requires applicants to carry out a landscape and visual assessment and report it within the ES. The assessment in the ES should include



reference to any landscape character assessment and take account of any relevant policies in local development documents.

- 6.6.46 NPS EN-1 paragraphs 5.9.6 to 5.9.7 also require the assessment to consider the effects on landscape of the development during construction and during its operation, the visibility and conspicuousness during construction and the potential impacts on views and visual amenity. The NPS confirms that this should also include light pollution effects on local amenity and nature conservation.
- 6.6.47 NPS EN-1 paragraph 5.9.8 recognises that landscape effects depend on the existing character of the local landscape, its quality, how it is valued and its capacity to accommodate change, all of which need to be considered when making a judgement of the impact of a project on landscape. The NPS indicates that the aim of energy projects should be to minimise harm to the landscape and provide reasonable mitigation where possible and appropriate.
- 6.6.48 For development within designated landscapes that have the highest status of protection with respect to landscape and scenic beauty, such as National Parks, NPS EN-1 paragraph 5.9.9 states that *'the conservation of the natural beauty of the landscape and countryside should be given substantial weight by the [examining authority and the decision maker] in deciding on applications for development consent in these areas.'* However, NPS EN-1 paragraph 5.9.10 confirms that the decision maker may grant consent in these areas in exceptional circumstances, where the development is in the public interest and the applications include an assessment of:
- *'the need for the development and the impact of consenting or not consenting it upon the local economy;*
 - *the cost of, and scope for, developing outside of the designated area or meeting the need in some other way; and*
 - *the detrimental effect on the environment, the landscape and recreational opportunities and the extent to which that could be moderated'.*
- 6.6.49 The NPS requires the decision maker to ensure that any projects given consent in designated areas are carried out to high environmental standards, including through the application of appropriate requirements where necessary.
- 6.6.50 For developments outside of nationally designated areas, but which may have impacts on them, the NPS requires applications to avoid compromising the purposes of the designation through sensitive design. The NPS is also clear, however, (NPS EN-1 paragraph 5.9.13) that *'The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.'*
- 6.6.51 Outside of nationally designated areas, the NPS acknowledges that there are local landscapes that may be highly valued locally and protected by a local designation. The NPS advises that where a local development document has policies based on landscape character assessment, the applicant should pay particular attention to these. However, it states that: *'local landscape designations should not be used in*



themselves as reasons to refuse consent, as this may unduly restrict acceptable development (NPS EN-1 paragraph 5.9.14).

- 6.6.52 NPS EN-1 paragraph 5.9.15 recognises the scale of energy projects and acknowledges that they will often be visible within many miles of the proposed site. NPS EN-1 paragraph 5.9.16 suggests that the decision maker should judge whether any adverse impact on the landscape is temporary, such as during construction, or capable of being reversed, and whether it would be so damaging that it would not be offset by the benefits of the project.
- 6.6.53 NPS EN-1 paragraph 5.9.17 states that the decision maker should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by means of reasonable mitigation.
- 6.6.54 Visual impact is also a consideration for the decision maker; NPS EN-1 paragraph 5.9.18 acknowledges that all proposed energy infrastructure is likely to have visual effects for many receptors around proposed sites. The NPS confirms that the decision maker will have to make a judgement as to whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the project. To assist the decision maker in judging the weight to give to the assessment of visual impacts, the NPS suggests that the applicant may draw attention to any examples of existing permitted infrastructure that have a similar magnitude of impact on sensitive receptors.
- 6.6.55 NPS EN-1 paragraph 5.9.21 recognises that reducing the scale of a project can help to mitigate its visual and landscape effects. However, reducing the scale or otherwise amending the design of the development may result in significant operational constraints or reduction in function.
- 6.6.56 NPS EN-1 paragraph 5.9.22 recognises that adverse landscape and visual effects at site level may be minimised through appropriate siting of infrastructure, design (including colours and materials), and landscaping schemes depending on the size and type of the proposed project (this could potentially be off-site depending on the topography of the site and its surrounds — see NPS EN-1 paragraph 5.9.23). Materials and designs of buildings should always be given careful consideration.

Land Use Including Open Space, Green Infrastructure and Green Belt

- 6.6.57 NPS EN-1 paragraph 5.10.1 acknowledges that an energy infrastructure project will have direct effects on the existing use of the proposed site and may have indirect effects on the use, or planned use, of land in the vicinity for other types of development. Given the likely locations of energy infrastructure projects there may be particular effects on open space including green infrastructure.
- 6.6.58 NPS EN-1 paragraph 5.10.2 recognises that it is Government policy to *'ensure there is adequate provision of high quality open space (including green infrastructure) and sports and recreation facilities to meet the needs of local communities'*. Open spaces, sports and recreational facilities are recognised as helping to underpin people's quality of life and having a vital role to play in



promoting healthy living. Furthermore, NPS EN-1 paragraph 5.10.2 states that *'green infrastructure, in particular, will also play an increasingly important role in mitigating or adapting to the impacts of climate change'*.

- 6.6.59 Although the NPS favours the re-use of previously-developed land for new development, noting that it can make a major contribution to sustainable development by reducing the amount of countryside and undeveloped greenfield land that needs to be used, it is recognised that it may not always be possible for many forms of energy infrastructure (NPS EN-1 paragraph 5.10.3).
- 6.6.60 In respect to Green Belt, NPS EN-1 paragraph 5.10.4 acknowledges that their fundamental aim is to prevent urban sprawl around certain cities and built-up areas, by keeping land permanently open. The NPS also recognises that the Green Belt can play a positive role in providing access to sport, recreation and the open countryside.
- 6.6.61 The NPS states that applicants, in the ES, should *'identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan'* (NPS EN-1 paragraph 5.10.5).
- 6.6.62 NPS EN-1 paragraph 5.10.6 requires applicants to *'consult the local community on their proposals to build on open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space, including green infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal. Applicants should use any up-to-date local authority assessment or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreational buildings and land is surplus to requirements'*.
- 6.6.63 NPS EN-1 paragraph 5.10.14 confirms that the decision maker *'should not grant consent for development on existing open space, sports and recreational buildings and land unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements'*. Alternatively, the decision maker may determine that *'the benefits of the project (including need), outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities. The loss of playing fields should only be allowed where applicants can demonstrate that they will be replaced with facilities of equivalent or better quantity or quality in a suitable location'*.
- 6.6.64 NPS EN-1 paragraph 5.10.8 requires applicants to seek to minimise impacts on the best and most versatile (BMV) agricultural land and on soil quality and to consider the risk from land contamination. Mineral resources should also be safeguarded as far as possible.
- 6.6.65 NPS EN-1 paragraph 5.10.10 confirms that general countryside policies still apply in Green Belt alongside a general presumption against inappropriate development



within them, and as such, development should not be approved except in very special circumstances. However, NPS EN-1 paragraph 5.10.12 does confirm that an applicant may be able to demonstrate that a particular type of energy infrastructure, such as an underground pipeline, is not inappropriate development with regards to Green Belt policy.

- 6.6.66 The NPS clarifies that where the project conflicts with a proposal in a development plan, the decision maker should consider the stage that the Development Plan Document has reached to decide what weight to give to the plan in order to determine the planning significance of what the proposals would replace, prevent or preclude (NPS EN-1 paragraph 5.10.13).
- 6.6.67 Furthermore, the NPS states that schemes should not be sited on BMV agricultural land without justification; and that the decision maker should give little weight to the loss of non-BMV agricultural land (NPS EN-1 paragraph 5.10.15).
- 6.6.68 NPS EN-1 paragraph 5.10.17 is clear on the position with regards to energy infrastructure in the Green Belt that is defined as inappropriate development. For such proposals, the decision maker will need to assess whether there are very special circumstances to justify inappropriate development. NPS EN-1 paragraph 5.10.17 states that '*very special circumstances will not exist unless the harm by reason of inappropriateness, and any other harm, is outweighed by other considerations*'. The decision maker will attach substantial weight to the harm to the Green Belt when considering any application for such development while taking account of the extent to which its physical characteristics are such that it has limited or no impact on the fundamental purposes of Green Belt designation.
- 6.6.69 In terms of mitigation, NPS EN-1 paragraphs 5.10.20 to 5.10.21 recognise that applicants can minimise the direct effects of a project on the existing use of the proposed site or proposed uses near the site by the application of good design principles, including the layout of the project. The decision maker should also consider whether mitigation of any adverse effects on green infrastructure or open space is adequately provided for by means of any development consent obligations, for example, to improve the green infrastructure network and/or to exchange land and provide appropriate management and maintenance agreements.
- 6.6.70 NPS EN-1 paragraphs 5.10.22 to 5.10.24 also require that appropriate mitigation is put in place by applicants to cover Mineral Safeguarding Areas, land sterilisation, National Trails and other rights of way.

Noise and Vibration

- 6.6.71 The NPS recognises that excessive noise can have wide-ranging impacts on the quality of human life and health (e.g. annoyance or sleep disturbance), and on the use and enjoyment of areas of value (e.g. quiet places and areas with high landscape quality). Similar considerations also apply to vibration (NPS EN-1 paragraph 5.11.1). The NPS also recognises that noise from a development can have adverse impacts on wildlife and biodiversity.



- 6.6.72 NPS EN-1 paragraph 5.11.3 identifies the factors that will determine likely noise impact, which include the inherent operational noise of the proposed development; proximity to noise-sensitive receptors (houses, open spaces) and the proximity to designated wildlife sites where noise may have an adverse impact.
- 6.6.73 NPS EN-1 paragraph 5.11.4 advises the applicant to undertake a noise assessment which is proportionate to the likely noise impact. This assessment should consider ancillary activities associated with the proposal such as road traffic movements (NPS EN-1 paragraph 5.11.5). The NPS advises that the applicant should assess noise using the principles of the relevant British Standards and should consult the Environment Agency and Natural England as appropriate with respect to the assessment of noise on protected species and other wildlife (NPS EN-1 paragraphs 5.11.6 to 5.11.7).
- 6.6.74 The project should demonstrate good design through selection of the quietest cost-effective plant available; containment of noise within buildings wherever possible; optimisation of plant layout to minimise noise emissions; and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission (NPS EN-1 paragraph 5.11.8).
- 6.6.75 NPS EN-1 advises that the decision maker should only grant consent if satisfied that the proposals avoid, mitigate and/or minimise significant adverse impacts on health and quality of life from noise and where possible, contribute to improvements to health and quality of life, through the effective management and control of noise (NPS EN-1 paragraph 5.11.9).
- 6.6.76 NPS EN-1 paragraph 5.11.10 indicates that the decision maker should consider whether measurable requirements are needed that specify mitigation measures to be put in place to ensure noise levels from the project would not exceed specified limits; or whether mitigation measures are needed both for operational and construction noise over and above any which may form part of the project application (NPS EN-1 paragraph 5.11.11).
- 6.6.77 NPS EN-1 advises that appropriate mitigation measures may be one or more of the following types; engineering, lay-out or administrative. However, in certain situations, and only when all other forms of noise mitigation have been exhausted, the decision maker may consider requiring noise mitigation through improved sound insulation to dwellings (NPS EN-1 paragraph 5.11.13).

Socio-economic

- 6.6.78 NPS EN-1 paragraph 5.12.1 recognises that the construction, operation and decommissioning of energy infrastructure may have socio-economic impacts at local and regional levels.
- 6.6.79 NPS EN-1 paragraph 5.12.2 requires the applicant to include an assessment of socio-economic impacts at local or regional levels as part of the ES. The NPS identifies the types of impact that the assessment should consider; job creation and training opportunities, provision of or improvements to local services and infrastructure, effects on tourism, impact of the changing influx of workers on local



population dynamics and demand for local services and facilities and the cumulative effects of consent alongside other projects in the region.

6.6.80 NPS EN-1 paragraph 5.12.4 indicates that the applicant should describe the existing socio-economic conditions of the area surrounding the proposed development and refer to how the development's socio-economic effects correlate with local planning policy.

6.6.81 The decision maker is required to have regard to the applicant's assessment of socio-economic effects and to other sources that it considers important and relevant. However, NPS EN-1 paragraph 5.12.7 advises that the decision maker '*may conclude that limited weight is to be given to assertions of socio-economic impacts that are not supported by evidence (particularly in view of the need for energy infrastructure as set out in this NPS)*'.

Traffic and Transport

6.6.82 NPS EN-1 paragraph 5.13.1 recognises that the transport of materials, goods and personnel to and from a development during all project phases can have a variety of impacts, including economic, social and environmental effects. New energy infrastructure may give rise to substantial impacts on the surrounding transport infrastructure. The level of disturbance caused by traffic and abnormal loads generated during the construction phase will depend on the scale and type of the proposal.

6.6.83 Where a project is likely to have significant transport implications, a Transport Assessment should be undertaken as part of the ES using Department for Transport guidance and consulting with Highways England and the relevant Highways Authorities as appropriate (NPS EN-1 paragraph 5.13.3).

6.6.84 A travel plan including demand management measures and measures to improve access by public transport, walking and cycling in order to reduce parking associated with the proposal, should be prepared (NPS EN-1 paragraph 5.13.4).

6.6.85 The NPS states that the decision maker should ensure that the applicant has sought to mitigate any substantial impacts on the surrounding transport infrastructure. However, NPS EN-1 paragraph 5.13.6 also states that '*Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the decision maker should consider requirements to mitigate adverse impacts on transport networks arising from the development*'.

6.6.86 NPS EN-1 paragraph 5.13.8 indicates that '*Where mitigation is needed, possible demand management measures must be considered and if feasible and operationally reasonable, required, before considering requirements for the provision of new inland transport infrastructure to deal with remaining transport impacts*'.

6.6.87 The requirements that may be attached to consent by the decision maker where there is likely to be substantial Heavy Goods Vehicle (HGV) traffic would be to control numbers of HGV movements to and from the site in a specified period, and



the routing of their movements, make sufficient provision for HGV parking to avoid overspill on public roads, and ensure satisfactory arrangements for foreseeable abnormal disruption (NPS EN-1 paragraph 5.13.11).

- 6.6.88 NPS EN-1 paragraph 5.13.12 states that '*If an applicant suggests that the costs of meeting any obligations or requirements would make the proposal economically unviable this should not in itself justify the relaxation by the [examining authority and decision maker] of any obligations or requirements needed to secure the mitigation.*'

Waste Management

- 6.6.89 NPS EN-1 recommends that waste generated during the construction and operation phases of a development should be subject to sustainable waste management. Sustainable waste management should be implemented through the waste hierarchy, which sets out a sequential preference for prevention, preparing for re-use, recycling, other recovery including energy recovery, and finally disposal – only to be considered when other waste management options are not available (NPS EN-1 paragraphs 5.14.2 to 5.14.3).
- 6.6.90 NPS EN-1 paragraph 5.14.6 indicates that the applicant should set out the arrangements proposed for managing any waste produced and prepare a site waste management plan. The arrangements and the management plan should include information on the proposed waste recovery and disposal system for all waste generated by the development, and an assessment of the impact of that waste on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation. The NPS specifies that the applicant should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that this is the best overall environmental outcome.
- 6.6.91 The NPS (NPS EN-1 paragraph 5.14.7) states that in decision making, consideration should be given to the extent to which the applicant has proposed an effective system for managing hazardous and non-hazardous waste arising from the construction and operation of the proposed development. The decision maker should be satisfied that waste '*will be properly managed, both on-site and off-site*'. Waste occurrence should not have an adverse effect on the capacity of existing waste management facilities and adequate steps should be taken to minimise the volume of waste sent for disposal.
- 6.6.92 The decision maker may use requirements where necessary to secure appropriate waste management measures. However, where the project is subject to the Environmental Permitting regime, arrangements during operations will be covered by the permit (NPS EN-1 paragraph 5.14.8 to 5.14.9).

Water Quality and Resources

- 6.6.93 NPS EN-1 paragraph 5.15.1 acknowledges that infrastructure development can have adverse effects on the water environment, including groundwater, inland surface water, transitional waters and coastal waters. During all phases, there can



be an increased demand for water, discharges to water and adverse ecological effects of the water environment.

6.6.94 NPS EN-1 paragraph 5.15.2 identifies that where a project is likely to have effects on the water environment, the applicant should undertake an assessment within the ES of the existing status of and the impacts of the proposed project on the water environment. In particular, NPS EN-1 paragraph 5.15.3 requires the ES to cover:

- existing quality of waters affected and impacts on water quality, including discharges;
- existing water resources affected and impacts on water resources, including abstractions;
- existing physical characteristics of the water environment affected and any impact of physical modifications to the characteristics; and
- impacts of the proposed project on water bodies protected under the Water Framework Directive and source protection zones around potable groundwater abstractions.

6.6.95 The decision maker will need to give impacts on the water environment more weight, where a project would have an adverse effect on the achievement of the environmental objectives established under the Water Framework Directive (NPS EN-1 paragraph 5.15.5). The decision maker should satisfy itself that the proposal *'has regard to the River Basin Management Plans and meets the requirements of the Water Framework Directive (including Article 4.7) and its daughter directives, including those on priority substances and groundwater.'*

6.6.96 NPS EN-1 paragraph 5.15.8 requires the decision maker to consider whether the mitigation measures put forward by the applicant for the construction and operation of the development are acceptable. NPS EN-1 recognises that the impact on the water environment can be reduced through careful design to facilitate adherence to good pollution control practice and for the efficient use of water (NPS EN-1 paragraphs 5.15.9 to 5.15.10). If considered necessary, the examining authority and decision maker are able to attach requirements to a consent, in order to mitigate any adverse effects on the water environment that have been identified (NPS EN-1 paragraph 5.15.7).

6.7 NPS EN-4: Gas and Oil Pipelines Specific Impacts

6.7.1 The role of NPS EN-4 is as stated in paragraph 2.1.1:

'Part 4 of EN-1 sets out the general principles that should be applied in the assessment of development consent applications across the range of energy technologies. Part 5 of EN-1 sets out policy on the assessment of impacts which are common across a range of these technologies (generic impacts). This NPS is concerned with impacts and other matters which are specific to gas supply infrastructure and oil and gas pipelines or where, although the impact is generic and covered in EN-1, there are further specific considerations arising from the technologies covered here.'



6.7.2 For clarity, Parts 4 and 5 of NPS EN-1 are covered by the preceding sections of this chapter. This section covers the impacts and other matters which are specific to Gas and Oil Pipelines as set out in NPS EN-4.

6.7.3 Paragraph 2.19.1 of NPS EN-4 highlights the importance of oil pipeline networks:

'The gas and oil pipeline networks extend between storage and distribution facilities, and provide an important transport mechanism for natural gas, petrol, gas oil, heating oil, diesel and aviation fuel.'

Pipeline Safety

6.7.4 Paragraph 2.19.4 of NPS EN-4 identifies Pipelines Safety Regulations 1996 as the principal legislation in place that governs the safety of pipelines. Paragraph 2.19.5 confirms that the HSE enforces these regulations, whilst the decision maker is advised to take advice from the HSE when considering an application for development consent. NPS EN-4 also states that *'If a pipeline operator wishes to use other standards, recommendations or guidance then this should be discussed with the HSE and may be acceptable to the HSE, provided that the pipeline operator can demonstrate that they achieve at least the equivalent levels of safety. A gap analysis should be undertaken to confirm this.'*

Site/Route Selection

6.7.5 NPS EN-4 explains that when deciding on the route of new pipelines, applicants should research relevant constraints including *'proximity of existing and planned residential properties, schools and hospitals, railway crossings, major road crossings, below surface usage and proximity to environmentally sensitive areas, main river and watercourse crossings.'* NPS EN-4 (paragraphs 2.19.8 to 2.19.9) recommends that desktop studies are undertaken to assess such constraints, together with the identification of *'historic or current mine workings, underground cavities serving industrial usage, the nature of any made ground, waste sites, unexploded ordnance, utility services and any other below surface usage'*.

6.7.6 NPS EN-4 (paragraph 2.9.10) also requires applicants to seek to avoid adverse effects from usage below the surface as a preference, but where this is not possible, to demonstrate in the ES that mitigating measures will be put in place to avoid adverse effects, both on below ground works and on the pipeline.

Noise and Vibration

6.7.7 In addition to the considerations identified in NPS EN-1, NPS EN-4 (paragraphs 2.20.1 to 2.20.3) require applicants to consider the noise and vibration effects arising from pre-construction, construction, commissioning and operational activities specific to gas and oil pipelines. NPS EN-4 (paragraph 2.20.4) also raises the potential need for pumping stations for oil pipelines and the control of noise emanating from these, in potentially quiet rural areas.

6.7.8 Possible mitigation measures identified by NPS EN-4 (paragraph 2.20.7) include screening or enclosure of compressors and pumps, sound attenuators, acoustic



lagging and high efficiency low speed cooler fans. Vibration mitigation measures could include the use of non-impact piling such as auger boring.

Biodiversity, Landscape and Visual

- 6.7.9 In addition to the principles set out in NPS EN-1, additional landscape and ecology considerations are identified in NPS EN-4 (paragraph 2.21.1) which apply during construction to specific elements within and adjacent to the pipeline route, such as grasslands, hedgerows, fences, trees, woodlands and watercourses. In addition, there will be temporary visual impacts from accessing the working corridor and the removal of soil and flora.
- 6.7.10 NPS EN-4 (paragraph 2.21.2) indicates that long-term impacts on the landscape from pipelines are likely to be limited, as the majority of the infrastructure is buried below ground, however landscape impacts could include limited ability to replant landscape features over or adjacent to the pipeline and indication structures necessary to identify the pipeline route and provide service access.
- 6.7.11 NPS EN-4 (paragraph 2.21.3) requires applicants to include proposals for *'reinstatement of the pipeline route as close to its original state as possible and take into account any requirements for agreements with the landowner to access areas for aftercare and management work'* and clarifies that where it is not possible to restore a landscape to its original (previous) state, the applicant should set out measures to avoid, mitigate or employ other landscape measures to compensate for adverse landscape effect.
- 6.7.12 Possible mitigation measures identified by NPS EN-4 (paragraph 2.21.6) include reducing the working width required for installation of the pipeline and the use of horizontal direct drilling under ancient woodland or thrust bore under protected trees or hedgerows.

Water Quality and Resources

- 6.7.13 NPS EN-4 (paragraph 2.22.2) identifies the potential for pipelines to create impacts such as inadequate or excessive drainage, interference with groundwater flow pathways, mobilisation of contaminants already in the ground, the introduction of new pollutants, flooding, disturbance to water ecology, pollution due to silt from construction and disturbance to species and their habitats. This can potentially affect watercourses, aquifers, water abstraction and discharge points, areas prone to flooding and ecological receptors.
- 6.7.14 NPS EN-4 (paragraph 2.22.4) requires applicants to provide an assessment of the effects on water quality or water resources in the ES in line with Section 5.15 of NPS EN-1. Possible effects identified by NPS EN-4 where an impact assessment would be required include siltation, spillages and the discharge of wastewater or solvents.
- 6.7.15 NPS EN-4 (paragraph 2.22.5) indicates that the decision maker should liaise with the Environment Agency regarding the potential for the development to result in impacts on licensed or unlicensed groundwater abstraction, or to have potential interference with current legitimate uses of groundwater or surface waters (taking



account of any relevant environmental permits or any negative effect on a groundwater dependent ecosystem).

- 6.7.16 Possible mitigation identified by NPS EN-4 paragraph 2.22.60 includes measures to protect the water environment such as techniques for crossing rivers, managing surface water both before and after construction, restoring vegetation and using SuDS to control runoff.
- 6.7.17 Possible water quality mitigation identified by NPS EN-4 (paragraph 2.22.7) includes avoiding vulnerable groundwater areas, use of the highest specification pipework, careful storage of excavated material away from watercourses, facilities for the disposal of sewage and waste, the use of SuDS and careful reinstatement of riverbanks and reed beds.

Soil and Geology

- 6.7.18 NPS EN-4 (paragraph 2.23.1) requires applicants to understand the soil types and nature of the underlying ground, particularly with respect to underground cavities and unstable ground conditions, which may present risks to pipelines, whilst there is also the possible sterilisation of mineral resources and loss of soil quality to consider.
- 6.7.19 As such, NPS EN-4 (paragraph 2.23.2) requires applicants to assess ground stability and report findings within the ES, which may need to be informed by information from new boreholes along the route. The applicant's assessment should also include the options considered for installing the pipeline and specifically identify the geological conditions (and whether they are suitable) for any areas where horizontal directional drilling is required.
- 6.7.20 Details of alternative routes are required by NPS EN-4 (paragraph 2.23.3) in any areas where the pipeline goes under a designated area of geological or geomorphological interest, showing how those areas can be bypassed or reduced in length through the area, and identifying why those alternative routes were discounted.
- 6.7.21 NPS EN-4 (paragraph 2.23.5) advises that the decision maker should take the impact on and from geology and soils into account, when considering a pipeline application. If the proposed measures either eliminate or reduce to an acceptable level any adverse impacts on soil and geology and the integrity of the pipeline is not adversely affected by its route, then a proposal would be acceptable with regards to soil and geology.
- 6.7.22 Where any routes are discounted on the basis of unstable soil or susceptibility to landslip, NPS EN-4 (paragraph 2.23.6) confirms that the decision maker may contact the HSE for their views on the suitability of that route and the possible impact of it on pipeline integrity.
- 6.7.23 Possible soil and geological mitigation identified by NPS EN-4 (paragraph 2.23.7) includes differential vegetation growth on the surface, appropriate treatment and storage of soil during construction (particularly topsoil) and appropriate soil reinstatement in accordance with the Sustainable Management of Soils on



Construction Sites. NPS EN-4 (paragraph 2.23.8) confirms that where horizontal directional drilling is proposed, alternative installation options should be provided (such as open cut or tunnelling) in case directional drilling fails.

6.8 Other National Policy

National Planning Policy Framework

- 6.8.1 Section 104 (2) of the 2008 Act indicates that the decision maker must have regard to any relevant NPS and to any other matters that it considers are both important and relevant to its decision. This may require some consideration of the National Planning Policy Framework (NPPF), which was revised in July 2018, replacing the original version adopted in March 2012. The NPPF was updated further in February 2019.
- 6.8.2 The NPPF sets out the Government's planning policies for England. Paragraph 5 of the NPPF confirms that it does not contain specific policies for NSIPs, which are dealt with by the Planning Act 2008 (as amended) and relevant NPSs. However, the NPPF may be considered as important and relevant in decision making on NSIPs.
- 6.8.3 When plan-making, the NPPF (paragraph 20) requires planning authorities to set out strategic policies that make sufficient provision, in light with the presumption in favour of sustainable development, for the provision of energy infrastructure. In light of paragraph 5, the energy infrastructure covered by strategic policies are not NSIPs.
- 6.8.4 The NPPF is clear that the purpose of the planning system is to contribute to sustainable development and, therefore, the presumption in favour of sustainable development is at the heart of the NPPF (paragraph 11).
- 6.8.5 Paragraph 8 of the NPPF identifies what the Government's view of sustainable development means in practice and how the three overarching dimensions can be pursued and supported, and net-gains secured across each of the three objectives. For example, the NPPF states that the economic objective of helping to build a strong, responsive and competitive economy can be facilitated by '*identifying and coordinating the provision of infrastructure*' or the environmental objective of helping protect and enhance the natural, built and historic environment can be facilitated by '*using natural resources prudently*'.

National Infrastructure Delivery Plan 2016

- 6.8.6 The National Infrastructure Delivery Plan (NIDP) 2016 outlines the Government's commitments for economic infrastructure with those to support the delivery of housing and social infrastructure. The NIDP sets out what will be built and where, focusing specifically on nearly £300 billion of the infrastructure 'Pipeline' that will be delivered over the five years from 2016 to 2020-21.
- 6.8.7 Paragraph 1.21 of the NIDP states that '*The Infrastructure and Projects Authority (IPA) will work to support the implementation of the NIDP and will publish interim progress reports on an annual basis. Future NIDP documents will also articulate*



and report on how the government is taking forward recommendations arising from the National Infrastructure Assessment, which the commission will produce once every 5 years’.

6.8.8 The project was not identified at the time of publication of the NIDP 2016, and so is not referred to in it.

National Infrastructure Assessment 2018

6.8.9 The National Infrastructure Commission (NIC) was established in 2015 to provide independent, impartial advice on the UK’s long-term infrastructure needs. The NIC was established as an executive agency of HM Treasury in January 2017. The first National Infrastructure Assessment was published in July 2018 and sets out the Commission’s plan of action for the country’s infrastructure over the next 10-30 years. Oil pipelines such as the project are not within the scope of the 2018 assessment.

6.9 Regional Planning Context

London Plan

6.9.1 The proposed route of the pipeline enters the jurisdiction of the London Plan for the final 125m of the route, all of which is within the existing West London Terminal storage facility.

6.9.2 The London Plan does not identify any key policy issues that may affect the project.

6.10 Local Planning Policy

6.10.1 The application will be judged by the decision maker primarily on the policies in the NPS. The Planning Inspectorate must also have regard to any local impact report prepared by affected local planning authorities.

6.10.2 A number of topics are identified in the NPS for which local policies may be a consideration in determining the application. These include local designations and policies in respect of designations in relation to land use and open space, ecology, landscape and heritage.

6.10.3 It is considered that the application proposals are in general accordance with the policies in the development plans listed in Table 6.1.

Table 6.1: List of Local Development Plans

Local Plan	Status
Hampshire Minerals and Waste Plan 2013	Adopted
Eastleigh Borough Local Plan: Review (2001 – 2011)	Adopted
Winchester District Local Plan Part 1 – Joint Core Strategy	Adopted
Winchester District Local Plan Part 2 – Development Management and Site Allocations	Adopted
Winchester District Local Plan Review (2006) Saved Policies	Adopted



Local Plan	Status
Oil and Gas in Hampshire Supplementary Planning Document	Adopted
Hampshire Minerals and Waste Safeguarding SPD	Adopted
South Downs Emerging Local Plan 2018	At Examination
Eastleigh Emerging Local Plan 2016 – 2031	At Examination
East Hampshire Local Plan: Second Review 2001-2011	Adopted – Saved Policies
East Hampshire Local Plan (Part 2): Housing and Employment Allocations 2016-2028	Adopted
East Hampshire District Local Plan: Joint Core Strategy	Adopted
Medstead and Four Marks Neighbourhood Plan 2015 – 2028	Adopted
Alton Neighbourhood Plan 2011-2028	Adopted
Bentley Neighbourhood Plan 2015-2028	Adopted
Hart District Local Plan and First Alterations (Replacement) 1996-2006	Adopted – Saved Policies
Hart District Draft Local Plan Strategy and Sites 2016-2032	Submission Draft
Rushmoor Local Plan Review 1996-2011	Adopted – Saved Policies
Rushmoor Plan – Core Strategy 2011	Adopted
Rushmoor Local Plan 2014 to 2032	Final Version for Adoption
Surrey Heath District Core Strategy and Development Management Policies 2012	Adopted
Runnymede Local Plan 2001 (2007 Saved Policies)	Adopted
Runnymede Submission Local Plan 2030	Submission Draft
Surrey Minerals Plan 2011 Core Strategy Development Plan Document	Adopted
Surrey Draft Waste Local Plan 2017	Emerging
Spelthorne Borough – Core Strategies and Policies Development Plan Document (February 2009)	Adopted
Spelthorne Borough Local Plan 2001 Saved Policies	Adopted
London Borough of Hounslow Local Plan 2015-2030	Adopted

7 Planning Assessment: Project-wide

7.1 Introduction

- 7.1.1 This chapter considers the application proposals as a whole against the policies identified in Chapter 6 to provide a project-wide planning assessment. It does not repeat the assessment in the pipeline section-specific chapters which follow, but it does draw on the assessment in those chapters where key matters arise that are relevant to specific policy headings. This section, therefore, seeks to ensure that all the principal effects of the project taken as a whole are fully considered.
- 7.1.2 The headings in the assessment set out in this chapter follow those in National Policy Statements (NPS) EN-1 and EN-4 where relevant. As NPS EN-4 follows and cross-refers to the general requirements of NPS EN-1, policies in both NPSs are considered under the same headings. This chapter supports and expands on the content of the NPS Accordance Tracker, which is included at Appendix 7.1 to this Planning Statement.
- 7.1.3 Where further consideration of the policy headings in NPSs EN-1 and EN-4 is necessary, sub-headings broadly corresponding with those in the NPSs are used.
- 7.1.4 This chapter refers to a number of measures to reduce impacts on the environment. The full text of these measures is set out in the Register of Environmental Actions and Commitments (REAC). The REAC is set out in Tables 16.1 to 16.3 of Environmental Statement (ES) Chapter 16 Environmental Management and Mitigation.

7.2 Consistency with Government Policy Objectives

- 7.2.1 Pipelines are a safe, low-impact and secure way of transporting aviation fuel to Britain's airports to ensure that they can be reliably supplied with the aviation fuel that is needed to meet the UK's future demand for air travel, supporting both economic prosperity and social well-being.
- 7.2.2 As set out in detail in Chapter 2 of this Statement, there is a national need for the provision of new energy infrastructure, and particularly for oil pipeline infrastructure. The proposed pipeline will form part of a small but critical number of pipelines transporting aviation fuel to Heathrow and, through the proposed connection at Alton pumping station, to Gatwick. The pipeline will increase the resilience of the fuel supply to these airports, and to Esso's West London Terminal and Purfleet storage facilities, consistent with Government policy and guidance.
- 7.2.3 Chapter 2 of this Statement confirms that there is a clear and compelling need for the proposed pipeline. It is supported by Government, since NPS EN-1 confirms that the Examining Authority should start its assessment '*from the basis that there is a significant need for this infrastructure to be provided*' (NPS EN-1 paragraph 3.9.8) and that the Examining Authority should '*start with a presumption in favour of granting consent*' for the pipeline proposal. (NPS EN-1 paragraph 4.1.2).



7.3 Nationally Significant Infrastructure Planning (NSIP) General Assessment Principles

7.3.1 Part 4 of NPS EN-1 sets out a number of general policies with which applications relating to energy infrastructure are to be decided. Some of these are partly procedural, while others set important, substantive criteria.

Environmental Statement

7.3.2 Paragraph 4.2.1 of NPS EN-1 requires applications for projects that are subject to the European Environmental Impact Assessment Directive 2011/92/EU to be accompanied by an ES that describes the aspects of the environment likely to be significantly affected by the project. The Directive specifically refers to effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. The Directive requires an assessment of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects at all stages of the project, and also of the measures envisaged for avoiding or mitigating significant adverse effects.

7.3.3 The project has prepared an ES (**application document 6.1-6.4**), which includes the information required by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) ('the EIA regulations') and NPS EN-1 and observes the scope suggested in NPS EN-1 paragraphs 4.2.1 to 4.2.8.

7.3.4 The ES was preceded by an EIA Scoping Report (Esso, 2018) which was prepared by the project and submitted to the Planning Inspectorate ('The Inspectorate') on 26 July 2018. A Scoping Opinion (Planning Inspectorate, 2018) was received which agreed the scope of the EIA and how it should be reported in the ES. A summary of how the project has responded to the Scoping Opinion is included in ES Appendix 5.1 - Scoping Opinion Responses.

7.3.5 The ES assesses all significant environmental, social and economic effects arising from both the construction and operation stages of the project. Mitigation measures, controls and further assessment, if required, are included in the ES.

Habitats and Species Regulations

7.3.6 Consideration has been given to whether the project may have a significant effect on a European site, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects.

7.3.7 In accordance with the Conservation of Habitats and Species Regulations 2017 ('the Habitats Regulations'), a Habitats Regulations Assessment (HRA) Report (**application document 6.5**) has been prepared to support the application for development consent. The HRA Report comprises a Stage 1 – Screening Assessment, and as a result of the outcomes of Stage 1, a Stage 2 – Appropriate Assessment.



- 7.3.8 To inform the HRA Report, which accompanies this application for development consent, HRA Scoping Report (Esso, 2018) was prepared in advance and submitted alongside the EIA Scoping Report, and in accordance with NPS EN-1 paragraph 4.3.1, the advice of Natural England was sought. Natural England was provided with a draft of the HRA Report in advance of the submission of the application for development consent, on which it helpfully provided comments on a few areas where additional clarification is recommended, but overall identified its satisfaction with the Draft HRA.

Alternatives

- 7.3.9 As NPS EN-1 notes, the requirement to look at alternatives is in the first instance a matter of law. Alternatives are a requirement of the EIA regulations and Chapter 4 of the accompanying ES includes a full assessment of the reasonable alternatives that were identified and considered.
- 7.3.10 Alternatives are also a requirement of the HRA Regulations, however, only if adverse effects on the integrity of European sites are identified at the Appropriate Assessment stage (stage 2). The Draft HRA Report (stages 1 – 2) which forms part of this application for Development Consent (**application document 6.2**) concludes that the project will have no adverse effect on the integrity of any European site and, therefore, the HRA process should not proceed beyond the Stage 2 Appropriate Assessment to Stage 3 Assessment of Alternatives.
- 7.3.11 In short, and as explained in Chapter 3 Scheme Development, a large number of corridor options were identified and considered, and a sifting process carried out based on environmental, planning and engineering factors. The number of corridor options was reduced to a single preferred corridor, and this preferred corridor has been used to inform the selection of a preferred route for the replacement pipeline. Consultation with the local authorities, relevant stakeholders (including prescribed consultees and people with an interest in land) and the community have been carried out to assist in selecting both the preferred corridor and the preferred route. Full details on the consultation stages of the project are provided in the Consultation Report (**application document 5.1**) included as part of this application for Development Consent.
- 7.3.12 The desire to reduce potential likely effects on the environment and communities was an important aspect in corridor and route selection. The proposed route has been selected because it performed more strongly overall than the other options considered, having regard to the various environmental, social, economic, planning and engineering assessments undertaken.
- 7.3.13 ES Chapter 4 Design Evolution includes an assessment of the reasonable alternatives identified and considered, setting out the project's option appraisal, and engineering, environmental, social, economic and planning considerations in choosing a preferred option, taking account of the other legal requirements and detailed policy requirements in the NPS. The ES also considers the 'do nothing' scenario, alternative routing, technologies and systems, and technical feasibility.



Good Design

- 7.3.14 The NPS expects 'good design' to be applied to energy projects, while recognising that the nature of much energy infrastructure will often limit the extent of what can be achieved and the enhancement of the quality of the area.
- 7.3.15 As set out in detail in Chapter 4 Project Description and ES Chapter 3 Project Description, the majority of the infrastructure proposed by the project will be below ground, with only limited above ground infrastructure (AGI). The design of AGI has been influenced by functionality and siting considerations, both of which are important elements of good design as highlighted by paragraph 4.5.3 of NPS EN-1.
- 7.3.16 The principles of inherent safe design have been incorporated into the design of the pipeline. A series of safe design and construction measures have been included within the REAC, and are secured through DCO requirements such as the Code of Construction Practice (CoCP) (ES Appendix 16.1) and the contractor's Construction Environmental Management Plan (CEMP). The implementation of the CoCP will be secured by DCO Requirement 5, and the contractor's CEMP by DCO Requirement 6.
- 7.3.17 The design development process for the project is outlined in Chapter 3 Scheme Development and ES Chapter 4 Design Evolution. The design process also included the identification of commitments, both for mitigation embedded into the design of the project and also good practice measures, in order to appropriately and effectively reduce adverse impacts and local inconvenience.
- 7.3.18 The design process has been undertaken in accordance with section 4.5 of NPS EN-1 relating to good design for energy infrastructure.

Climate Change Adaptation

- 7.3.19 As required by NPS EN-1 paragraph 4.8.5, the design of the project has considered potential impacts on climate change and incorporated adaptation/resilience and mitigation to climate change where appropriate, including in relation to the water environment, soils, and resilience to accidents/disasters during construction and operation of the pipeline.
- 7.3.20 In respect of climate change impacts on the pipeline, the replacement pipeline is constructed of steel and buried at least 1.2m below the surface of the ground (save where ground conditions make compliance with this depth requirement impracticable, in which case it will be buried to a minimum of 0.7m below the surface of the ground). The pipeline will transport aviation fuel which is stable unless exposed to the very high temperature within a jet engine. The pipeline is insulated by the ground from extreme high and low temperatures. Furthermore, due to the weight of the pipeline and fuel products within it, it is not impacted by high ground water levels such as may be the case with plastic pipe. The steel pipeline is resistant to expansion and contraction of the soils around it.
- 7.3.21 The potential impact of severe weather events or extreme temperature on the operation of the pipeline is therefore limited. The potential risk of major incidents



resulting from extreme weather events is, however, assessed in ES Chapter 14 Major Accidents.

- 7.3.22 The flood resilience of the project is covered within the Flood Risk Assessment (FRA) (**application document 7.3**) and ES Chapter 8 Water, which includes an assessment of the potential flood risk effects and the proposed flood risk mitigation measures. Due the short-term duration of installation it has been agreed with the Environment Agency that climate change impacts are scoped out of the FRA. There are no further impacts of climate change on the project anticipated during installation and operation.
- 7.3.23 The air quality related effects of the project on climate change are addressed in ES Appendix 13.2 Air Quality Technical Note. This includes consideration of greenhouse gas emissions from construction activity. This demonstrates that the project is predicted to generate less carbon than alternatives.
- 7.3.24 On the basis of the above, it is concluded that the project is resilient to climate change over the 60 year design life. The application proposals, therefore, meet the criteria of section 4.8 of NPS EN-1 and paragraph 2.2 of NPS EN-4 by ensuring that their design and potential effects take full account of, and are resilient to, forecast climate change.

Pollution Control and Other Environmental Regulatory Regimes

- 7.3.25 In relation to pollution control and other consenting regimes, the project will comply with all relevant legislation, consents and permits, including required regulations under the pollution control framework and other consenting and licensing regimes. The project to date has had extensive engagement with the Environment Agency (EA) and Natural England (NE) and has also engaged with all of the relevant sewage and water undertakers.
- 7.3.26 As part of the ES, the REAC outlines actions and measures that will be implemented to control the risk of a pollution incident during construction, the implementation of which will be secured by DCO requirements such as the CoCP (DCO Requirement 5) and contractor's CEMP (DCO Requirement 6). The project includes a range of pollution control measures and embedded design, as set out in the REAC, to reduce the risk of pollution to surface and sub-surface water resources along the route.
- 7.3.27 The operation of the pipeline will follow Esso's standard operating procedures which includes measures to prevent and control pollution.

Safety

- 7.3.28 Esso has engaged with the Health and Safety Executive (HSE) throughout the preparation of the application for development consent, with regards to compliance with health and safety legislation. Engagement with the HSE and the EA will continue through the application process and into the construction phase as necessary, in order to ensure compliance with safety regulations. We expect to develop a Statement of Common Ground (SoCG) with HSE as part of the Examination process.



- 7.3.29 As a responsible operator, Esso is committed to safe operations that include maintaining, repairing and, where appropriate, replacing pipelines. The design of the replacement pipeline was developed in accordance with Esso design standards for fuel pipelines, relevant industry codes of practice and standards, the requirements of the Pipeline Safety Regulations 1996, and health and safety legislation.
- 7.3.30 Once the pipeline is operational, Esso will carry out a programme of inspection and maintenance in accordance with the Pipeline Safety Regulations 1996.
- 7.3.31 The project does not meet the hazard thresholds to fall within the remit of the Control of Major Accident Hazard Regulations 2015 (COMAH), and similarly does not classify as a Major Accident Hazard Pipeline (MAHP) under the Pipelines Safety Regulations (PSR) 1996. However, COMAH and MAHP guidance and techniques have been adopted as and where appropriate within the ES as a precautionary approach see Chapter 14 (Major Accidents).

Hazardous Substances

- 7.3.32 NPS EN-1 Section 4.12 relates to hazardous substances. The pipeline itself is not a hazardous site and there is no hazardous substance consent required for the project. Details of all sites with hazardous substances consents within consultation distance of the project are set out in Appendix 11.1 Annex B to ES Chapter 11 Soils and Geology, and consultation with HSE has been undertaken as necessary. This approach is in accordance with NPS EN-1.

Health

- 7.3.33 NPS EN-1 Section 4.13 requires the health impacts of a proposal to be considered. ES Appendix 13.4 Human Health Technical Note is included to address this requirement.
- 7.3.34 The scope of the Human Health Technical Note is informed by the assessment scope outlined within the Scoping Report, incorporating the detail and requirements of the Inspectorate's Scoping Opinion. The Human Health Technical Note, supported by the relevant topic chapters and appendices included within the ES, considers how human health may be impacted by the following effects during the construction and operation of the project:
- effects of air pollution;
 - effects of noise and vibration;
 - effects of land and groundwater contamination;
 - effects of flooding;
 - effects of changes to landscape and visual amenity;
 - effects of community disruption, including issues of access and severance;
 - effects related to traffic and transport, including physical injury from accidents; and
 - effects related to major accidents.



- 7.3.35 The Human Health Technical Note also includes a high-level, qualitative consideration of the perceived impacts on physical health (i.e. accidents and injuries) and mental health (i.e. stress and anxiety) in respect to the construction and operation of the project.
- 7.3.36 Overall, the Technical Note concludes that no potential impacts are considered significant in respect to human health during the construction or operation of the project, and as such, no residual significant impacts are reported.
- 7.3.37 Whilst no significant impacts have been identified in the ES, embedded design measures (i.e those integral to the design of the project) together with commitments to good practice measures included within the REAC and secured through DCO requirements such as the CoCP (DCO Requirement 5) and the contractor's CEMP (DCO Requirement 6), will avoid or reduce any impacts on human health. A range of commitments to avoid or reduce impacts on human health are set out in the REAC within ES Chapter 16 Environmental Management and Mitigation.
- 7.3.38 The proposed route of the project passes through a number of areas designated as open space, including sports pitches, natural green spaces and other recreational areas. A Priority Open Space Assessment (POSA) has been undertaken, and this is included within the application as Appendix 16.1 to this Planning Statement and summarised in Chapter 16 Open Space.

Common Law Nuisance and Statutory Nuisance

- 7.3.39 ES Appendix 13.5 Statement of Statutory Nuisance sets out the matters in Section 79(1) of the Environmental Protection Act (EPA) 1990 in respect of statutory nuisance. This includes the potential for the project to cause statutory nuisance and the measures that have been incorporated into the project to mitigate any such potential nuisances. Possible sources of statutory nuisance arising from the project include dust and artificial light.
- 7.3.40 Good practice measures are set out in the REAC and secured through DCO requirements such as the CoCP and the contractor's CEMP. The implementation of the CoCP will be secured by DCO Requirement 5, and the contractor's CEMP by DCO Requirement 6.

Security Considerations

- 7.3.41 In accordance with section 4.15 of NPS EN-1, the project has engaged with the Department for Business, Energy and Industrial Strategy (BEIS) regarding national security considerations for the pipeline.
- 7.3.42 Esso is a responsible and experienced pipeline operator, operating more than 700km (435 miles) of pipelines in the UK. The pipeline has been designed to Esso's standards and in conformity with its existing pipelines. Security measures have been incorporated into the design of the pipeline and related structures. During construction, site compounds, storage areas and specific work areas may require lighting and fencing to ensure safety and security.



- 7.3.43 With regard to operation, the proposed pigging station, located southwest of Netherhill Lane between Boorley Green and Durley, will be within a fenced compound with secure fencing up to 3m high. Each valve will be within a locked chamber, mostly below ground, and located within an enclosure with secure fencing up to 2m high.

7.4 Generic Impacts and Assessment Criteria

- 7.4.1 This section considers the project against the policy set out under a series of 'generic impacts' headings in NPS EN-1 Part 5 and NPS EN-4 Part 2, and summarised in Chapter 6 Planning Policy Context.
- 7.4.2 Impacts reported in the ES and summarised in this Planning Statement, are adverse unless otherwise stated and are considered 'likely significant effects' in the context of the EIA Regulations when of moderate significance or above. Where a topic has been scoped out of the ES, this Planning Statement provides an assessment against the requirements of the NPS.

Air Quality

- 7.4.3 Section 5.2 of NPS EN-1 sets out the requirements for the assessment of the air quality impacts of the proposed project as part of the ES. ES Chapter 13 People and Communities assesses the potential air quality effects that could result from the construction and operation of the project on communities and tourism. ES Appendix 13.2 Air Quality Technical Note forms the air quality assessment for the project, including an assessment of dust emissions. Dust emissions are considered in paragraphs 7.4.73 to 7.4.83 of this chapter of the Planning Statement. The ES has been prepared in accordance with paragraph 5.2.6 and 5.2.7 of NPS EN-1.
- 7.4.4 The ES considers the potential emission sources of air pollutants associated with the project from construction related road vehicles travelling on the local road network. This is because engine exhaust emissions from heavy duty vehicles (HDVs) and light duty vehicles (LDVs) associated with construction of the project have the potential to affect local air quality. No other characteristics of the project would be likely to generate significant project-wide air quality effects.
- 7.4.5 The ES Appendix 13.2 Air Quality Technical Note reports that, due to the low maximum number of daily HDVs and LDVs associated with construction traffic, the effects from construction road traffic on air quality are not considered to represent a significant effect on receptors adjacent to the local road network. The effects would be described as negligible.
- 7.4.6 As such, the air quality effects from construction traffic on human and ecological receptors in rural and urban areas are unlikely to have significant effects on the environment. The findings of the ES Appendix 13.2 Air Quality Technical Note show that the project will not result in substantial changes in air quality levels, lead to a significant deterioration in air quality or new exceedances, or lead to a new area where air quality breaches any national Air Quality Objectives. The project will therefore not conflict with paragraph 5.2.9 or 5.2.10 of NPS EN-1.

Summary

- 7.4.7 A suite of good practice measures based on those recommended by the Institute of Air Quality Management (IAQM) guidance is set out in ES Appendix 13.2 Air Quality Technical Note. These measures are included in the REAC and secured through DCO requirements such as the CoCP and the contractor's CEMP. The implementation of the CoCP will be secured by DCO Requirement 5, and the contractor's CEMP by DCO Requirement 6.
- 7.4.8 The project, therefore, accords with the air quality policies set out in section 5.2 of NPS EN-1.

Biodiversity and Geological Conservation

- 7.4.9 Section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4 set out assessment and mitigation requirements with regard to biodiversity and geological conservation, along with relevant decision-making considerations. In particular, paragraph 5.3.7 of NPS EN-1 confirms that: *'as a general principle ... development should aim to avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives.'*
- 7.4.10 ES Chapter 7 Biodiversity identifies the baseline biodiversity value and sensitive receptors along the route of the replacement pipeline. The impact of construction and operation of the replacement pipeline has been assessed and is also reported in ES Chapter 7 Biodiversity. The ES has been prepared in accordance with the assessment requirements set out in paragraphs 5.3.3 and 5.3.4 of NPS EN-1.
- 7.4.11 A HRA has also been undertaken and reported in relation to any likely significant effects on Natura 2000 Network sites (international sites). These include Special Protection Area (SPA), Special Areas of Conservation (SAC) (including candidate or potential sites of both) and listed or proposed Ramsar sites. A list of sites screened for the project is presented in Section 4.1 of the HRA.
- 7.4.12 Statutory designated sites are identified in Tables 7.7 of ES Chapter 7 Biodiversity. Non-statutory designated sites are identified in Tables 7.8, 7.9 and 7.10 in ES Chapter 7 Biodiversity.
- 7.4.13 With regard to impacts on geology, the study area for geology is limited to the area of the Water Lane Site of Importance for Nature Conservation, which is designated in part for its geology. The area of the site potentially affected by the project is limited to the nominal 10m wide working area of the Order Limits. The proposal is for the pipeline to be trenched in this area. Trenching would have a very short-term impact on the geological site during installation. When reinstated to the current ground conditions in accordance with the REAC, it will have a negligible medium to long-term impact on the character of the geological site.
- 7.4.14 With regards to biodiversity, where practicable, the project has been designed to avoid and reduce impacts on the following ecological receptors:
- all statutory and non-statutory designated sites;

- Priority Habitats, especially those where uncertainty exists relating to the effectiveness of reinstatement e.g. wetland habitats;
- Potential ancient woodland sites (less than 2ha) not included in the Ancient Woodland inventory; and
- sites supporting protected species.

7.4.15 Design measures integral to the design of the project are termed ‘embedded measures’. The embedded design measures of benefit to ecological receptors are outlined in section 7.5 of ES Chapter 7 Biodiversity. Overarching measures embedded in the project design of benefit to ecological receptors include:

- commitment to only utilise a 10m width when crossing through boundaries between fields where these include hedgerows, trees or watercourses; and
- design route alignment to avoid all areas of existing classified Ancient Woodland.

7.4.16 These, together with other measures, are included within the REAC (ES Appendix 16.1) and secured through DCO requirements such as the CoCP (DCO Requirement 5) and the contractor’s CEMP (DCO Requirement 6). The contractor’s CEMP will detail a series of proposed measures to be applied by the approved contractor(s) throughout the construction period.

7.4.17 Typical good practice measures incorporated into the REAC include measures to prevent and control pollution incidents; avoid or reduce air quality impacts; avoid or reduce the effects of lighting and noise; and control the spread of invasive non-native species (INNS). The implementation of good practice measures has been considered as part of the assessment of potential impacts on biodiversity.

7.4.18 Section 7.5 of ES Chapter 7 Biodiversity reports potential impacts on biodiversity from the project including embedded design measures from ES Chapter 4 Design Evolution and good practice measures as included in the REAC.

7.4.19 The potential impacts of the project on ecological receptors are presented in Table 7.48 of ES Chapter 7 Biodiversity. Further consideration of potential impacts and significant effects on ecological receptors is provided in the section-specific chapters of this Planning Statement (Chapters 8 to 15).

7.4.20 All good practice and design measures required to maintain legal compliance will be implemented by the contractor via legally binding documents such as the CoCP and the contractor’s CEMP— both of which are secured as DCO Requirements (Requirement 5 and 6). The contractor and documentation will be audited through the delivery of the project to ensure timely and appropriate compliance.

7.4.21 The good practice and design measures outlined in ES Chapter 7 Biodiversity and set out in the REAC, and secured through DCO requirements such as the CoCP (Requirement 5) and the contractor’s CEMP (Requirement 6), are proposed to be implemented in accordance with paragraph 5.3.18 of NPS EN-1 and paragraph 2.21.5 of NPS EN-4, and secured through DCO requirements such as the CoCP (Requirement 5).



- 7.4.22 Proposals for post-construction reinstatement of vegetation, soils and any other affected biodiversity features are also included in ES Chapter 7 Biodiversity where relevant and are set out in the REAC in accordance with paragraph 2.21.3 of NPS EN-4.
- 7.4.23 Overall, as section 7.7 of ES Chapter 7 Biodiversity summarises, no residual significant adverse construction or operational impacts are predicted on the ecological receptors.
- 7.4.24 Through careful design of the project along with good practice measures, the project will avoid significant harm to biodiversity and geological interests. The project therefore accords with the policy in paragraph 5.3.7 of NPS EN-1. Overall, the project is in accordance with the relevant assessment, decision making and mitigation requirements of section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4.
- 7.4.25 Further consideration of the policy headings relating to biodiversity in NPS EN-1 and EN-4 are set out under the following sub-headings.

International Statutory Designated Sites

- 7.4.26 Potential impacts to European sites are assessed in detail in the project's HRA Report (**application document 6.5**), and summarised in ES Chapter 7 Biodiversity. The HRA considered the potential implications of the project on European sites. Those sites where potential effect pathways (source-receptor pathways) with the project were identified, were:
- Solent Maritime Special Area of Conservation (SAC);
 - Solent and Southampton Water Special Protection Area (SPA);
 - Solent and Southampton Water Ramsar site;
 - Solent and Dorset Coast potential SPA;
 - South West London Waterbodies SPA;
 - South West London Waterbodies Ramsar site;
 - Thames Basin Heaths SPA; and
 - Thursley, Ash, Pirbright and Chobham SAC.
- 7.4.27 Due primarily to the small-scale nature of the works and the distance between these sites and the project, Stage 1 Screening of the HRA concluded that there will be no likely significant effects either alone or in combination to the Solent Maritime SAC, Solent and Southampton Water SPA/Ramsar, Solent and Dorset Coast potential SPA or the South West London Waterbodies SPA/Ramsar.
- 7.4.28 The Order Limits transect two of the eight European designated habitat sites affected along the route, (the remaining 6 areas are outside the Order Limits but within the Study Area) namely:
- Thames Basin Heaths Special Protection Area (TBH SPA); and
 - Thursley, Ash, Pirbright and Chobham Special Area of Conservation (TAP&C SAC).



7.4.29 The TBH SPA is located in sections D (see Chapter 11), E (see Chapter 12) and F (see Chapter 13) and the TAP&C SAC is located in Section E (see Chapter 12) and Section F (see Chapter 13) of the route. Table 7.1 below identifies the statutory designated site and their associated habitats.

Table 7.1 European Statutory Designated Site and Qualifying features

Statutory Designated Site	Qualifying Feature
Thursley, Ash, Pirbright and Chobham SAC	<u>Annex I habitats:</u> Northern Atlantic wet heaths with <i>Erica tetralix</i> ; European dry heaths; and Depressions on peat substrates of the <i>Rhynchosporion</i>
Thames Basin Heaths SPA	<u>Supporting populations of European importance during the breeding season:</u> Dartford warbler (<i>Sylvia undata</i>); Nightjar (<i>Caprimulgus europaeus</i>); and Woodlark (<i>Lullula arborea</i>).

7.4.30 Paragraph 4.3.1 of NPS EN-1 requires the Examining Authority to ‘...consider whether the project may have a significant effect on a European site or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects’. This policy requirement of the NPS is met as a comprehensive HRA Report (**application document 6.5**) covering the entire route accompanies the application for development consent.

7.4.31 The HRA Report considers potential effect pathways (source-receptor pathways) between the project and the qualifying interest features of eight European sites identified within the project’s hypothetical Zone of Influence.

7.4.32 An analysis of each mechanism for significant effects identified at Stage 1 was undertaken for both European sites advanced to Stage 2. Consideration was given to the potential for the project to undermine the sites’ Conservation Objectives. The Stage 2 study used the best available information to assess the extent and significance of effects associated with the project.

7.4.33 In line with the decision of the Court of Justice of the European Union in ‘People Over Wind and Sweetman v Coillte Teoranta’ (C-323/17) (April 2018) (the Sweetman Judgment), the Stage 2 study also considered the measures proposed to mitigate the potential adverse effects.

Corridor Selection

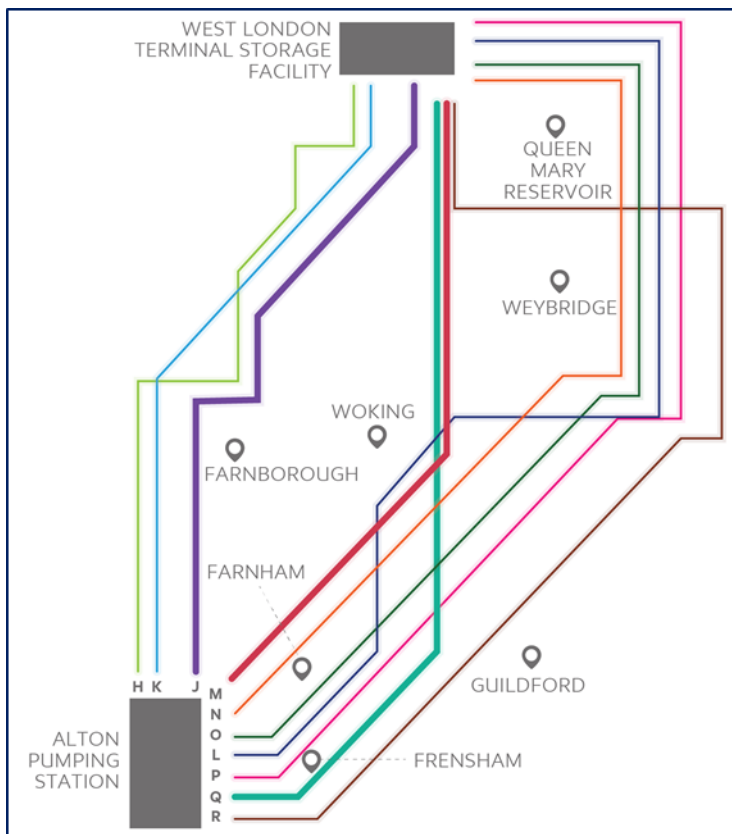
7.4.34 Through the design development of the project, a number of corridor options were reduced to a single preferred corridor, within which a route for the replacement pipeline has been identified.

7.4.35 Given the international significance of the TBH SPA along the routes for Sections D, E and F, and NPS EN-1 relating to its protection (NPS EN-1 5.3.7 to 5.3.8), Corridors N, O, L, P, Q and R as shown in Illustration 7.1, which avoided the SPAs, were considered. However, these corridors were not taken forward because they would result in extensive sections requiring the laying of the pipe in roads, which would be complex and time-consuming to install, would result in a longer

pipeline route and would result in greater disruption for local communities. In addition, some of these corridors would not have met key project objectives, such as taking the shortest route and avoiding the floodplain and mineral extraction areas. Corridors H and K did not avoid the TBH SPA but were not taken forward. For Corridor H the environmental constraints were no less than for other routes, therefore there was no benefit in taking this longer route. For Corridor K the route passes along a significant length of road (Stonehill Road and Longcross Road) and would impact significantly on local people and businesses as construction in the road would be slow and more disruptive. In addition, as these corridors were away from the existing pipeline, to construct along Corridors H and K would require additional above ground infrastructure, new landowners and would not reduce the complexities for construction or reduce environmental impacts.

7.4.36 Of the corridors considered in the north, Corridors J, M and Q were shortlisted, and Corridor J was selected following the preferred corridor consultation. Corridor J passes through the TBH SPA but was favoured over the other two corridors because it avoided passing through the historic town of Farnham, it had less impact on commercial activity and would not lead to significant disruption to residential communities, Additionally, Corridor J would have less interaction with the floodplain and unlike Corridor Q does not re-enter the South Downs National Park (SDNP) and the Surrey Hill Area of Outstanding Natural Beauty.

Illustration 7.1: Longlist Corridor Options – North of Alton





Thames Basin Heaths Special Protection Area (TBH SPA)

- 7.4.37 The study to inform the HRA Report considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in-combination effects.
- 7.4.38 Potential significant impacts on TBH SPA could not be discounted at Stage 1 Screening without further assessment or the application of mitigation including good practise measures. As such, these sites were considered by a Stage 2 Appropriate Assessment.
- 7.4.39 Potential source-receptor pathways for effects to the TBH SPA identified by the Stage 1 study comprised disturbance impacts to the qualifying bird species during construction. The potential for disturbance effects arising from two sources were advanced to Stage 2: changes in the audio-visual baseline within the SPA; and displacement of recreational activities to the SPA due to construction works in Suitable Alternative Natural Greenspace (SANG) sites.
- 7.4.40 Potentially disruptive construction works within the TBH SPA will be undertaken between 1 October and 31 January unless otherwise agreed with Natural England. On the application of this and other relevant good practice measures during construction, no impacts are predicted that could result in an adverse effect on the structure or ecological functioning of the site or the Conservation Objectives that define the favourable status of the qualifying features.
- 7.4.41 The short duration and limited extent of works within SANGs is considered to reduce the risk of significant levels of recreational displacement to the TBH SPA. Information presented in the HRA Report about each SANG impacted by the project and the presence of alternative unaffected spaces within 5km of affected SANGs further establishes a low risk of significant recreational displacement occurring. Any effects experienced are anticipated to be minor as the relative impact of a marginal increase in visitor numbers to established footpaths will be small. As such, no impacts are predicted that could result in an adverse effect on the site's integrity.
- 7.4.42 The HRA Report concludes that, with the implementation of seasonal working constraints, there will be no adverse effects on the integrity of the TBH SPA as a result of the project, either alone or in combination with other plans or projects.

Thursley, Ash, Pirbright and Chobham Special Area of Conservation (TAP&C SAC)

- 7.4.43 Potential source-receptor pathways for effects to the TAP&C SAC identified by the Stage 1 study comprised: direct habitat loss; and indirect loss of Annex I wetland qualifying habitats due to changes to hydrological processes and substrate supporting the vegetation (for example, peats). The relatively small area of loss with respect to the 'European dry heaths' feature was not likely to be significant within the context of the wider SAC. The potential for effects to the Annex I wetland qualifying habitats within the site were advanced to stage 2.



- 7.4.44 A detailed botanical and vegetation survey and a hydrogeological study of the SAC were undertaken by the project in 2018 to support the Stage 2 study. The findings of this work demonstrated that the pipeline route selected will avoid adverse effects to the integrity of the SAC. In particular, the route selection was such that direct and indirect interaction with Annex I wetland qualifying habitats will be avoided entirely or reduced to the “trivial level” permissible in the Conservation Objectives.
- 7.4.45 Mitigation proposed with respect to the preservation of substrate qualities was considered sufficient to conclude that there will be no adverse effects to the integrity of the SAC due to changes to the physical-chemical properties of the substrate.

Summary

- 7.4.46 The HRA Report has considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in combination effects.
- 7.4.47 Based on the information presented in the HRA report, it is considered that there will be no adverse effects on the integrity of either designated site. For this reason, the HRA process for the project has not proceeded beyond Stage 2 Appropriate Assessment.

National Statutory Designated Sites

- 7.4.48 Nationally designated sites identified within the 1km study area comprise two National Nature Reserves (NNR), nine Sites of Special Scientific Interest (SSSI) and five Local Nature Reserves (LNR). The national designated sites identified within the study area are set out in Table 7.7 of ES Chapter 7 Biodiversity.
- 7.4.49 As a result of the embedded design measures (see ES Chapter 4 Design Evolution) and good practice measures contained in the REAC and secured through DCO requirements such as the CoCP and CEMP (DCO Requirements 5 and 6), there are no significant impacts to national statutory designated sites.
- 7.4.50 The project is therefore in accordance with the policy paragraph 5.3.7 of NPS EN-1 relating to impacts on biodiversity interests and paragraphs 5.3.10 to 5.3.11 relating to national sites.

Regional and Local Designated Sites

- 7.4.51 Several non-statutory regional and local designated sites were identified within 1km of the Order Limits. The designation for these sites varies depending on the administrative county in which they are located. In summary, the numbers of each category of non-statutory sites identified:
- Site of Importance for Nature Conservation (SINC) (Hampshire): 177;
 - Road Verges of Ecological Importance (RVEI) (Hampshire): 4;
 - Site of Nature Conservation Importance (SNCI) (Surrey): 53;



- Conservation Verges (Surrey): 1;
- Site of Metropolitan Importance (SMI) (Greater London): 1; and
- Sites of Borough Importance (SBI) (Greater London): 1.

7.4.52 As a result of the embedded design measures (see ES Chapter 4 Design Evolution) and good practice measures contained in the REAC and secured through DCO requirements such as the CoCP, CEMP and the Landscape and Ecological Management Plan (LEMP) (DCO Requirements 5, 6 and 12), there are no significant impacts to regional and local designated sites.

7.4.53 Overall, the proposed project is in accordance with paragraph 5.3.7 of NPS EN-1 relating to impacts on biodiversity interests, and does not conflict with the policy on regional and local sites set out in paragraph 5.3.13 of the NPS.

Ancient Woodland and Veteran Trees

7.4.54 As noted previously, the project has been designed to avoid Ancient Woodland identified in the Ancient Woodland Inventory for England (Natural England, 2018), and, where practicable, avoid and reduce impacts on areas of potential ancient woodland less than 2ha not included in the Ancient Woodland Inventory.

7.4.55 ES Appendix 7.3 (Ancient Woodland Factual Report), reports that a total of 213 Ancient Woodland Inventory sites were identified within 1km of the Order Limits. There are no Ancient Woodland Inventory sites within the Order Limits, and the ES (Chapter 10 Landscape and Visual) identifies that there are no recorded ancient or veteran trees within the Order Limits. Undesignated notable trees and other woodland that could be affected by the project have been assessed. Notable trees within the Order Limits or immediately adjacent to it are identified in ES Appendix 10.2 Schedule of Notable Trees.

7.4.56 Areas of potential ancient woodland smaller than 2ha were identified by a desk study. As there is uncertainty whether these locations represent ancient woodland, a precautionary approach has been adopted and the Order Limits have been designed to avoid these sites, where practicable. Where avoidance has not been practical, the Limits of Deviation within the Order Limits have been amended to further reduce potential impacts on these habitats. In total, twenty-five potential ancient woodland sites (less than 2ha) were identified within 50m of the Order Limits, of which seven were located within the Order Limits. Potential significant impacts on these are assessed in the ES Chapter 7 Biodiversity, and reflected in the section assessment chapters in this statement.

7.4.57 Embedded design and good practice measures to avoid or reduce potential impacts on potential ancient woodland and veteran trees are outlined in the REAC and secured through DCO requirements such as the CoCP (DCO Requirement 5), CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the Landscape and Ecological Management Plan (DCO Requirement 12).

7.4.58 With the implementation of embedded design, good practice measures and reduced width working set out in the REAC and secured through DCO requirements such as the CoCP and the CEMP (DCO Requirements 5 and 6), the



ES concludes that impacts on areas of potential ancient woodland are predicted to be at worst, minor adverse. The essential need and benefits of the project, as outlined in Chapter 3 of this Planning Statement, are considered to outweigh the impact on potential ancient woodland. Overall, no significant adverse residual construction or operational impacts are predicted on potential ancient woodland.

- 7.4.59 In light of the conclusion of the ES regarding ancient woodland, the project accords with the policy in paragraph 5.3.14 of NPS EN-1 relating to ancient woodland and veteran trees.

Protection of Habitats and Other Species

- 7.4.60 ES Chapter 7 Biodiversity assesses the potential impacts of the project on relevant habitats and species. Factual reports relating to protected species and habitats are presented in a series of appendices to ES Chapter 7 Biodiversity. With regard to paragraph 5.3.20 of NPS EN-1, consultation and engagement with Natural England has been undertaken throughout the design development of the project, including in relation to draft protected species mitigation licences.

- 7.4.61 The contractor(s) would be required to comply with relevant protected species legislation, including that which relates to the protection of badgers, bats, dormice, otters, water voles, sand lizards, great crested newts and Schedule 1 birds. Appropriate licences would be obtained where necessary from Natural England for all works affecting protected species as identified by the ES and through pre-construction surveys. All applicable works would be undertaken in accordance with the relevant mitigation requirements and conditions set out in those licences, as detailed in the REAC and secured through DCO requirements such as the Landscape and Ecological Management Plan (Requirement 12) and protected species requirement (Requirement 13).

- 7.4.62 Following the implementation of embedded design measures and good practice including reduced width working, as set out in detail in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity and the REAC, and secured through DCO requirements such as the CoCP, the contractors CEMP, and the Landscape and Ecological Management Plan (DCO Requirements 5, 6 and 12), no significant impacts from construction or operation of the project are predicted on the habitats and species included within the scope of EIA. Consequently, the project accords with the policy in paragraph 5.3.17 of NPS EN-1 relating to the protection of habitats and other species.

Summary

- 7.4.63 Through the good practice measures set out in the REAC and secured through DCO requirements, as identified above, the project avoids significant harm to biodiversity and therefore accords with the biodiversity policies set out in section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4.



Civil and Military Aviation and Defence Interests

- 7.4.64 Assessment and mitigation requirements, and decision-making considerations, relating to civil and military aviation and defence interests are set out in Section 5.4 of NPS EN-1.
- 7.4.65 It has been identified that parts of the Order Limits for the project are within the RAF Odiham and RAF Northolt aerodrome safeguarding zones. The Order Limits also pass through Ministry of Defence (MoD) land and firing ranges.
- 7.4.66 Engagement has been undertaken with the MoD regarding the proposed replacement pipeline. The MoD indicated in its consultation response to the Scoping Report that it is content with the project's approach to installing the pipeline across the MoD estate. The MoD also indicated that it has no concerns with the pipeline passing through the RAF Odiham and RAF Northolt safeguarding zones, but that there may be some concern if any tall construction equipment is used to install the pipeline. It is not intended that any tall construction equipment will be necessary for the pipeline installation.
- 7.4.67 The project will not adversely affect civil aviation sites, including aerodromes. A letter was sent to the Civil Aviation Authority (CAA) in December 2017 informing it of the project. The CAA did not respond with any further enquiries or to highlight any potential issues. A small area of the Order Limits in Church Crookham/Fleet is within the Farnborough Airport Public Safety Zone. Construction and operation of the pipeline will be associated with a very low density of people working temporarily within the Public Safety Zone, and the proposal is therefore considered to be an acceptable form of development in line with the guidance set out in paragraph 11 of Department for Transport (DfT) Circular 01/2010.
- 7.4.68 Overall, the project is not considered to have an effect on civil or military aviation or other defence assets. As such, the assessment requirements set out in paragraphs 5.4.10 to 5.4.13 of NPS EN-1 are not considered to be relevant to the project.
- 7.4.69 The proposal will not prevent any licensed aerodrome from maintaining its licence; nor will it impede or compromise the safe and effective use of defence assets or significantly limit military training; or impact upon the safe and efficient provision of *en route* air traffic control services for civil aviation. The proposed replacement pipeline does not therefore conflict with the policy in paragraph 5.4.17 of NPS EN-1.

Summary

- 7.4.70 With regard to civil and military aviation and defence interests, the project accords with the civil and military aviation and defence interest policies set out in section 5.4 of NPS EN-1.

Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation

- 7.4.71 Section 5.6 of NPS EN-1 identifies dust, odour, artificial light, smoke, steam and insect infestation as possible issues during the construction, operation and



decommissioning of energy infrastructure in NPS EN-1 section 5.6. This section of NPS EN-1 also sets out assessment and mitigation requirements, and decision-making considerations relating to emissions and infestation.

- 7.4.72 There will be no odour, smoke, steam or insect infestation issues resulting from the project. The following headings therefore provide a project-wide assessment of potential issues relating to dust emissions and artificial light (referred to hereon as 'lighting').

Dust

- 7.4.73 ES Chapter 13 People and Communities assesses the potential effects that could result from the construction and operation of the project on communities and tourism. Appendix 13.2 Air Quality Technical Note forms the air quality assessment for the project, including an assessment of dust emissions. This assessment has been undertaken in accordance with paragraph 5.6.5 of NPS EN-1.
- 7.4.74 Air pollutants, such as emissions from vehicle exhausts and other sources, are considered in paragraphs 7.4.3 to 7.4.8 of this chapter of the Planning Statement.
- 7.4.75 The ES considers dust emissions generated by activities associated with the construction of the proposed pipeline, site compounds, and logistics hubs. For the purposes of the assessment, activities have been assigned into the four categories used for the Institute of Air Quality Management (IAQM) dust assessment method of demolition, earthworks, construction and trackout.
- 7.4.76 Construction activities associated with the project have the potential to generate fugitive dust emissions. These may cause the soiling of surfaces, increase the risk of health effects due to the increase in exposure to fine particulates such as PM₁₀ and PM_{2.5}, and cause damage to vegetation and ecosystems (where very high levels of dust soiling occur).
- 7.4.77 The assessment has identified that there are potentially sensitive dust receptors located near to the respective proposed route sections and logistics hub site boundaries, including residential properties.
- 7.4.78 The project would not require the demolition of any houses. A small number of single-storey garages would need to be removed at Stake Lane to the west of Farnborough Station to facilitate installation of the replacement pipeline. The volume of these garages is very small, likely to be less than 400m³. The dismantling will have limited dust-generating potential and therefore these activities are not considered further in the assessment.
- 7.4.79 As Chapter 3 Scheme Development indicates, the project has been carefully designed, with key considerations for routing and the siting of logistics hubs and construction compounds including the avoidance of environmentally sensitive and built-up areas where practicable. Through this the project has sought to avoid or reduce detrimental impacts on sensitive receptors, including from dust emissions, in accordance with paragraph 5.6.7 of NPS EN-1.



- 7.4.80 The assessment process has identified measures to control the effects of dust emissions during construction and avoid or reduce detrimental impacts in accordance with paragraph 5.6.7 of NPS EN-1. The project has included good practice measures within the CoCP based on those recommended by the IAQM guidance (IAQM, 2016). Table 1.3 of ES Appendix 13.2 Air Quality Technical Note sets out a summary of the key measures relating to dust emissions. The assessment is based on these good practice measures being in place. Measures set out in the REAC, including the preparation and implementation of a dust management plan, will also be incorporated into the contractor's CEMP to control construction activities associated with the project. The CoCP and contractor's CEMP are both secured as DCO Requirements (Requirement 5 and 6).
- 7.4.81 The ES reports that there are no potentially dust-generating activities proposed as part of the project that could not be managed using standard good practices, so as to prevent significant effects at any off-site receptor, including those located within 20m of the Order Limits. It is assumed that all low to medium risks identified can be reduced, through the standard good practice measures set out in the REAC, and secured through DCO requirements such as the CoCP (DCO Requirement 5).
- 7.4.82 IAQM guidance notes that, with the application of good practice measures, the environmental effect of dust emissions relating to dust soiling, human health and ecology would not be significant at any off-site receptor. IAQM guidance also notes that, even with a rigorous package of these good practice measures in place, occasional impacts may occur but any occasional short-term impacts would not be sufficient to alter the effect from 'not significant' to 'significant'.

Summary

- 7.4.83 Overall, with the good practice measures set out in the REAC and secured through DCO requirements such as the CoCP and contractor's CEMP (DCO Requirements 5 and 6), dust is not considered to result in significant effects on sensitive receptors and therefore the project complies with the assessment and mitigation requirements within section 5.6 of NPS EN-1.

Lighting

- 7.4.84 Details relating to lighting are included within ES Chapter 3 Project Description. Lighting is also assessed in relation to specific topic areas in ES Chapter 10 Landscape and Visual.
- 7.4.85 At the logistics hubs, construction compounds, and for mobile working when installing the pipeline, site lighting may be required for working areas in consideration of winter working hours and non-standard working arrangements. All lighting will be set up to avoid nuisance as far as is practicable, so will be low-level and directional to avoid glare into residential properties. This will be secured through the CoCP in requirement 5 of the DCO.
- 7.4.86 In consideration of the general public and other amenity users affected by the construction of the project, low-level and directional site lighting may be required to illuminate footpaths adjacent to work area boundaries.



- 7.4.87 For the temporary construction compounds along the route, lighting will be of the lowest luminosity necessary for safe delivery of each task. Lighting will be designed, positioned and directed to reduce the intrusion into adjacent properties and habitats.
- 7.4.88 The proposed temporary logistics hubs will also require lighting, specified in DCO Schedule 1 as being installed up to 4m in height. To ensure safety and security a limited level of lighting will need to operate permanently during periods of darkness.
- 7.4.89 As Chapter 3 Scheme Development indicates, the project has been carefully designed, with key considerations for routing and the siting of logistics hubs and construction compounds, including the avoidance of environmentally sensitive and built-up areas where practicable. Through this, the project has sought to avoid or reduce detrimental impacts from lighting on sensitive receptors such as residential properties, businesses and habitats where practicable, in accordance with paragraph 5.6.7 of NPS EN-1.
- 7.4.90 ES Chapter 10 Landscape and Visual acknowledges that temporary lighting will affect dark skies in rural locations away from settlements and major roads. However, effects will be temporary, restricted to the proposed two-year construction period and in most locations for a shorter duration.
- 7.4.91 The study area does not coincide with the 'Dark Sky Core' Dark Skies identified within the South Downs National Park (SDNP) Dark Skies Technical Advice Note, and the closest identified darkest skies area within the South Downs National Park is 5km to the east of the Order Limits at Old Winchester Hill. Given the distance to this particular area, and the short and temporary nature of lighting effects, lighting will not cause potential effects of significance on the SDNP including the darkest skies.
- 7.4.92 Lighting will be in accordance with relevant industry good practice standards and in accordance with the measures set out in the REAC and secured through DCO requirements such as the CoCP and the contractor's CEMP (DCO Requirements 5 and 6).

Summary

- 7.4.93 Overall, with the good practice measures set out in the REAC and secured through DCO requirements such as the CoCP and contractor's CEMP (DCO Requirements 5 and 6), lighting is not considered to result in significant effects on sensitive receptors, although the ES predicts minor adverse impacts relating to bat foraging/disturbance, dormouse disturbance and fish disturbance. The design of the project has sought to avoid or reduce any detrimental impacts on amenity from lighting and, therefore, the project accords with the artificial light policies set out in section 5.6 of NPS EN-1.

Flood Risk

- 7.4.94 Section 5.7 of NPS EN-1, and in part, section 2.22 of NPS EN-4, outline the Government's policy on nationally significant energy infrastructure development



and flood risk. In particular, paragraph 5.7.3 of NPS EN-1 states that *'the aims of planning policy on development and flood risk are to ensure that flood risk from all sources of flooding is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk. Where new energy infrastructure is, exceptionally, necessary in such areas, policy aims to make it safe without increasing flood risk elsewhere and, where possible, by reducing flood risk overall.'*

- 7.4.95 A FRA (**application document 7.3**) has been undertaken and is included as a stand-alone report submitted as part of the application for development consent, and summarised in ES Chapter 8 Water. Water resources are considered in paragraphs 7.4.318 to 7.4.330 of this chapter of the Planning Statement.
- 7.4.96 The FRA has been undertaken to assess the project's potential to be impacted by flood risk and to increase flood risk elsewhere. The FRA assesses the risk of flooding associated with all sources during construction and operation of the pipeline and associated infrastructure. The overall risk of impact has been assessed for each source of flooding as a product of the likelihood of occurrence and severity of impact. The FRA has been prepared in accordance with the requirements of paragraphs 5.7.4 to 5.7.5 of NPS EN-1.
- 7.4.97 Liaison has been undertaken with stakeholders to improve the understanding of key flood risk issues. This has included the EA in its capacity as the responsible authority for Main Rivers and development within areas of Flood Zones 2 and 3; and Hampshire County Council and Surrey County Council in their capacities as the Lead Local Flood Authorities with responsibility for local sources of flooding, including: ordinary watercourses (OW), surface water flooding and groundwater flooding. This approach is in accordance with NPS EN-1 paragraphs 5.7.7 to 5.7.8.
- 7.4.98 The project passes through areas of predicted flood risk during the construction phases, and there is, therefore, a risk to, and arising from, the project. The FRA notes that the duration of the construction period is two years, and a significant proportion of the construction of the project will be in place for less than this, reducing the risk to and from the project.
- 7.4.99 The FRA provides an assessment of impact on flood risk during construction and operation. The assessment of impact is based on the product of the likelihood of a flood event occurring and the consequence (severity of impact) producing a classification of risk for all sources of flooding to and from the project. The assessment includes both pre- and post-mitigation, demonstrating how the embedded design measures and working practices will reduce the risk of the project flood risk during construction and operation.
- 7.4.100 Where the risk to or arising from the project is very low or negligible, no specific measures are considered necessary to mitigate risks beyond following good construction practice as outlined in the REAC.
- 7.4.101 The REAC sets out measures that will serve to manage and further reduce the risk to and arising from the project during the construction phase, the implementation



of which is secured by DCO requirements such as the CoCP and CEMP (DCO Requirements 5 and 6).

- 7.4.102 Given that the pigging station and valve chambers are both below ground and only the pigging station compound and valve and pressure transducer enclosures, Cathodic Protection (CP) transformer rectifier cabinets and pipeline markers are above ground, the project is predicted to have a negligible impact upon flood risk in the operational stage.
- 7.4.103 The pigging station site would include a small integrated bund around the pipework to contain any liquids from the pipeline that may emerge when the station is receiving the pipeline inspection gauge (PIG). The areas outside the bunded area would be concrete and not positively drained. Any runoff from this area and the access track from the public highway would drain to surrounding grassed areas, thereby not increasing flood risk, in accordance with NPS EN-1 paragraph 5.7.21.
- 7.4.104 The ES identifies that there is also a risk that the pipeline bedding material could introduce a preferential pathway for groundwater flows. This will be addressed by the inclusion of impervious stanks along the pipeline in areas of risk. No other specific operational measures are proposed.
- 7.4.105 The ES assesses that unmitigated, the construction phase of the project could increase flood risk elsewhere and therefore, where required, good practise and additional mitigation measures have been incorporated. The FRA demonstrates that, with the inclusion of good practise and additional mitigation measures, the project will not exacerbate flood risk.
- 7.4.106 In accordance with NPS EN-1 paragraphs 5.7.18 to 5.7.22 and NPS EN-4 paragraphs 2.22.6 to 2.22.7 where relevant, the project has been designed to sustainably manage water during construction and operation and to protect water quality. Measures are set out under Section 14 of the FRA. These measures include the following:
- The extent of Flood Zone 3 and areas of 'Risk of Flooding from Surface Water' (RoFSW) would be identified and marked where appropriate.
 - Temporary buildings within Flood Zone 3 and areas of High and Medium RoFSW would be elevated above the 1 in 10 (10%) AEP event peak water level, or a minimum of 300mm if this is not practicable.
 - Topsoil and subsoil would be stockpiled for as short a duration as practicable within Flood Zone 3 and areas of High and Medium RoFSW.
 - All construction activities within Flood Zone 3 would be undertaken in a manner that reduces any significant increase in flood risk. This may include providing suitable breaks within spoil piles.
 - Natural substrate would be provided through temporary watercourse crossings box culverts.
 - Topsoil and subsoil would be stockpiled for as short a duration as practicable within Flood Zone 3 and areas of High and Medium RoFSW.



- Where appropriate, cross-fall would be installed on access and haul roads to direct runoff away from the pipeline trench.
- 7.4.107 Furthermore, in accordance with paragraph 5.7.25 of NPS EN-1, an Emergency Action Plan would be developed for the construction phase which would outline procedures to be implemented in case of unplanned events such as site flooding. The implementation of these measures in the REAC are secured by DCO requirements such as the CoCP and CEMP (DCO Requirements 5 and 6).
- 7.4.108 In accordance with NPS EN-1 paragraphs 5.7.12 to 13, the Sequential Test has been applied.
- 7.4.109 Development of the project was influenced by a number of project objectives and guiding principles, as set out in section 3.2 of Chapter 3 Scheme Development. In order to meet the project objectives, and taking into account the guiding principles and environmental, socioeconomic, engineering and planning constraints, the pipeline cannot be located wholly within the Flood Zone of lowest risk.
- 7.4.110 A sequential approach was adopted for the location of construction compounds and logistics hubs. There are however three proposed compounds located within Flood Zone 3. This is considered to be the optimum approach following consideration of environmental constraints and additional traffic movements which would result were all construction compounds to be located outside Flood Zone 3 (see FRA section 13).
- 7.4.111 It should be noted that paragraph 5.7.13 of NPS EN-1 indicates that if there is no reasonably available site in Flood Zones 1 or 2, then nationally significant energy infrastructure projects can be located in Flood Zone 3, subject to the Exception Test.
- 7.4.112 As such, the project is within all Flood Zones and is subject to the Exception Test. The Exception Test requires that:
- it must be demonstrated that the project provides wider sustainability benefits to the community that outweigh flood risk;
 - the project should be on developable, previously developed land or, if it is not on previously developed land, that there are no reasonable alternative sites on developable previously developed land subject to any exceptions set out in the technology-specific NPSs; and
 - an FRA must demonstrate that the project will be safe, without increasing flood risk elsewhere subject to the exception and, where possible, will reduce flood risk overall.
- 7.4.113 As the Sequential and Exception Test Report included as Appendix A to the FRA sets out, the FRA demonstrates compliance with the three parts of the Exception Test.
- 7.4.114 The wider sustainability benefits to the community are described in detail in Section 1.1 of Sequential and Exception Test Report included as Appendix A to the FRA. In particular, it should be noted that the provision of a replacement pipeline between Boorley Green and the West London Terminal storage facility



reduces vehicle movements, as the alternative would be to road tanker the fuel, increasing congestion and emissions

- 7.4.115 Appendix A to the FRA, supported by ES Chapter 4 Design Evolution, sets out that the project will be developed on both previously developed land and land that has not been previously developed. The project is not on previously developed land for part of the route as there are no reasonable alternative sites on developable previously developed land. This is because, due to the linear nature of the project as a cross-country pipeline, the need to meet the project objectives outlined in Chapter 3 Scheme Development and ES Chapter 4 Design Evolution, and key geographical constraints including the rural nature of much of the area south of Alton, it is not feasible to avoid land that has not been previously developed.
- 7.4.116 The FRA and FRA Appendix A Sequential and Exception Test Report demonstrates that the project would be safe and will not have a significant impact on flood risk for its 60-year operational lifetime. For normal operation, the pipeline will not require access for maintenance works within Flood Zone 3 and consequently will not place maintenance workers at risk from flooding.
- 7.4.117 As such, the proposed project complies with the Exception Test in accordance with NPS EN-1 paragraphs 5.7.14 to 5.7.17.
- 7.4.118 In accordance with paragraph 5.7.3 and 5.7.9 of NPS EN-1 the proposals are in line with all relevant national and local flood risk management strategies.
- 7.4.119 The risk to the project from groundwater flooding has been assessed as either low or very low due to slow onset and low velocities normally associated with groundwater flooding. In the event of prolonged groundwater flooding, work would cease in inundated areas until either the groundwater is pumped out or levels recede naturally and operations can resume safely.
- 7.4.120 The project could exacerbate groundwater flood risk elsewhere through dewatering, although this would only be in isolated locations and the duration of the excavations would be sufficiently short not to exacerbate flood risk to third parties.
- 7.4.121 Where required, water stops or 'stanks' would be installed at intervals through the pipe bedding and side fill in order to intercept groundwater flowing along the pipeline bedding material and prevent the creation of new groundwater flow paths during the operational phase.
- 7.4.122 The risk of groundwater flooding from the project is, therefore, assessed as low or very low.
- 7.4.123 Account has been taken of paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010. However, whilst temporary header drainage will be installed, no permanent drainage systems are proposed to be constructed as part of the project. The FRA indicates that drainage systems will not be required throughout this project as rainfall will continue to infiltrate to ground as it does at present. It is, therefore, considered that the proposals satisfy the drainage

requirements of the Flood and Water Management Act 2010 as necessary, in accordance with paragraph 5.7.10.

- 7.4.124 In terms of water supply and wastewater infrastructure there are no available sources of information defining areas at risk in the event of a breach of such infrastructure. However, a range of good practice and additional mitigation measures have been incorporated so that the project does not exacerbate flood risk to water infrastructure. These include specific measures which are listed in the FRA Section 12.5 (**application document 7.3**). The implementation of these measures would reduce the overall risk from low to very low during construction.

Summary

- 7.4.125 Overall, the FRA concludes that, with good practice and additional mitigation, the project will not exacerbate flood risk both during construction and operation. The project is appropriately flood resilient and resistant and will not result in any permanent net loss of floodplain storage or impede water flows. The project, therefore, accords with the flood risk policies set out in section 5.7 of NPS EN-1.

Historic Environment

- 7.4.126 Policy relating to the historic environment is set out in section 5.8 of NPS EN-1. In accordance with paragraph 5.8.8 of NPS EN-1, ES Chapter 9 Historic Environment and its appendices provide a detailed description of the significance of the heritage assets affected by the project and the contribution of setting to that significance.
- 7.4.127 As part of the assessment of impacts on the historic environment, the study area was defined as the Order Limits and an area extending 500m in all directions from the Order Limits. For the purposes of the assessment, the historic environment has been considered under the sub-topics of archaeological remains, historic buildings and the historic landscape. Historic landscape has been categorised as Historic Landscape Types (HLTs) and historically important hedgerows to facilitate assessment.
- 7.4.128 A full list of heritage assets recorded within the study area, including those recorded during archaeological geophysical survey, can be found in ES Appendix 9.3 Historic Environment Gazetteer. Further discussion of the baseline conditions and the assessment of value can be found within ES Appendix 9.1 Historic Environment Desk Based Survey. All heritage assets are shown on ES Figure 9.1 Archaeological Remains; Figure 9.2 Historic Buildings; and Figure 9.3 Historic Landscapes.
- 7.4.129 Consultation and ongoing engagement with statutory consultees, including Hampshire County Council, Surrey County Council and Historic England, has informed the assessment of the historic environment reported in the ES.
- 7.4.130 A range of data sources were used as part of the desk-based assessment of the historic environment, including relevant Historic Environment Records in accordance with NPS EN-1 paragraph 5.8.8. In addition to desk-based assessment required by paragraph 5.8.9, site walkovers and surveys, including an



archaeological geophysical survey, were undertaken. The assessment, therefore, accords with the assessment requirements set out at section 5.8 of the NPS EN-1.

- 7.4.131 The data sources used in the desk-based assessment, and details relating to the site walkover surveys and geophysical survey, are set out in section 9.2 of ES Chapter 9 Historic Environment. The results of the archaeological geophysical survey are provided in ES Appendix 9.2 Geophysical Survey.
- 7.4.132 A total of 1,761 heritage assets have, therefore, been included in the historic environment baseline. Of those 772 are of medium value and 60 of high value including 22 Scheduled Monuments.
- 7.4.133 As required by paragraph 5.8.12 of NPS EN-1, the route has been developed to reduce the impact on historic environment by avoiding known high value heritage assets such as Scheduled Monuments, Conservation Areas, listed buildings and Registered Parks and Gardens where practicable.
- 7.4.134 The ES indicates that impacts to heritage assets during construction and operation have been divided into physical impacts and impacts to setting.
- 7.4.135 The ES highlights that potential physical impacts on heritage assets which may occur during construction, in the absence of good practice measures including the proposed Archaeological Mitigation Strategy (AMS) (see paragraph 7.4.139), comprise:
- partial or complete removal of archaeological remains, historic components within conservation areas, or historic landscape elements (such as hedgerows) within the Order Limits through groundworks associated with construction such as excavation of the pipeline trench, topsoil stripping, trenchless crossings and site compounds, logistics hubs and access roads;
 - damage to archaeological remains within the Order Limits through their compression during construction, the movement of machinery or within laydown or spoil storage areas; and
 - damage to archaeological remains within the study area through changes to groundwater levels caused by engineering activities associated with the project.
- 7.4.136 With respect to potential setting impacts on heritage assets during construction, the ES identifies the following potential impacts in the absence of good practice measures including the AMS:
- the physical removal of, damage to, or severance of associated archaeological remains which form the setting of a heritage asset;
 - the alteration to the setting of archaeological remains, historic buildings, or HLTs through the removal of vegetation or associated above-ground elements during construction; and
 - temporary noise and visual intrusion on the setting of archaeological remains, historic buildings, or HLTs during construction activities such as pipeline installation, the placement of site compounds, logistics hubs, and from increased construction traffic.



- 7.4.137 In consideration of the below-ground nature of much of the project, the ES reports that operational impacts on heritage assets will potentially result from the limited above ground permanent infrastructure of the project.
- 7.4.138 The ES Chapter 9 Historic Environment identifies that there is potential for visual intrusion impacts on the setting of heritage assets during operation due to new above ground permanent infrastructure, comprising the pigging station near Boorley Green, valve enclosures, pressure transducer, CP transformer rectifier cabinets and test posts, and pipeline marker posts.
- 7.4.139 Good practice measures related to the Historic Environment are identified in section 9.4 of ES Chapter 9 Historic Environment. This includes an Archaeological Mitigation Strategy (AMS) which is included as ES Appendix 9.5 and the implementation of which will be secured through DCO Requirement 11.
- 7.4.140 Potential impacts without good practice measures and ES mitigation as a result of construction and operation of the project are reported in section 9.5 of ES Chapter 9 Historic Environment. The complete assessment of potential effects on the historic environment is included in ES Appendix 9.4 Potential Effects on the Historic Environment.
- 7.4.141 Table 7.2 summarises the potential significance of effects on all historic assets without good practice measures and ES mitigation during construction considered within ES Chapter 9 Historic Environment.

Table 7.2: Summary of the Potential Significance of Effects on Heritage Assets During Construction without good practice or mitigation measures

Sub-Topic \ Significance of Effect	Negligible	Minor Adverse	Moderate Adverse	Major Adverse	Total
Archaeological Remains	804	66	36	1	907
Historic Buildings	681	68	3	0	752
HLT	30	71	1	0	102
Total	1,515	205	40	1	1,761

- 7.4.142 The ES Chapter 9 Historic Environment identifies that no physical impacts will occur during operation. Furthermore, no noise impact on the setting of heritage assets is predicted during operation. ES Chapter 9 Historic Environment also concludes that no significant impacts from visual intrusion to heritage assets will occur during operation.
- 7.4.143 Good practice and mitigation measures relating to potential construction impacts on the historic environment are set out within section 9.4 and 9.6 of ES Chapter 9 Historic Environment. This includes measures relating to recording and preserving archaeological remains in accordance with relevant parts of paragraphs 5.8.20 to 5.8.22 of NPS EN-1.
- 7.4.144 No operational mitigation in relation to the historic environment is proposed.



- 7.4.145 ES Chapter 9 Historic Environment concludes that all moderate and major adverse effects during construction are reduced to minor adverse or negligible with the implementation of the AMS, and other good practice and mitigation measures. As a result no residual impacts resulting in significant effects on any archaeological remains, historic buildings, or HLT during construction or operation are predicted.
- 7.4.146 The project's potential impact on any heritage assets has, therefore, been identified and assessed. The project's commitment to good practice measures set out in the AMS and which is secured by requirement 11 in the draft DCO, will ensure that any conflict between the project and heritage assets will be avoided or minimised ensuring that the project complies with paragraph 5.8.12 of NPS EN-1.
- 7.4.147 Given the limited above ground infrastructure proposed, the temporary, short-term nature of the construction works, and the development of the route to avoid known high value heritage assets where practicable, the project has sought to preserve the setting of designated heritage assets in accordance with paragraph 5.8.18 of NPS EN-1.

Summary

- 7.4.148 The ES concludes that after the implementation of the AMS and other good practice and mitigation measures, no residual impacts resulting in significant effects on any heritage asset are predicted. Although some residual effects are identified to occur, these are assessed to be either negligible or short-term minor adverse effects upon the setting of heritage assets, or at worst minor adverse effects from physical impacts on the heritage assets themselves. With regard to paragraph 5.8.15 of NPS EN-1, as the residual effects are, at worst, minor adverse, there will be no substantial harm to any heritage assets, nor will there be any total loss of any heritage assets as a result of the project. Any harmful impact on the significance of any heritage assets resulting from the identified residual minor adverse effects is outweighed by the public benefit of the project, as set out in detail in Chapter 2 Need.
- 7.4.149 It is, therefore, considered that the project accords with the policies relating to the historic environment set out in section 5.8 of the NPS EN-1.

Landscape and Visual Impacts

- 7.4.150 Section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4 outline the Government policy regarding landscape and visual impacts. An assessment of the landscape and visual effects associated with the proposed project is set out in ES Chapter 10 Landscape and Visual. This assessment has been prepared in accordance with paragraphs 5.9.5 to 5.9.7 of NPS EN-1 and paragraph 2.21.3 of NPS EN-4.
- 7.4.151 Assessment has been made of the landscape impacts on the nationally designated SDNP, locally designated areas of landscape and the landscape at Brockwood Park, country parks, areas of registered common land and open access land, and on ancient woodland and tree preservation orders (TPOs).
- 7.4.152 In accordance with NPS EN-1 paragraph 5.9.5, the assessment of landscape effects has been based on published national character areas. Within the SDNP,



landscape effects have also been assessed against the published SDNP Integrated Landscape Character Areas (Land Use Consultants, 2011). At a county scale, the landscape within the study area has been assessed within Hampshire Integrated Character Assessment (Hampshire County Council, 2012) and Surrey Landscape Character Assessment (Hankinson Duckett Associates, 2015).

- 7.4.153 The project has been carefully designed, taking into account the potential impact on the landscape in accordance with NPS EN-1 paragraph 5.9.8.
- 7.4.154 With regard to landscape, the alignment of the route has been designed to avoid or reduce impacts on the following features:
- Chawton House and Woburn Farm Registered Parks and Gardens;
 - formal parkland (undesignated) at Brockwood Park;
 - designated Ancient Woodland and potential ancient woodland (undesignated);
 - TPO trees; and
 - substantial woodland blocks.
- 7.4.155 The route has been designed, and the Order Limits have been refined and narrowed, to avoid designated Ancient Woodland in accordance with the overarching commitment to design route alignment to avoid all areas of existing classified ancient woodland. A check of the Ancient Tree Forum on 12th February 2019 revealed no recorded ancient or veteran trees within the Order Limits. The assessment of landscape impacts within the ES Chapter 10 Landscape and Visual have been informed by the Arboricultural assessment of notable trees. Notable trees within the Order limits or immediately adjacent to the Order limits are identified in Chapter 10 Landscape and Visual Appendix 10.2.
- 7.4.156 The siting of temporary construction compounds, logistics hubs and the permanent valve and pressure transducer enclosures, CP transformer rectifier cabinets, marker posts and the pigging station was considered through the design development process to reduce landscape and visual effects.
- 7.4.157 Embedded design and good practice measures applicable to landscape and visual effects are set out in the REAC and secured through DCO requirements such as the CoCP (DCO Requirement 5), contractor's CEMP (DCO Requirement 6), details of works affecting hedgerows and trees (DCO Requirement 8), and the Landscape and Ecological Management Plan (DCO Requirement 12).
- 7.4.158 This approach to avoidance, mitigation and reinstatement follows the requirements of paragraph 2.21.3 of NPS EN-4.
- 7.4.159 In accordance with paragraph 2.21.6 of NPS EN-4, the feasibility of using trenchless techniques, such as thrust boring, to avoid protected hedgerows and protected trees has been considered throughout the design development of the project. Overall, and taking into account the potential impacts and proposed measures and mitigation, it is not considered feasible to use trenchless techniques to avoid these features along the route. This is because, due to the number of protected hedgerows and trees along the route of the proposed cross-country



pipeline, employing trenchless techniques would result in additional engineering, environmental, social, planning and cost/scheduling challenges and impacts.

- 7.4.160 Furthermore, with regard to protected hedgerows, it is not practicable to employ trenchless techniques under each hedgerow, as in doing so there would still be a need for a haul road through the hedgerow in order to efficiently transport materials and the workforce along the route. It is not considered feasible to route the haul road around protected hedgerows.
- 7.4.161 The embedded design measures set out within the REAC include an overarching project commitment to only utilise a 10m width when crossing through boundaries between fields where these include hedgerows, trees or watercourses, along with specific design measures to employ reduced working widths and trenchless crossings to avoid or reduce impacts on hedgerows, trees and ancient woodland where it has been feasible to do so. A range of good practice measures are also outlined in the REAC, including measures to further avoid or reduce impacts on hedgerows, trees and ancient woodland.
- 7.4.162 A schedule of important hedgerows crossed by the replacement pipeline is provided in the draft DCO (**application document 3.1**) submitted as part of the application for development consent. Works to hedgerows are controlled through DCO Requirement 8 and details of replacement planting will be secured through the Landscape and Ecological Management Plan (DCO Requirement 12).
- 7.4.163 Potential impacts without mitigation on landscape and views as a result of construction and operation of the project are reported in section 10.5 of ES Chapter 10 Landscape and Visual. Table 10.14 of ES Chapter 10 Landscape and Visual provides a summary of potential impacts on landscape character. Table 10.15 summarises potential impacts on landscape designations. A summary of potential visual effects is presented in Appendix 10.1 Representative Viewpoints. Table 10.16 summarises the operational landscape and visual effects.
- 7.4.164 The design has sought to avoid or reduce potential impacts both through the alignment of the pipeline corridor as set out above and the use of the design measures outlined in ES Table 10.13. No construction and operational mitigation commitments have been identified. Residual effects are reported in section 10.7 of ES Chapter 10 Landscape and Visual.
- 7.4.165 In year 15 post construction, when reinstatement planting outlined in Table 10.13 will be established, all landscape and visual effects arising from pipeline installation will be not significant, with the exception of impacts on TPO tree, as potential significant effects have been identified in year 15 post construction on TPO trees.
- 7.4.166 The design of the route and the application of good practice measures, including narrow width working, has reduced the impacts on woodland, TPOs and protected trees. Whilst reinstatement planting will establish lost vegetation, it would not be possible to fully mitigate the permanent loss of valued trees. There would be restrictions to planting trees over and in proximity to the pipeline. After construction year 15 the magnitude of impact will be medium and the significance of effect will be moderate.



7.4.167 Operational landscape and visual effects will be limited, particularly during operation in year 15 when reinstatement planting outlined in Table 10.13 will be established. This is because the pipeline will be underground and above ground features will only include the valve and pressure transducer enclosures, CP transformer rectifier cabinets, marker posts and the pigging station compound all of which will be small in scale. Landscape and visual effects during operation in year 15 will be localised and not significant.

Summary

7.4.168 While there is a residual effect from the loss of some TPO trees that cannot be entirely mitigated, native species tree planting would help offset this. As paragraph 5.9.8 of NPS EN-1 notes, '*[v]irtually all nationally significant energy infrastructure projects will have effects on the landscape*', and in the case of the project it is considered that the overriding need for the project outweighs the residual effects. Overall, the project complies with the requirements of section 5.9 of NPS.

7.4.169 Further consideration of the policy headings relating to landscape and visual impacts in NPS EN-1 and EN-4 are set out under the following sub-headings.

Impacts on the South Downs National Park (SDNP) and other nationally designated landscapes

7.4.170 The proposed development passes through approximately 25km of the SDNP. The replacement pipeline does not impact any AONBs. Potential impacts on the landscape and views relating to the SDNP as a result of construction and operation, are reported in section 10.5 of ES Chapter 10 Landscape and Visual.

7.4.171 The SDNP was designated in 2009 in recognition that it is a landscape of national importance. In 2011, the South Downs National Park Authority (SDNPA) became the local planning authority for the National Park. The SDNPA is responsible for promoting the purposes of the National Park. The statutory purposes for National Parks are specified in Part 3 of the Environment Act 1995, which are:

- to conserve and enhance the natural beauty, wildlife and cultural heritage of the area; and
- to promote opportunities for the understanding and enjoyment of the special qualities of the National Park by the public.

7.4.172 When carrying out the purposes, the National Park Authority also has a duty under section 11A of the National Parks and Access to the Countryside Act 1949 (which was inserted by section 62 of the Environment Act 1995), '*to seek to foster the economic and social well-being of the local communities within the National Park*'.

7.4.173 In addition, the Act requires all relevant authorities, including any person holding public office, statutory undertakers and public bodies, to have regard to the National Park purposes. If it appears that there is a conflict between those purposes, greater weight shall be attached to the first purpose.

7.4.174 The 'special qualities' of the National Park were defined by the SDNPA in 2011 as:

- diverse, inspirational landscapes and breathtaking views;



- a rich variety of wildlife and habitats including rare and internationally important species;
- tranquil and unspoilt places;
- an environment shaped by centuries of farming and embracing new enterprise;
- great opportunities for recreational activities and learning experiences;
- well-conserved historical features and a rich cultural heritage; and
- distinctive towns and villages, and communities with real pride in their area.

7.4.175 NPS EN-1 (at paragraph 5.9.9) confirms that decision makers must have regard to the statutory purposes of National Parks: to conserve and enhance their natural beauty, wildlife and cultural heritage and to promote opportunities for the understanding and enjoyment of their special qualities by the public. NPS EN-1 paragraph 5.9.10 indicates that development consent in National Parks may be granted in exceptional circumstances. Development should be demonstrated to be in the public interest, and include an assessment of:

- the need for the development, including in terms of national considerations, and the impact of consenting or not consenting it upon the local economy;
- the cost of, and scope for, developing elsewhere outside the designated area or meeting the need for it in some other way, taking account of the policy on alternatives; and
- any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

7.4.176 It is considered that exceptional circumstances do exist, that the proposed development is demonstrably in the public interest, and that the tests in the NPS are met in the application proposals as set out below.

7.4.177 The need for the proposed replacement pipeline is set out in Chapter 2 Statement of Need. Government policy, as set out in NPS EN-1, is that there should be a '*presumption in favour of granting consent*' for new nationally significant oil infrastructure projects, such as the replacement pipeline. The proposed development is considered to be demonstrably in the public interest on this basis. Failure to grant consent for the replacement pipeline would place secure aviation fuel supplies to Heathrow and Gatwick airports at risk, with potentially significant impacts to the national and local economies.

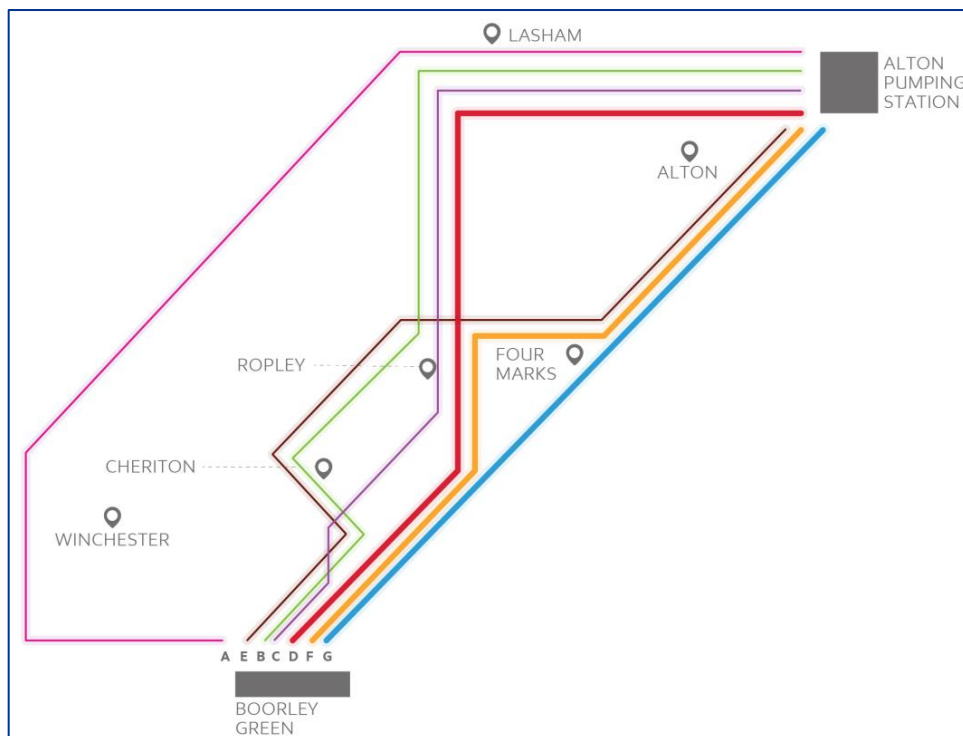
7.4.178 Although the pipeline itself does not give rise to significant local employment, the pipeline transports aviation fuel whose refining and import supports considerable local employment. The aviation sector itself delivers significant national and local economic and social benefits, and the replacement pipeline provide secure aviation fuel supplies to underpin this. The pipeline construction will also give rise to some local economic benefits, including through employment and supply opportunities.

7.4.179 The cost of, and scope for, developing outside the National Park or meeting the need in some other way has been considered as part of the evolution of the proposals for which development consent are applied for. The proposed

development is a linear development project which, to meet the identified need, has to link to specific locations – Boorley Green, Alton Pumping Station and the West London Terminal storage facility. Constructing the pipeline elsewhere, and not connecting these locations, would not meet the need. The project cannot simply be relocated elsewhere, as could be the case for a single site development such as a power station or other single site project.

- 7.4.180 The potential to meet the need other than through a replacement pipeline has been assessed as part of the consideration of alternatives to the proposed development, set out in ES Chapter 4 Design Evolution. When comparing and critically assessing alternative options (having regard to environmental, planning and social considerations) that assessment demonstrates that it is necessary to develop a replacement pipeline to meet the need.
- 7.4.181 On this basis, the key consideration is then the appropriate routing of the replacement pipeline, including the cost and scope for routing the pipeline outside the SDNP. As set out in Chapter 3 Scheme Development, as part of the consideration of pipeline corridors a total of 7 potential corridors were identified for the route south of Alton. This included a potential corridor that avoided the entire National Park (Corridor A) and 6 corridors that passed through different parts of the national park, as identified in Illustration 7.2 below.

Illustration 7.2 Longlist Corridor Options – South of Alton



- 7.4.182 The cost and scope for routing the pipeline through or around the National Park was part of the consideration of pipeline corridors. In addition to avoiding SDNP in its entirety (Corridor A), options followed different routes through the National Park including the shortest possible distance within the national (corridors B and E) and options to avoid re-entering the National Park south of Alton (corridors B to F). Options involving significant diversion away from the existing pipeline involved



additional pipeline lengths and costs than Corridor G which most closely followed the existing pipeline. The consideration of the corridors is set out in Chapter 3 Scheme Development of this statement, and in ES Chapter 4 Scheme Evolution, as summarised below.

- 7.4.183 Corridor A, which avoided the National Park through routing to the west of Winchester and to the north of Alton, was discounted as part of the corridor selection process. This corridor option was discounted as it involved significant additional pipeline length and cost when compared to other options. The corridor would also have involved significant additional infrastructure crossings compared to other options, including the M3 motorway (twice), two additional railway crossings and a crossing of the River Itchen. The corridor passed through environmentally sensitive areas between Otterbourne and Colden Common, including the River Itchen which is a designated SSSI and SAC. Given the highly developed areas north of Southampton, the corridor also would have to pass through an important Groundwater Source Protection Zone 1 and cross the River Itchen which is a key source of public water supply for Hampshire. The cultural heritage features around the northeast of Winchester, and to the north of Alton as well as emerging housing allocations, were also considered to be material challenges for this corridor, reflected in comments from the relevant local authorities. For the combination of these reasons, Corridor A was discounted from further consideration. This discounting was subsequently agreed by the SDNPA in its non-statutory consultation response.
- 7.4.184 Corridors B, C and E adopted shortest routes through the southern section of the National Park, and avoided the need to re-enter the national park to the south of Alton. These corridors did however pass through parts of the National Park considered to be more sensitive in landscape and environmental terms than corridors D, F and G. Corridors B, C and E also required a crossing of the Cheriton Stream, designated as part of the River Itchen SAC, and would be routed close to a designated battlefield at Cheriton and through the areas to the north of Alton identified as being sensitive for cultural heritage by the local authorities. For the combination of these reasons, corridors B, C and E were discounted from further consideration.
- 7.4.185 Corridors D, F and G were considered, based on the outcomes of the environmental, planning and engineering assessments, to have the most potential for the replacement pipeline and these corridors were taken forward to the Corridor Consultation process. These corridors followed the same routing through the southern section of the National Park, diverging close to West Tisted just before leaving the national park boundary. Corridors D and F were then routed so as to avoid re-entering the National Park south of Alton, whereas Corridor G was routed to follow the existing pipeline.
- 7.4.186 Both Corridors D, routed to the north of Alton, and F, routed to the south west of Alton involved significant additional pipeline length and costs when compared to Corridor G. As well as additional pipeline lengths, Corridor D was routed through land north of Alton that posed engineering constraints due to topography and risks relating to source protection zones. As noted before, the area to the north of Alton was also identified as being sensitive for cultural heritage by the local authorities. Corridor F was longer than Corridor G, and involved an additional railway crossing



south west of Alton, and an additional crossing of the A31 dual carriageway, as well as challenges to identification of routes through planned development sites and areas of poor ground conditions. Both Corridors D and F involved additional costs and engineering and environmental complexities when compared to Corridor G. Corridor G therefore represented the project's preferred corridor at the Corridor Consultation process, notwithstanding that the corridor involved re-entering the National Park to the south of Alton. The selection of Corridor G was confirmed following the consultation.

- 7.4.187 ES Chapters 7 Biodiversity, Chapter 10 Landscape and Visual and Chapter 13 People and Communities and the section-specific chapters of this planning statement assess the proposed development's potential effects on the environment, the landscape and recreational opportunities, and set out the ways in which these will be reduced to an acceptable level. Permanent impacts on the National Park have been reduced with careful route selection, adoption of appropriate construction techniques, and embedded design measures and good practice measures set out in the REAC reported in the ES and this Planning Statement. There is only limited above ground infrastructure within the National Park, comprising three valves, a pressure transducer, and waymarkers. The construction processes will give rise to temporary impacts, as assessed in the ES and described within the section specific chapters of this statement (Chapter 8 – Section A and Chapter 9 – Section B). This includes impacts arising from temporary construction compounds within and outside of the National Park, and two logistics hubs which are outside of the park but within its setting.
- 7.4.188 As the ES demonstrates, through good practice and the commitments set out in the REAC and secured through DCO requirements such as the CoCP and contractor's CEMP (DCO Requirements 5 & 6), the project will be carried out to high environmental standards in accordance with paragraph 5.9.11 of NPS EN-1. It will also be a requirement of the DCO that a Landscape and Ecological Management Plan, is submitted and approved by the SDNPA as planning authority for the National Park (DCO Requirement 12).
- 7.4.189 In developing the project, consideration has been given to the two statutory purposes of National Parks, and the additional economic and social well-being duty. Given the lack of significant permanent effects, and the temporary impacts that are reduced through the good practice measures that are embedded in the application proposals and which will be secured in the development consent, the project is compatible with the statutory purposes of the National Park, and any conflict with these purposes has been minimised. To the extent that they are relevant individually to the proposed development, it is considered that the routing, design and proposed construction of the proposed development also takes account of, and is not contrary to, the special qualities of the National Park.

Summary

- 7.4.190 In conclusion, the clear and compelling national need, together with the assessment of alternatives set out in ES Chapter 4 Design Evolution and the explanation of impacts and good practice measures included within the ES and summarised here, demonstrate the exceptional circumstances justifying the development of part of the project within the National Park. Overall, the project is,



therefore, in accordance with the policies in relation to National Parks in paragraphs 5.9.9 to 5.9.11 of NPS EN-1.

Impacts on Local Landscape Designations

- 7.4.191 Local landscape designations affected by the project have been identified and an assessment undertaken and reported in ES Chapter 10 Landscape and Visual.
- 7.4.192 The study area includes Areas of Landscape Importance (ALI) (Sections G and H). These are designated within the adopted Local Plan for Runnymede (Runnymede Borough Local Plan Second Alteration 2001 identifies policy NE8, which is a saved policy within Runnymede Borough Council Local Plan Saved Policies 2007).
- 7.4.193 The route will run through Woburn Hill and Chertsey Meads ALI (Section G). This area has been designated for its particular landscape importance in relation to its prominence and setting and extensive tree cover.
- 7.4.194 Furthermore, an assessment of potential impacts on the formal parkland landscape at the Brockwood Park Krishnamurti Centre has been undertaken. The Order Limits run approximately 200m west and 20m south of the Park (eastern option) or over 200m west of the park (western option). The ES reports that whilst the route will run approximately 20m south of Brockwood Park at the closest point, there will be no significant effects on the landscape.
- 7.4.195 Further consideration of the impact on local landscape designations is provided in ES Chapter 10 Landscape and Visual and the relevant section-specific chapters of this Planning Statement.

Summary

- 7.4.196 Overall, the ES reports that, following the implementation of good practice measures set out in the REAC and secured through DCO requirements such as the CoCP, CEMP, details of works affecting trees and hedgerows (DCO Requirement 8) and the Landscape and Ecological Management Plan (DCO Requirement 12), no significant landscape effects or visual impacts are predicted and, therefore, the project accords with the policies relating to landscape and visual impact set out in section 5.9 of the NPS EN-1 and section 2.21 of NPS EN-4.

Land Use Including Open Space, Green Infrastructure and Green Belt

- 7.4.197 Government policy relating to land use is set out in section 5.10 of NPS EN-1. ES Chapter 12 Land Use provides an assessment of the land use impacts of the construction and operational phases of the project. This includes the identification of existing and proposed land uses along the route and consideration of effects on these uses. The study area for the assessment comprises the land plots intersected by the Order Limits and extending to the known land plot limits of each landowner's holding. The assessment has been prepared in accordance with paragraph 5.10.5 of NPS EN-1.



- 7.4.198 The potential impacts on open space and sport and recreation facilities have been assessed in a Priority Open Space Assessment (POSA) included as Appendix 16.1 to the Planning Statement and summarised in Chapter 16 of this statement. The POSA has been undertaken in accordance with paragraph 5.10.6 of NPS EN-1. The POSA, Chapter 16 and the conclusions of the ES reported in this section, demonstrate that the project accords with paragraph 5.10.14 of NPS EN-1, relating to open space, sports and recreational buildings and land.
- 7.4.199 In accordance with paragraph 5.10.6 of NPS EN-1, statutory and non-statutory consultation has been undertaken and regard has been had to the views expressed by consultees when selecting the replacement pipeline route, including any impacts on open space, green infrastructure and recreational land.
- 7.4.200 The project has been designed to avoid settlements where practicable to reduce the risk of disruption to property and land. The demolition of any property or building has been avoided where practicable. The project will not require the demolition of any residential properties.
- 7.4.201 With regard to paragraph 5.10.13 of NPS EN-1, the design of the project has sought to avoid proposals allocated within development plans and committed development. Through consultation and engagement with landowners and developers, the project has sought to reduce any potential conflict with allocated and committed development. Engagement with landowners and developers will continue ahead of and during the construction of the project, seeking to reduce any potential disruption to other planned developments through both detailed design and timing of implementation.
- 7.4.202 Further details relating to the routing of the project can be found in Chapter 3 Scheme Development and ES Chapter 4 Design Evolution, and further detail relating to development proposals along the route is provided in the section-specific chapters of this Planning Statement.
- 7.4.203 As set out in Chapter 4 Project Description, the land use would be reinstated following construction. Land drains would be reinstated to maintain the integrity of pre-existing land drainage patterns. The working width would then be cleared, any subsoil reinstated and loosened, and topsoil re-laid and seeded as required. Where possible, reinstatement of vegetation would be of a similar quality while having regard to any land restrictions required in connection with the pipeline. Any affected hedgerow sections would be replanted, and any other affected boundaries reinstated as appropriate. Land would be returned to its original use with some exceptions such as change of land use for ecological mitigation. Temporary fencing would remain in place until grazing land has sufficiently recovered to withstand grazing pressure.
- 7.4.204 These good practice measures are included within the REAC, and secured through DCO requirements such as the CoCP and CEMP (DCO Requirements 5 and 6). Those measures most relevant to land use are listed in ES Table 12.6. The assessment reported in ES Chapter 12 Land Use is based on these measures being in place.



- 7.4.205 With regard to rights of access, the REAC sets out that any potential temporary designated Public Right of Way (PRoW) closures will be applied for/detailed in the DCO. All designated PRoWs crossing the working area would be managed, including National Trails, with access only closed and a localised diversion provided, for short periods while construction activities occur. Measures to manage any diversions to cycleways would be set out in the contractor's CEMP, secured through DCO Requirement 6. As such, appropriate measures will be in place to reduce impacts on rights of access in accordance with paragraph 5.10.24 of NPS EN-1. Further details relating to rights of access are provided in ES Chapter 13 People and Communities.
- 7.4.206 In accordance with paragraph 5.10.19 of NPS EN-1, through careful design and the employment of good practice measures, the project has sought to avoid and reduce effects on existing and proposed land use. This includes seeking to reduce effects on best and most versatile (BMV) agricultural land and green infrastructure in accordance with paragraphs 5.10.8 and 5.10.20 of NPS EN-1 respectively.
- 7.4.207 Potential impacts on land use (without ES mitigation) are described in section 12.5 of ES Chapter 12 Land Use. Potential impacts include those on residential property and land, community facilities and land, commercial property and land, agricultural land, development land, and open space.
- 7.4.208 There are no significant effects expected on land use during operation and this has been scoped out of the ES. Table 12.9 of ES Chapter 12 Land Use summarises the potential effects of the project prior to the identification of ES mitigation during construction. This concludes that there are no significant effects expected as a result of the project.
- 7.4.209 As there are no significant impacts anticipated during construction on commercial land (including golf courses) and property and on agricultural land, the ES assesses that there will be no significant adverse impacts on likely future business viability.
- 7.4.210 A summary of potential significant effects on land use, without ES mitigation, is provided in table 12.9 of ES Chapter 12 Land Use. The ES reports that there are no significant effects expected on land use, and therefore no additional mitigation measures have been identified. In turn, the assessment concludes that there are no significant residual effects on land use during construction or operation.

Summary

- 7.4.211 As the ES reports, the overall impact on land use will be limited and generally short-term and temporary in nature. The project has been designed to reduce impacts on existing and proposed land uses, and this is supported by a range of good practice measures.
- 7.4.212 Further consideration of the policy relating to land use impacts in NPS EN-1 are set out under the following sub-headings.



Agricultural Land

- 7.4.213 ES Chapter 12 Land Use assesses the impact of the project on agricultural land. Agricultural Land Classification (ALC) data were used to indicate the land grade along the route of the project.
- 7.4.214 Within Sections A, B and C (Boorley Green to Crondall), the majority of the study area is agricultural land, specifically ALC Grade 3 land. Within Sections D to H (Crondall to the West London Terminal storage facility) the study area is located mainly within urban and non-agricultural land, but does include some agricultural areas.
- 7.4.215 Through good practice measures referred to previously in this section, the project has sought to reduce impacts on best and most versatile (BMV) land in accordance with paragraph 5.10.8 of NPS EN-1. Whilst the Order Limits pass through areas of BMV land, this will be reinstated following construction, and therefore any impact will be temporary.
- 7.4.216 ES Chapter 11 Soils and Geology includes an assessment of potential impacts on agricultural soil, consideration of which is set out in paragraphs 7.4.331 to 7.4.352 of this chapter. Good practice measures are set out in the REAC, the implementation of which is secured by DCO requirements such as the CoCP (DCO Requirement 5). Detailed measures, including a Soil Management Plan, will be in the contractor's CEMP, secured as DCO Requirement 6. These combined measures will avoid and reduce impacts on soil. The assessment concluded that there are no significant residual impacts on soils during construction or operation.

Summary

- 7.4.217 The project, therefore, does not conflict with paragraph 5.10.15 of NPS EN-1, and complies with the requirements in paragraph 5.10.8 of NPS EN-1 relating to agricultural soil quality.

Mineral resources

- 7.4.218 Potential impacts on minerals are assessed in ES Chapter 11 Soils and Geology. The ES assessment identifies that the Order Limits intersect the following Preferred Areas for mineral development in Section H:
- Queen Mary Reservoir; and
 - Homers Farm.
- 7.4.219 The ES concludes that no significant impacts will occur on mineral resources within these Preferred Areas for mineral development.
- 7.4.220 The Order Limits also intersect a number of Mineral Consultation Areas within Hampshire (which include Mineral Safeguarding Areas) and Mineral Safeguarding Areas in Surrey.
- 7.4.221 The ES reports that the presence of the pipeline will restrict access to the mineral resources in these areas during operation, due to the physical presence of the



pipeline and the requirement for safe working methods in proximity to the pipeline. In total, approximately 98ha of Mineral Consultation Areas and Mineral Safeguarding Areas combined, are covered by the Order Limits.

- 7.4.222 However, the proportion of the resources affected is minor in all cases since the safeguarded areas are large and include substantial buffers around the minerals. Accordingly, the ES reports that a small magnitude of change is predicted from long-term sterilisation of a minor part of the resources, such that a minor impact will occur.
- 7.4.223 Whilst Hampshire County Council highlighted the potential sterilisation of minerals as a concern during Statutory Consultation, Surrey County Council did not, and the ES concludes that only a minor sterilisation impact will occur.
- 7.4.224 Furthermore, given the small diameter of the pipeline, and the shallow depth that much of it will be laid in, it is considered that only a small quantity of minerals are likely to be excavated as part of the construction of the project, and that where suitable those minerals will likely be reused as backfill within the project. As such, there is considered to be very limited potential to introduce suitable recovered minerals into the mineral supply chain.

Summary

- 7.4.225 Overall, there are no significant effects predicted on mineral resources. Whilst there may be a minor impact as a result of sterilisation, this is outweighed by the clear need for the project, such that any conflict with paragraph 5.10.9 of NPS EN-1 will be justified in this case.

Green Belt

- 7.4.226 The Order Limits include areas of designated Metropolitan Green Belt within parts of Surrey. These lie within the local authority areas of Surrey Heath Borough Council, Runnymede Borough Council, Spelthorne Borough Council and the London Borough of Hounslow.

- 7.4.227 Paragraph 5.10.4 of NPS EN-1 states:

'Green Belts, defined in a local authority's development plan, are situated around certain cities and large built-up areas. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the most important attribute of Green Belts is their openness. Green Belt land can play a positive role in providing access to sport and recreation facilities or access to the open countryside. For further information on the purposes of Green Belt policy see PPG2 or any successor to it.'

- 7.4.228 The Green Belt principles set out in current local policy mirror those long-established in national policy, which clarifies the aim and purpose of the Metropolitan Green Belt. Further advice and policy guidance is found in paragraph 134 of the National Planning Policy Framework (NPPF) which states that 'Green Belt serves five purposes:

- *to check the unrestricted sprawl of large built-up areas;*



- to prevent neighbouring towns merging into one another;
- to assist in safeguarding the countryside from encroachment;
- to preserve the setting and special character of historic towns; and
- to assist in urban regeneration, by encouraging the recycling of derelict and other urban land'.

7.4.229 As stated at paragraph 5.10.10 of NPS-1, there is a general presumption against inappropriate development within Green Belts and as such development should not be approved except in Very Special Circumstances. Further, this paragraph of the NPS requires applicants to determine if their proposal is inappropriate development in the Green Belt. Paragraph 146 of the NPPF details the forms of development that are considered in themselves not to be inappropriate in the Green Belt providing they preserve the openness of the Green Belt and do not conflict with the purposes outlined above. These are:

- a) mineral extraction;
- b) engineering operations;
- c) local transport infrastructure which can demonstrate a requirement for a Green Belt location;
- d) the re-use of buildings provided that the buildings are of permanent and substantial construction;
- e) material changes in the use of land (such as changes of use for outdoor sport or recreation, or for cemeteries and burial grounds); and
- f) development brought forward under a Community Right to Build Order or Neighbourhood Development Order.

7.4.230 Paragraph 5.10.17 of NPS EN-1 states that:

'Inappropriate development is by definition harmful to the Green Belt and the general planning policy against it applies with equal force in relation to major energy infrastructure projects. The IPC will need to assess whether there are very special circumstances to justify inappropriate development. Very special circumstances will not exist unless the harm by reason of inappropriateness, and any other harm, is outweighed by other considerations. In view of the presumption against inappropriate development, the IPC will attach substantial weight to the harm to the Green Belt when considering any application for such development while taking account, in relation to renewable and linear infrastructure, of the extent to which its physical characteristics are such that it has limited or no impact on the fundamental purposes of Green Belt designation.'

7.4.231 Paragraph 144 of the NPPF largely reflects the NPS EN-1 because substantial weight is required to be given to any harm to the Green Belt and that Very Special Circumstances will not exist unless the potential harm to the Green Belt by reason of inappropriateness, and any other harm from the proposal, is clearly outweighed by other considerations.



7.4.232 Within the Metropolitan Green Belt, the development comprises:

- The underground pipeline (permanent);
- Underground valve chambers with above ground compounds (permanent);
- Pipeline markers (permanent);
- Pipeline flight markers (permanent);
- Cathodic Protection transformer rectifier cabinets (permanent);
- Logistics hubs (temporary); and,
- Construction compounds (temporary).

Inappropriate Development in the Green Belt

7.4.233 An engineering operation is defined as development in the Planning Act 2008 under Section 32(1), which refers to the definition of development in Section 55 of the Town and Country Planning Act 1990. However, an engineering operation is not defined within planning legislation. The Construction (Design and Management) Regulations 2007 defines 'construction work' to mean '*the carrying out of any building, civil engineering or engineering construction work and includes—*

(a) the construction, alteration, conversion, fitting out, commissioning, renovation, repair, upkeep, redecoration or other maintenance (including cleaning which involves the use of water or an abrasive at high pressure or the use of corrosive or toxic substances), de-commissioning, demolition or dismantling of a structure;

(b) the preparation for an intended structure, including site clearance, exploration, investigation (but not site survey) and excavation, and the clearance or preparation of the site or structure for use or occupation at its conclusion;

(c) the assembly on site of prefabricated elements to form a structure or the disassembly on site of prefabricated elements which, immediately before such disassembly, formed a structure;

(d) the removal of a structure or of any product or waste resulting from demolition or dismantling of a structure or from disassembly of prefabricated elements which immediately before such disassembly formed such a structure; and

(e) the installation, commissioning, maintenance, repair or removal of mechanical, electrical, gas, compressed air, hydraulic, telecommunications, computer or similar services which are normally fixed within or to a structure.'

7.4.234 It further defines a 'structure' to mean—

'(a) any building, timber, masonry, metal or reinforced concrete structure, railway line or siding, tramway line, dock, harbour, inland navigation, tunnel, shaft, bridge, viaduct, waterworks, reservoir, pipe or pipe-line, cable, aqueduct, sewer, sewage works, gasholder, road, airfield, sea defence works, river works, drainage works, earthworks, lagoon, dam, wall, caisson, mast, tower, pylon, underground tank,



earth retaining structure or structure designed to preserve or alter any natural feature, fixed plant and any structure similar to the foregoing;

(b) any formwork, falsework, scaffold or other structure designed or used to provide support or means of access during construction work’.

7.4.235 Under this definition, the project to replace the pipeline and its associated structures of valves, pipeline markers and cabinets falls within the definition of construction of a structure as a civil engineering project.

7.4.236 The following is an assessment as to whether the development preserves the openness of the Green Belt and whether it conflicts with the purposes of including land within it.

Pipeline (permanent)

7.4.237 The pipe will be laid below ground for its entire length and therefore it will preserve the openness of the Green Belt and will not conflict with the purposes of including land within it. This approach would be in line with NPS EN-1 which states at paragraph 5.10.12 that:

‘An applicant may be able to demonstrate that a particular type of energy infrastructure, such as an underground pipeline, which, in Green Belt policy terms, may be considered as an “engineering operation” rather than a building is not in the circumstances of the application inappropriate development’.

7.4.238 In addition, it should be noted that in terms of the underground pipelines for the Knottingley Power Project, they were considered to be engineering operations for which, as set out in paragraph 4.206 of the Examining Authority’s report, there ‘...would be no long term harm to the openness of the Green Belt and the proposal would not conflict with the purposes of including land within it’.

On that basis, it is not considered that these works amount to inappropriate development in the Green Belt.

Valves (permanent)

7.4.239 There will be 3 valves (valve numbers 12, 13 and 14) sited within the Green Belt, each valve will be located in an underground chamber with a compound above ground measuring 7m x 5m surrounded by a 2m high fence. The location of the valve compounds have been carefully identified to ensure that they will preserve the openness of the Green Belt and will not conflict with the purposes of including land within it. In addition, the valves will be powered and controlled via new buried cable connections to existing electrical and telecoms utilities infrastructure. The openness of the Green Belt and the purposes of including land within it will not be compromised by the cables which are below ground and hence these valves will not conflict with the purposes of including land in the Green Belt.

7.4.240 On that basis, it is not considered that these works amount to inappropriate development in the Green Belt.

Pipeline Markers (permanent)



7.4.241 The pipeline markers will be above ground, these mark the route of the pipeline and are located at all crossing points (e.g. of roads) and field boundaries. The markers are white posts standing no higher than 0.5m. They are essential to ensure the safety of the pipeline. Given their size and height and that they are placed next to other infrastructure or field boundaries, the markers would not impact on the openness of the Green Belt or conflict with the purposes of including land within it.

7.4.242 On that basis, it is not considered that these works amount to inappropriate development in the Green Belt.

Pipeline Flight Markers (permanent)

7.4.243 The route of the replacement pipeline would also be marked with new red and black colour-coded flight marker posts at a frequency of about 500m. These would be for use when the pipeline is inspected by helicopter and would be positioned at field boundaries where possible. Given their positioning and size, the flight markers would not impact on the openness of the Green Belt or conflict with the purposes of including land within it.

7.4.244 On that basis, it is not considered that these works amount to inappropriate development in the Green Belt.

Cathodic Protection transformer rectifier cabinets (permanent)

7.4.245 There is one above ground CP transformer rectifier cabinet located within the Green Belt serving the existing pipeline. Where possible, the cabinet for the existing pipeline will be refurbished and reused and internal components replaced. The cabinet will preserve the openness of the Green Belt and will not conflict with the purposes of including land within it.

7.4.246 On that basis, it is not considered that these works amount to inappropriate development in the Green Belt.

Logistic Hubs and Construction Compounds

7.4.247 Two temporary logistics hubs are located within the Green Belt, at New Road Windlesham and the Brett Aggregates site at Littleton Lane, Shepperton. There are nineteen construction compounds along the route of the pipeline that are located within the Green Belt. There will be fencing up to 3m in height around the logistics hubs and construction compounds.

7.4.248 Each of the logistics hubs would include a pipe laydown area, secure plant storage area, bunded fuel storage, single storey offices, staff welfare facilities and a vehicle parking area. In addition, for each hub, topsoil will be stripped from the logistics area and stockpiled around the perimeter of the hub within the site fences, self-contained welfare units and generators will be used, where it would not be viable to connect to existing utility connections, and lighting will also be installed. The hubs will be accessed via a stone road and apron connected to the local highway.



- 7.4.249 Each one of the construction compounds will be used for the storage of pipe, materials, plant and equipment in connection with the construction activity in the local area to install the pipeline. They will be accessed from the existing road network and will include single storey staff welfare facilities, visitor parking, waste storage and wheel washing areas. In general, the compounds will be connected to existing utilities using self-contained mobile welfare facilities, generators and mobile communications. There will be lighting installed at each compound.
- 7.4.250 For a temporary period, it is considered that the compounds and logistic hubs, coupled with the proposed uses to be made of the hubs and compounds, will not preserve the openness of the Green Belt and will conflict with one of the five purposes, this being encroachment in the countryside. On that basis they are considered inappropriate development in the Green Belt. Unless they are considered to constitute engineering operations, Very Special Circumstances would need to be demonstrated for them to be permitted. The case for Very Special Circumstances is set out below.

Construction activity

- 7.4.251 In addition to the logistics hubs and construction compounds which are required for the construction of the pipeline, there will also be other temporary works above ground, namely:
- Laying of access tracks;
 - Laying of haul roads formed through most of the working areas;
 - Installation of fencing and gates to working areas;
 - Storage of topsoil;
 - Drainage – header drains, buffer zones around watercourses, ditches, silt traps and bunding;
 - Mobile cranes and other lifting equipment such as telehandlers;
 - Site lighting;
 - Welders, air compressors, excavator mounted breakers, welding machines, angle grinders, vibratory piling rigs, auger units, HDD units and concrete pumps; and,
 - Vehicle parking and vehicle movements.
- 7.4.252 It is considered that the construction works along the pipeline route would temporarily not preserve the openness of the Green Belt and would conflict with one of the purposes of including land in the Green Belt, this being encroachment in the countryside. On that basis they are considered inappropriate development in the Green Belt. Unless they are considered to constitute engineering operations, very special circumstances would need to be demonstrated for them to be permitted.



Very Special Circumstances

7.4.253 If it is considered that the logistics hubs, construction compounds and other temporary construction works amount to inappropriate development in the Green Belt, this requires a case of Very Special Circumstances.

7.4.254 The Very Special Circumstances for this project are set out below:

Need for the pipeline

7.4.255 There is a national need for the provision of new energy infrastructure, and specifically for oil pipeline infrastructure.

7.4.256 In NPS EN-1 para 3.9.8 the Government notes that any consideration of applications for new oil distribution pipelines should 'start its assessment from the basis that there is a significant need for this infrastructure to be provided.'

7.4.257 NPS EN-1 para 4.1.2 goes further to state that 'Given the level and urgency of need for infrastructure of the types covered by the energy NPSs set out in Part 3 of this NPS, the (decision maker) should start with a presumption in favour of granting consent to applications for energy NSIPs'.

7.4.258 The proposed pipeline will form part of a small but critical number of pipelines transporting aviation fuel to Heathrow, and through the proposed connection at Alton pumping station to Gatwick. The pipeline will increase the resilience of the fuel supply to the airports, and to the West London Terminal and Purfleet storage facilities, consistent with Government policy and guidance.

7.4.259 The existing pipeline was constructed between 1969 and 1972 to transport fuel oils, and then used for aviation fuel from the 1980s. Although able to be safely operated, the nature and construction of the existing pipeline is such that it is requiring safety inspections resulting in an increasing amount of repair and maintenance and needs to be replaced earlier than other existing pipelines. The replacement pipeline will specifically be designed for aviation fuel.

7.4.260 As part of the replacement of the pipeline, Esso has decided to future proof the pipeline capacity through increasing the pipeline diameter from 10 inches to 12 inches. This will enable Esso to flexibly respond to both seasonal fluctuations in aviation fuel demand, and shorter-term changes in demand.

7.4.261 Unlike the existing pipeline, the replacement pipeline has a proposed connection to the existing Alton pumping station, providing additional flexibility in Esso's pipeline operations, with onward connection to Gatwick and the Purfleet Terminal storage facility.

7.4.262 The provision of the replacement aviation fuel pipeline is an important part of the protection against supply interruptions elsewhere affecting fuel supplies to the West London Terminal storage facility, and to Heathrow. Underground pipelines are necessarily resilient to road transport delays, adverse weather or industrial action by tanker drivers, all of which can affect road or rail transport. Experience has also shown, as was the case with the Buncefield explosion and fire, that it is



essential that there are a number of alternative supplies of aviation fuel, in case any individual supply route is not available.

- 7.4.263 The Esso Fawley site directly employs over 1,000 people, with many more employed within the supply chain. Although the pipeline itself does not give rise to significant local employment, the pipeline transports aviation fuel, the refining and importation of which does support considerable local employment. The pipeline construction will give rise to limited local economic benefits, including through employment and supply opportunities.
- 7.4.264 Finally, the sustainable transport of fuels by underground pipeline avoids the use of road tankers for aviation fuel transport. On 2015 figures, it is estimated that over 100 tankers a day would be required to transfer the volume of fuel that the pipeline will transport.
- 7.4.265 For all of the above reasons, it is considered that there is a clear and compelling need for the proposed pipeline. Supported by the Government as nationally significant infrastructure, for which there is a significant need' for the infrastructure to be provided. As noted, Government policy is that there should be a 'presumption in favour of granting consent' for the pipeline proposal'.

Temporary nature of the hubs and compounds / Re-use of a compound

- 7.4.266 Both of the proposed logistics hubs located in the Green Belt are on sites that have had previous similar uses. The Brett Aggregate site on Littleton Lane has been used for mineral extraction and material treatment and recycling. The land is to be restored to agricultural use prior to the construction of the project under the quarry restoration scheme approved by Surrey County Council (SCC Ref 2010/0188). The site benefits from an existing access, weigh bridge and wheel wash all of which are to be retained in association with the continued industrial use of a section of the site. The location of the proposed logistics hub is well screened from public views and will be less visually intrusive than either the current use of the site or the retained industrial area. Therefore, the impact on the openness of the Green Belt has been kept to a minimum.
- 7.4.267 The proposed logistics hub at New Road, Windlesham has been used as a compound in connection with the M3 Smart Motorway project. The compound has been restored to its former agricultural use by the M3 contractor. This site is located close to the strategic road network and provides a location for the storage of pipe prior to the construction of the pipeline in this central Surrey section, which includes sensitive environmentally designated sites such as the TBH SPA and Chobham Common. In order to reduce the impact on these sites, a compound to store the pipe is essential.
- 7.4.268 The logistics hubs and the nineteen construction compounds would be a temporary use of the land, following which the sites would be reinstated to their former use or agricultural use in the case of the two logistics hubs.

No preferable alternative sites available, and all alternatives are in the Green Belt having equal or greater harm on openness



- 7.4.269 A search for alternative sites for a logistics hub north of the River Thames failed to identify a suitable site outside the Green Belt close to the replacement pipeline alignment. There are weight restrictions on most of the bridges over the River Thames, therefore it is necessary to secure a storage area for the pipeline north of the river to serve the section of the route from the Thames crossing to the West London Terminal storage facility.
- 7.4.270 The presence of the TBH SPA and designated environmentally sensitive sites such as Chobham Common has led to the need to search for a site to store the pipe in advance of the installation period. A search for suitable locations for such a site outside the Green Belt for logistics hubs failed to identify any suitable sites with access to the working areas without generating significant additional impacts on the road network and nearby communities.
- 7.4.271 The nineteen construction compounds are located along the working area, alongside the construction of the pipeline itself, which runs through the Green Belt, and therefore these sites fall within land designated as Green Belt land. A search for potential compound sites outside the Green Belt failed to identify any suitable locations as all undeveloped land in this part of Surrey is within the Green Belt, only built up areas are excluded. These compounds would only be used during construction activity. They provide essential associated facilities such as welfare facilities for the workforce, temporary storage of pipe for the working day and some parking areas for construction vehicles and machinery.

Green Belt Summary

- 7.4.272 The installation of the replacement pipeline, together with the associated construction activity, will temporarily constitute inappropriate development in the Green Belt impacting on the openness of the Green Belt. However, should it be determined that any part of the works to be undertaken within the Green Belt do constitute inappropriate development, The project considers that Very Special Circumstances exist that justify that development within the Green Belt, and outweigh the potential harm to the Green Belt and any other harm from the proposal. As such, the project accords with relevant NPS policy on development in the Green Belt as set out in paragraphs 5.10.10 to 5.10.12 and paragraph 5.10.17, along with relevant Green Belt policy in the NPS.

Summary

- 7.4.273 Through the implementation of good practice measures, no significant impacts are predicted on open space, green infrastructure and Green Belt and, therefore, the project accords with the policies relating to land use as set out in section 5.10 of the NPS EN-1.

Noise and Vibration

- 7.4.274 Section 5.11 of NPS EN-1 and section 2.20 of NPS EN-4 outline the government policy in respect of noise and vibration.
- 7.4.275 ES Chapter 13 People and Communities assesses the potential effects that could result from the construction and operation of the project on communities and



tourism. This is supported by ES Appendix 13.3 Noise and Vibration Technical Note, which assesses the likely noise and vibration effects associated with construction and operation of the project on human receptors (i.e. dwellings, schools, hospitals, places of worship, recreational areas, and other noise-sensitive locations).

- 7.4.276 Effects of noise and vibration on ecological receptors within designated sites are considered in ES Chapter 7 Biodiversity, whilst effects on the historic environment are considered in Chapter 9 Historic Environment. The conclusions of both of these ES chapters are provided in this chapter.
- 7.4.277 The noise and vibration assessment set out in Appendix 13.3 Noise and Vibration Technical Note has been prepared in accordance with NPS EN-1 paragraphs 5.11.4 to 5.11.7, and NPS EN-4 paragraphs 2.20.1 to 2.20.5. The assessment considers the following noise and vibration generating activities:
- pipeline installation activity within the Order Limits (described in Chapter 4 of this Planning Statement and ES Chapter 3 Project Description), including compounds, site haul routes and trenchless crossings;
 - changes to vehicle movements on public highways during installation (described in ES Appendix 13.1 Traffic and Transportation Technical Note); and
 - the operation of the pipeline, including normal pumping operations, maintenance, and inspection
- 7.4.278 Consultation has been undertaken with stakeholders as necessary, including with Natural England and the Environment Agency, regarding potential noise impacts of the project on the environment, such as those on protected species and other wildlife. The assessment undertaken is, therefore, in accordance with paragraph 5.11.7 of NPS EN-1.
- 7.4.279 All noise and vibration commitments are listed within the REAC, and secured through DCO requirements such as the CoCP (DCO Requirement 5).
- 7.4.280 Working hours are specified in DCO Requirement 14. The normal construction working hours are 07:00 to 19:00 Monday to Saturday. Sunday or bank holiday working is not anticipated as being typical. Exceptions may be required for bank holiday and Sunday working (restricted to 08:00 to 18:00) or night-time working for activities such as the continuous pulling phase for a major crossing using Horizontal Directional Drilling; where daytime working will be excessively disruptive to normal traffic operation; cleaning/testing of the pipeline; or overnight traffic management measures.
- 7.4.281 In accordance with paragraphs 5.11.8 and 5.11.12 of NPS EN-1, noise and vibration from construction plant and machinery will be mitigated by adopting measures set out in the REAC and secured through DCO requirements such as the CoCP (DCO Requirement 5) in the following hierarchy:
- control at source – for example the selection of quieter equipment;
 - the choice of location for equipment on site;
 - control of working hours; and



- where appropriate, the provision of noise mitigation measures such as acoustic enclosures around equipment, or barriers around work sites, where practicable and necessary.

7.4.282 A Noise and Vibration Management Plan (NVMP) will be prepared by the contractor(s) prior to the commencement of each stage of the development, as part of their CEMP, the implementation of which is secured through DCO Requirement 6. The NVMP will include appropriate noise and vibration risk assessment information, together with predicted noise levels, good practice measures and any necessary noise mitigation.

7.4.283 Potential noise and vibration effects are described in Section 6 of ES Appendix 13.3 Noise and Vibration Technical Note. The ES reports that, with the implementation of good practice measures, no significant effects have been identified for the following activities:

- traffic on the public highway during installation;
- vibration from vibratory compaction, vibration piling and drilling activity; and
- noise and vibration during operation of the pipeline

7.4.284 However, the ES does predict that there will be potential significant noise during installation and as a result a number of localised receptors may experience significant residual adverse noise effects, even with the application of noise reducing measures. However, these effects will be both temporary and short-term and will occur within the normal working hours unless by exception. An estimate of the number of receptors expected to experience significant short term noise, based on cautious precautionary calculations, is presented in ES Appendix 13.3 Noise and Vibration Technical Note.

7.4.285 The total number of properties with the potential to experience significant effects is considered small in relation to the overall scale of the installation activities (approximately 1% of the receptors in the study area adopted in the ES). As a result of the precautionary approach to assessment, it is expected that, in practice, the numbers of receptors potentially experiencing short-term significant noise effects would be lower than identified in the ES.

7.4.286 The commitment to agreeing a NVMP with the relevant planning authority (as part of the CEMP secured as DCO Requirement 6) will ensure that appropriate noise and vibration mitigation would be implemented during the works, resulting in the avoidance of significant effects on health and quality of life from noise, in accordance with paragraph 5.11.9 of NPS EN-1.

7.4.287 ES Appendix 13.3 Noise and Vibration Technical Note identifies the residual effects following application of the measures to be secured through the NVMP, as part of the CEMP secured by DCO requirement 5, assuming either a 5dB reduction or 10dB reduction is achieved. This is set out in Table 8.1 in ES Appendix 13.3 Noise and Vibration Technical Note.

Table 7.3: Estimated Number of Receptors Experiencing Noise Effects During Installation (Assuming Mitigation Measures Achieves a ‘Moderate’ Reduction of 5dB)

Receptor Group	Period	Magnitude of Change	Significance of Effect	Approximate Number of Receptors Expected to Experience Effect (rounded to nearest 5 receptors)	
				Residential	Other Community Receptors
Urban	Day	Large	Major, significant	<5	20
		Medium	Moderate, significant	285	65
		Small	Minor, not significant	260	105
Urban	Night	Large	Major, significant	45	<5
		Medium	Moderate, significant	90	5
		Small	Minor, not significant	320	10
Rural	Day	Large	Major, significant	10	<5
		Medium	Moderate, significant	30	<5
		Small	Minor, not significant	95	<5
Rural	Night	Large	Major, significant	0	0
		Medium	Moderate, significant	<5	0
		Small	Minor, not significant	10	0

Table 7.4: Estimated Number of Receptors Experiencing Effects During Installation (Assuming Mitigation Measures Achieve A ‘Good’ Reduction of 10dB)

Receptor Group	Period	Magnitude of Change	Significance of Effect	Approximate Number of Receptors Expected to Experience Effect (rounded to nearest 5 receptors)	
				Residential	Other Community Receptors
Urban	Day	Large	Major, significant	<5	<5
		Medium	Moderate, significant	<5	20
		Small	Minor, not significant	285	65
Urban	Night	Large	Major, significant	10	0
		Medium	Moderate, significant	35	<5
		Small	Minor, not significant	90	5
Rural	Day	Large	Major, significant	<5	<5
		Medium	Moderate, significant	<5	<5
		Small	Minor, not significant	30	<5
Rural	Night	Large	Major, significant	0	0
		Medium	Moderate, significant	0	0
		Small	Minor, not significant	<5	0

Summary



- 7.4.288 The NVMP will set out measures to reduce noise effects. The ES Chapter 17 Residual Effects predicts that a number of receptors may experience significant residual adverse noise effects during installation, potentially even with the application of noise reducing measures to be set out within the NVMP which will be agreed with the relevant local planning authority. The conclusion of ES Chapter 13 People and Communities is of no impact on health and quality of life.
- 7.4.289 The project is considered to accord with the policies relating to noise and vibration set out in section 5.11 of the NPS EN-1 and section 2.20 of NPS EN-4.

Socio-economic

- 7.4.290 Policy relating to socio-economic impacts, including assessment and mitigation requirements and decision-making criteria, is outlined in section 5.12 of NPS EN-1.
- 7.4.291 The effects of the project on people and communities are assessed in ES Chapter 13 People and Communities in accordance with paragraph 5.12.2 of NPS EN-1.
- 7.4.292 In compliance with paragraph 5.12.3 of NPS EN-1 and taking into account the Inspectorate's Scoping Opinion (2018) for the project, the socio-economic aspects of the assessment primarily relate to the potential impacts of the project on tourism.
- 7.4.293 As highlighted in NPS EN-1 paragraph 5.12.5, socio-economic impacts may be linked to others, for example air quality, landscape and visual, noise and vibration, and traffic and transport impacts. Further consideration of these is provided under the relevant chapters and appendices of the ES, and the relevant sub-headings within this chapter. Assessment of how these impacts could affect tourism is provided in ES Chapter 13 People and Communities.
- 7.4.294 With regard to paragraph 5.12.4 of NPS EN-1, relevant national, regional and local planning policy has been taken into account when considering the potential socio-economic impacts of the project. A desktop study has been carried out to identify the existing conditions and constraints in the area surrounding the proposed development and how the project relates to national and local planning policy. Furthermore, section 13.3 of ES Chapter 13 People and Communities provides a high-level overview of tourism in Hampshire and Surrey.
- 7.4.295 Section 13.2 of ES Chapter 13 People and Communities highlights that significant effects on employment and the local and national economies were scoped out of the ES. Nonetheless, as noted in Chapter 3, the Esso Fawley site directly employs over 1,000 people, with many more employed within the supply chain. Although the pipeline itself does not give rise to significant local employment, the pipeline transports aviation fuel whose refining and import does support considerable local employment.
- 7.4.296 Furthermore, during the construction of the proposed pipeline, there will be local economic benefits in the form of local employment and supply opportunities, although these may be limited in extent due to the relatively low level of temporary



employment associated with the project and the specialised nature of pipeline construction.

- 7.4.297 Regarding tourism, the ES reports that, overall, due to the temporary nature of the works and length of time of installation in any one location, no individual sections of the project are expected to experience significant disruption to local tourism receptors or to visitor numbers. No significant effects are, therefore, anticipated on the wider tourism sector.
- 7.4.298 In conclusion, no significant effects are predicted on tourism. While significant economic effects are not anticipated, the project will nonetheless have an important benefit on employment and the economy. As a result, the project is in accordance with the Government's policy in relation to socio-economic matters set out in para 5.12 of the NPS.

Summary

- 7.4.299 Overall, the ES reports that, following the implementation of good practice measures, no significant socio-economic impacts are predicted and, therefore, the project accords with the policies relating to socio-economics set out in section 5.12 of the NPS EN-1.

Traffic and Transport

- 7.4.300 Section 5.13 of NPS EN-1 outlines the Government's policy relating to the potential traffic and transport impacts of energy infrastructure development.
- 7.4.301 ES Chapter 13 People and Communities assesses the potential effects that could result from the construction and operation of the project on communities and tourism. This is supported by ES Appendix 13.1 Traffic and Transport Technical Note, which sets out the potential traffic and transport impacts of the project and residual effects.
- 7.4.302 In accordance with NPS EN-1 paragraph 5.13.3, the ES has been informed by a separate Transport Assessment (**application document 7.4**), which has been undertaken using the NATA/WebTAG139 methodology stipulated in Department for Transport guidance. The preparation of the assessment and DCO application has also included consultation with Highways England and Hampshire County Council and Surrey County Council as the Highways Authorities.
- 7.4.303 Air pollutants, such as emissions from vehicle exhausts and other sources, are considered in paragraphs 7.4.3 to 7.4.8 of this chapter whilst dust emissions are considered in paragraphs 7.4.58 to 7.4.67.
- 7.4.304 No additional transport infrastructure is proposed as part of the project, and as such paragraph 5.13.5 of NPS EN-1 is not considered relevant.
- 7.4.305 With regard to paragraph 5.13.10 of NPS EN-1, as the project comprises a cross-country pipeline, the majority of which is within predominantly rural areas of Hampshire and Surrey, road transport is the only feasible transport option for its construction. Logistics hubs will be used to manage construction traffic and



delivery of materials and resources, and Construction Traffic Management Plan(s) (CTMP(s)) will need to be prepared and submitted for the approval of the relevant highway authority, secured as DCO Requirement 7.

- 7.4.306 As set out in Chapter 3 of this Planning Statement and ES Chapter 4 Design Evolution, in selecting the pipeline corridor, and designing the replacement pipeline route, Esso has sought to route the pipeline so that it avoids complex or built-up areas where possible. Whilst it has not been possible to avoid built-up areas and local roads in some parts of the route, particularly from Farnborough north eastwards, due to key geographical constraints and engineering requirements, the design of the proposed route and the use of specialist trenchless techniques has sought to do this where practicable and in turn reduce traffic and transport impacts.
- 7.4.307 Good practice measures relating to transport are set out within the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the contractor's CEMP (DCO Requirement 6) and the CTMP (DCO Requirement 7).
- 7.4.308 Potential impacts on traffic and transport as a result of construction of the project, without ES mitigation, are reported in section 6 of ES Appendix 13.1 Traffic and Transport Technical Note. As the Transport Statement reports, operation and decommissioning of the proposed pipeline are not predicted to result in significant effects for transport.
- 7.4.309 The ES identifies that construction could potentially generate temporary transport effects on tourism, local communities and schools in urban areas. These would be of short duration and effects will be reduced through the measures set out in the REAC and secured through DCO requirements such as the CoCP, CEMP and CTMP (DCO Requirements 5, 6 and 7). The contractor will be required to operate safely and considerately through the CoCP and CEMP.
- 7.4.310 In accordance with section 5.13 of NPS EN 1 the project has assessed the traffic and transport implications of the proposals. While there will inevitably be some temporary disruption during construction, the implementation of good practice measures will reduce the effects to not significant.

Summary

- 7.4.311 Overall, the ES reports that following the implementation of good practice measures, no significant traffic or transport impacts are predicted and therefore the project accords with the traffic and transport policies set out in section 5.13 of NPS EN-1.

Waste Management

- 7.4.312 Government policy relating to waste is outlined in section 5.14 of NPS EN-1. Potential impacts on soils and geology are considered in paragraphs 7.4.351 to 7.4.352 of this chapter.
- 7.4.313 To minimise waste arisings and secure the responsible disposal of any waste material during construction, a Site Waste Management Plan (SWMP) will be



developed by the contractor(s) prior to construction as part of its CEMP, the implementation of which is secured by DCO Requirement 5. This includes the specific commitment that the contractor(s) would maintain and monitor the SWMP throughout the construction period and oversee that any sub-contractor(s) adheres to the SWMP. The SWMP forms part of the Outline CEMP available at ES Appendix 16.2 Outline CEMP (Annex D).

- 7.4.314 Engagement with the EA together with the permitting regime will secure the suitable disposal of any waste material. Any waste will therefore be properly managed both on and off-site, and dealt with appropriately at suitable waste management facilities.
- 7.4.315 As such, the project is in accordance with the policies relating to waste management set out in NPS EN-1.

Summary

- 7.4.316 Overall, the ES reports that following the implementation of good practice measures, the project accords with the waste management policies set out in section 5.14 of NPS EN-1.

Water Quality and Resources

- 7.4.317 Section 5.15 of NPS EN-1 outlines the assessment and mitigation requirements relating to water quality and resources, along with relevant decision-making considerations. Section 2.22 of EN-4 provides further policy relating to water quality and resources specifically for gas and oil pipelines.
- 7.4.318 In accordance with paragraphs 5.15.2 to 5.15.3 of NPS EN-1 and paragraphs 2.22.3 to 2.22.4 of NPS EN-4, ES Chapter 8 Water provides an assessment of the existing status of, and impacts of the proposed project on, water quality, water resources and physical characteristics of the water environment. This assessment focuses on five sub-topics:
- Groundwater quality and resource;
 - Surface water quality and resource;
 - Fluvial geomorphology (including hydromorphology);
 - Flood risk; and,
 - Water Framework Directive (WFD) Compliance Assessment.
- 7.4.319 A WFD Compliance Assessment has been prepared (see ES Appendix 8.6 Water Framework Directive Compliance Assessment). In line with Planning Inspectorate Advice Note 18, the WFD Compliance assessment is a separate assessment to the EIA, with conclusions summarised in ES Chapter 8 Water.
- 7.4.320 A Flood Risk Assessment has been undertaken (**application document 7.3**) as part of the application for development consent. Flood risk is considered in paragraphs 7.4.94 to 7.4.103 of this chapter.



- 7.4.321 The potential construction and operation impacts and significant effects (without mitigation) of the project relating to groundwater, surface water, fluvial geomorphology, and WFD compliance, are outlined in section 8.5 of ES Chapter 8 Water, and where relevant in the section-specific chapters of this Planning Statement.
- 7.4.322 As noted in ES Chapter 8 Water, the appointed contractor(s) undertaking the construction work will be required to meet all relevant legislative and regulatory requirements, and the measures and commitments contained in the REAC and secured through DCO requirements such as the CoCP and the contractor's CEMP (DCO Requirement 5 and 6). As such, the project will comply with the relevant requirements highlighted in NPS EN-1 paragraph 5.15.4 and section 4.10. This will also ensure compliance with the policy in NPS EN-1 paragraph 5.15.9 in relation to good pollution control practice.
- 7.4.323 The ES reports that there are no likely significant effects identified for surface water quality or on fluvial geomorphological receptors, from construction or operation of the project. Therefore, no specific mitigation is required.
- 7.4.324 Additional mitigation to address the effects from construction and operation of the project on groundwater is outlined in section 8.6 of ES Chapter 8 Water.
- 7.4.325 Following the implementation of the additional mitigation measures described in section 8.6 of ES Chapter 8 Water, no likely significant residual effects on groundwater are forecast for the construction and operational phase.
- 7.4.326 Construction and operational good practice measures required to achieve WFD compliance are covered in detail in the WFD Compliance Assessment (ES Appendix 8.5 Potential Effects on Groundwater).
- 7.4.327 The WFD Compliance Assessment (ES Appendix 8.6 Water Framework Directive Compliance Assessment) has concluded that at a WFD water body scale, there will be no significant effects arising from the construction or operation of the project. The project is therefore compliant with the WFD legislation and will not have an adverse effect on the achievement of the environmental objectives established under the WFD.
- 7.4.328 In light of the ES conclusions, the project is therefore in accordance with the policies relating to water quality and resources in section 5.15 of the NPS EN-1.

Summary

- 7.4.329 Through the implementation of good practice measures set out in the REAC and secured through DCO requirements such as the CoCP and CEMP (DCO Requirements 5 and 6), no residual significant impacts are predicted on water quality and resources and, therefore, the project accords with the water quality and resources policies set out in section 5.15 of the NPS EN-1 and section 2.22 of NPS EN-4.



Soil and Geology

- 7.4.330 Policy relating to the impacts on and from geology and soil are outlined in section 5.3 of NPS EN-1 and section 2.23 of NPS EN-4.
- 7.4.331 ES Chapter 11 Soils and Geology assesses the impact of soils and geology from the project. This includes an assessment of impacts relating to minerals and land contamination risk. This assessment has been undertaken consistent with the approach in paragraph 2.23.2 of NPS EN-4. Minerals are considered in paragraphs 7.4.218 to 7.4.225 of this chapter.
- 7.4.332 A desk-based assessment of soils and geology has been undertaken, supported by site walkovers and surveys. Data have also been collected as part of ongoing ground investigation (GI) for the project (see ES Appendix 11.1 Soils and Geology Supporting Information, for further information). The GI includes the drilling of boreholes, collection of soil and groundwater samples for chemical analysis, and soil gas and groundwater level monitoring.
- 7.4.333 Effects associated with unstable ground and aggressive contaminants affecting the integrity of the pipeline are not assessed as part of the EIA, as these effects have been addressed in the engineering design development. The design and proposed route of the pipeline have been developed to avoid or withstand these effects.
- 7.4.334 As section 11.4 of ES Chapter 11 Soils and Geology highlights, the project has been carefully designed to avoid sensitive features, including designated sites and authorised and historic landfills.
- 7.4.335 In accordance with paragraph 2.23.4 of NPS EN-4, consultation and engagement relating to soils and geology has been undertaken with statutory consultees including the Environment Agency, and Surrey County Council and Hampshire County Council as minerals and waste planning authorities. Further detail regarding consultation is provided in ES Chapter 5 Consultation and Scoping and the Consultation Report (**application document 5.1**) submitted as part of the application.
- 7.4.336 An overview of the design evolution is included within Chapter 3 Scheme Development; and ES Chapter 4 Design Evolution, which provides a full description of alternatives considered for the replacement pipeline, including the 'Do Nothing' scenario, alternatives to the project and alternative corridors and route designs. Key considerations for development of the route included ground stability and avoiding designated sites, waterlogged areas, and historic extraction/landfill areas.
- 7.4.337 The project team has carefully considered the impacts of different means of installation of the pipeline along the route throughout the development of the design of the project. This has included consideration of the use of specialist trenchless techniques such as auger bore and horizontal directional drilling. Where these specialist techniques have been considered, investigation of whether geological conditions are likely to be suitable has been undertaken, including through borehole investigations. A description of proposed trenchless crossings



along the route is included as ES Appendix 3.1 List of Trenchless Crossings. This includes consideration of trenchless technique options where uncertainty remains over the exact method.

- 7.4.338 As set out in Chapter 4 Project Description and ES Chapter 3 Project Description, land will be reinstated following construction. The working width would be cleared, any subsoil reinstated and loosened, and topsoil re-laid and seeded as required. Where possible, reinstatement of vegetation would generally be using the same or similar species to that removed (subject to restrictions for planting over and around pipeline easements).
- 7.4.339 A method statement would be produced for stripping, handling, storage and replacement of all soils to reduce risks associated with soil degradation. This would include:
- identification of appropriate plant to strip, reinstate and otherwise handle soils;
 - methods for compaction and grading of stockpiles;
 - methods for working in naturally wet soils; and
 - specification of appropriate decompaction measures to be used during reinstatement.
- 7.4.340 Good practice measures are set out within the REAC, and secured through DCO requirements such as the CoCP and contractor's CEMP (DCO Requirements 5 and 6). Key good practice measures relevant to soils and geology are listed in Table 11.6 of ES Chapter 11 Soils and Geology. These are applicable to all areas unless stated otherwise. The assessment of impacts on soils and geology is based on these commitments being in place.
- 7.4.341 As such, consideration of ground conditions has been integral to the design development of the project, in accordance with the assessment requirements set out in paragraphs 2.23.2 to 2.23.4 of NPS EN-4. The consideration of alternative routes and design refinements is explained in ES Chapter 4 Design Evolution.
- 7.4.342 Section 11.5 of ES Chapter 11 Soils and Geology reports the potential impacts on soils and geology from the project, without additional mitigation.
- 7.4.343 Soils could be affected due to stripping, handling and storage associated with the project. The ES reports that a minor adverse impact is predicted to occur across identified soil receptors within the Order Limits.
- 7.4.344 However, this is considered to be a temporary impact because the quality of the soils should recover over the short duration following adherence to the good practice measures within the REAC. The quality of the majority of soils is likely to recover over a short period, considering both the good practice measures and the generally short duration over which soils would be temporarily displaced.
- 7.4.345 With regard to impacts on geology, the study area for geology is limited to the area of the Water Lane SINC, which is designated in part for its geology. The area of the site potentially affected by the project is limited to the nominal 10m wide working area of the Order Limits. The proposal is for the pipeline to be trenched in



this area. Trenching would have a very short-term impact on the geological site during installation. When reinstated to the current ground conditions in accordance with the REAC, it will have a negligible medium to long-term impact on the character of the geological site.

- 7.4.346 With respect to land contamination, ES Chapter 11 Soils and Geology states that the pipeline route crosses a number of landfill sites and other potentially contaminative land uses. The potential exists for contaminated waste, soils, gas, vapour and shallow groundwater to be exposed during installation. These may pose a risk to construction workers and adjacent land users if not managed appropriately. However, the good practice measures contained within the REAC, secured by DCO requirements such as the CoCP (DCO Requirement 5), will reduce the risks to human health and, therefore, no impact will occur.
- 7.4.347 The ES Chapter 11 Soils and Geology also reports that the pipeline installation could potentially result in contamination impacts to groundwater. However, for all identified contaminated sites, the measures contained within the REAC, the implementation of which are secured by DCO Requirements such as the CoCP and CEMP (DCO Requirements 5 and 6), will mitigate the identified risks to groundwater. As such, no further assessment has been undertaken as no impact would occur.
- 7.4.348 Overall, the ES indicates that there are no significant impacts expected on soils and geology. Therefore, no additional mitigation measures are required.
- 7.4.349 As there are no significant impacts identified as requiring ES mitigation, there are, in turn, no significant residual impacts on soils and geology during construction or operation of the project.
- 7.4.350 In light of the assessment, good practice measures and conclusions of the ES, it is clear that any adverse effects on soils and geology will be to an acceptable level given the overriding need for the project. The design and proposed route of the pipeline has been developed to avoid or withstand adverse effects on the integrity of the pipeline. The project therefore accords with the requirements of section 2.23 of NPS EN-4 relating to soils and geology.

Summary

- 7.4.351 Through the implementation of good practice measures set out in the REAC and secured through DCO requirements such as the CoCP and CEMP (DCO Requirements 5 and 6), no significant impacts are predicted on soil and geology and therefore the project accords with the soil and geology policies set out in section 5.3 of the NPS EN-1 and section 2.23 of NPS EN-4.

7.5 Other Policy Considerations

- 7.5.1 Whilst the NPSs are the primary basis for development consent decision making, Chapter 6 of this document identifies that other policy considerations may be important and relevant to a decision on the application. This includes other national policy and relevant regional and local planning policy as set out in sections 6.8, 6.9 and 6.10 of Chapter 6 Planning Policy Context.



- 7.5.2 Having taken into account and reviewed national, regional and local policy throughout the design and development of the project, it is considered that overall the project is in general accordance with relevant planning policy. This includes the relevant policies within the list of local development plans in Table 6.1 of Chapter 6 of the Planning Statement.

7.6 Policy Conclusions

- 7.6.1 As this chapter has shown, the project accords as far as is relevant and practicable with Government policy set out in the two NPSs relevant to the project. The project is clearly supported by the NPSs, with NPS EN-1 highlighting the '*significant need*' for this type of oil pipeline infrastructure, and the '*presumption in favour of granting consent to applications for energy NSIPs*'.
- 7.6.2 The project has sought to avoid and reduce impacts on people, communities and the environment through careful, iterative design and development of the project, consultation and engagement with stakeholders and the community, and proposals for good practice and mitigation measures.
- 7.6.3 In the few matters where there is some limited conflict with planning policy, it is considered that the overriding need for the project, set out in Chapter 2 Statement of Need, would outweigh any conflict between the project and policy. This is considered further in Chapter 18 of this Planning Statement - Overall Planning Balance and Conclusions.

7.7 Section-specific Planning Assessments

- 7.7.1 Chapters 8–15, which follow, provide further consideration of the NPS policy headings for the different sections of the route. Each section-specific chapter is designed to be read as a standalone assessment, and therefore key points may be repeated where relevant.



8 Planning Assessment – Section A – Boorley Green to Bramdean

Key points:

- Replacement pipeline accommodates new development at Boorley Green;
- New pigging station proposed in Section A;
- Order Limits cross into the South Downs National Park.

8.1 Introduction

- 8.1.1 The route is divided into geographical sections in the application. This chapter provides a planning assessment for Section A of the route from Boorley Green (south of Maddoxford Lane) to Bramdean (including A272 crossing) in Hampshire. Sections B to H of the route are covered in Chapters 9 to 15 respectively.
- 8.1.2 It considers the acceptability of the project against the policies set out in Chapter 6 Planning Policy Context and identifies where matters relevant to specific National Policy Statement (NPS) EN-1 and NPS EN-4 policy headings arise and sets out the measures required to mitigate the identified impacts.
- 8.1.3 This chapter provides further consideration of the NPS policy headings for Section A of the route and is designed to be read as a standalone assessment. Key points from Chapter 7 Planning Assessment: Project-wide may, therefore, be repeated within this section where relevant.
- 8.1.4 This chapter sets out the following for route Section A:
- Section 8.2: Overview of the route section, development proposed and its method of construction;
 - Section 8.3: Overview of Section A refinement;
 - Section 8.4: Identification of relevant Planning Authorities;
 - Section 8.5: Identification of key environmental and planning designations within Order Limits;
 - Section 8.6: Relevant planning history;
 - Section 8.7: Overview of Section A against NPS EN-1 Assessment Principles (using the relevant subject headings from EN-1);
 - Section 8.8: Generic Impacts in Section A (NPS EN-1 and NPS EN-4 where stated); and
 - Section 8.9: Conclusions on Planning Assessment of Section A.

8.2 Overview of this Section

Route Description

- 8.2.1 Section A (Planning Statement Figure 4.1, Sheets 1 – 4) is located within largely rural areas. It spans Eastleigh Borough Council and Winchester City Council administrative areas.
- 8.2.2 Section A is approximately 20km (12 miles) long and starts just south of Maddoxford Lane to the east of Boorley Green, in Eastleigh Borough. The route heads east alongside Maddoxford Lane before crossing Maddoxford Lane and heading north across open land, then crossing Ford Lake.
- 8.2.3 The section then crosses the B2177 between Bishop's Waltham and Upham, where it enters the South Downs National Park (SDNP). The route diverts away from the existing pipeline to avoid the chalk grassland and established vegetation areas at Stephen's Castle Down. The route passes Joan's Acre Wood, then passes the village of Bramdean, before this section ends just after crossing the A272.

Sub-options in Section A

- 8.2.4 In this section there is one part of the route in the area around Hinton Ampner that still includes sub-options.
- 8.2.5 There are two sub-options just east of Joan's Acre Wood, designed to take account of sites of environmental and cultural importance in the area, including the Hinton Ampner National Trust estate and Brockwood Park:
- The **A2a** sub-option passes Joan's Acre Wood, avoiding Brockwood Copse and Roadside Strips Site of Importance for Nature Conservation (SINC) before heading northwest past Malthouse Plantation. This option is routed through the Hinton Ampner National Trust estate.
 - The **A2b** sub-option passes underneath Brockwood Copse and Roadside Strips SINC (a trenchless crossing) before heading northwest past The Firs and Godwin's Plantation. The eastern option is routed around the Hinton Ampner National Trust estate. It then re-joins the western sub-option.
- 8.2.6 The A2a and A2b sub-options can be seen on Illustration 8.2 in this Chapter. It is proposed that the project will commit to one of these sub-options during the examination of the application for development consent, and request that the other be withdrawn. Both sub-options are described and assessed in the application documentation.

Use of Trenchless Installation Techniques

- 8.2.7 Trenchless installation techniques are proposed to be used for the following crossings:
- TC 001 – Ford Lake: A trenchless crossing will be used to minimise disruption to the river and its habitats;



- TC 002 – Stakes Lane: A trenchless crossing is proposed under this rural road to avoid traffic disruptions, based on feedback from the Hampshire Highways Authority;
- TC 003 – Riversdown Road (sub-option A2b only): A trenchless crossing under this rural road is proposed to avoid impacts on ancient woodland and a SINIC on either side of this road; and
- TC 004 – A272 between Bramdean and Petersfield: A trenchless crossing will be used to avoid the need to close this main road between Bramdean and Petersfield.

Above Ground Infrastructure

- 8.2.8 Above Ground Infrastructure (AGI) in Section A comprises a pigging station near Boorley Green and valves, as set out under the following headings, together with a cathodic protection cabinet, pipeline markers and flight marker posts as set out in Chapter 4 Project Description.

Pigging Station near Boorley Green

- 8.2.9 The existing pipeline is 10 inches internal diameter, whereas the replacement pipeline will be 12 inches internal diameter. A new pigging station is therefore required to enable maintenance and inspection of the larger diameter pipeline. The pigging station will contain valves, a Pipeline Inspection Gauge receiver and a Pipeline Inspection Gauge launcher. A full description of the pigging station is provided in Chapter 4 Project Description.
- 8.2.10 The new pigging station will be located southwest of Netherhill Lane between Boorley Green and Durley. From the connection to the existing pipeline south of Maddoxford Lane to the pigging station, the replacement pipeline will be 10 inches internal diameter. North of the pigging station to the West London Terminal storage facility the replacement pipeline will be 12 inches internal diameter.

Valves

- 8.2.11 There are three valves located within Section A:
- Valve 1: Boorley Green Pigging Station, northeast of Boorley Green;
 - Valve 2: Cross Lane, northwest of Bishop's Waltham; and
 - Valve 3: Betty Mundy's Cottage access track, northwest of Exton.
- 8.2.12 Further details on the valves are set out in Chapter 4 Project Description.

11 Construction

- 8.2.13 Details of the construction method, construction schedule and reinstatement are set out in Chapter 4 Project Description.

Crossings

- 8.2.14 The following river and watercourse crossings are required:

- Ford Lake (WCX 002a) – trenchless construction;
- Unnamed watercourse 2 (WCX 003) – open cut construction;
- Unnamed watercourse 4 (WCX 005) – open cut construction;
- Unnamed watercourse 5 (WCX 006) – open cut construction; and
- Unnamed watercourse 6 (WCX 007) – open cut construction.

8.2.15 The following road crossings are required in this section:

- Maddoxford Lane (RDX 001a) – open cut construction;
- Road linking Heathen Street and Nether Hill Lane (RDX 003) – open cut construction;
- Gregory Lane (RDX 004) – open cut construction;
- Mincingfield Lane/Manor Road (RDX 005) – open cut construction;
- Wintershill (RDX 006) – open cut construction;
- Winchester Road (B2177) (RDX 007) – open cut construction;
- Cross Lane (RDX 008) – open cut construction;
- Peak Lane (RDX 009) – open cut construction;
- Bigpath Lane (RDX 010) – open cut construction;
- Belmore (RDX 011) – open cut construction;
- Stakes Lane (RDX 012) – trenchless crossing;
- Lower Preshaw Lane (RDX 013) – open cut construction;
- Wheely Down Farm Lane (RDX 014) – open cut construction;
- Kilmeston Road (RDX 015) – open cut construction;
- Brockwood Bottom – (Option A2a) (RDX 016) – open cut construction; or
- Riversdown Road – (Option A2b) (RDX 016a) – open cut construction; or
- Riversdown Road – (Option A2b) (RDX 016b) – trenchless crossing; and
- Petersfield Road - A272 (RDX 017) – trenchless crossing.

8.2.16 Street works, temporary construction access and Public Rights of Way (PRoW) diversions for Section A are shown on Access and Rights of Way Plan sheets 1 to 11 (**application document 2.5**).

Construction Compounds

8.2.17 There are 10 construction compounds along Section A of the pipeline route located at:

- Maddoxford Lane (compound no. 4A);
- Gregory Lane South (compound no. 4B);
- Gregory Lane North (compound no. 4C);



- East of Wintershill (compound no. 4D);
- North of Winchester Road (compound no. 4E);
- Stakes Lane (compound no. 4F);
- Kilmeston Road South (compound no. 4G);
- Kilmeston Road North (compound no. 4H);
- Riversdown Road East (sub-option A2a – see paragraphs 8.3.11 to 8.3.12 and Illustration 8.2) (09a) or Riversdown Road West (sub-option A2b) (4I); and,
- A272 South (compound no. 4J).

Logistic Hubs

- 8.2.18 There are no logistic hubs within Section A. Construction within this section will be served by the two proposed logistics hubs in Section B, near the A31 in Ropley Dean and to the south of Alton.
- 8.2.19 Further details regarding the logistics hubs are set out in Chapter 4 Project Description.

Narrow Working

- 8.2.20 There is one area of narrow working in Section A. This will reduce the width of the open cut trench construction north of Mincingfield Lane (NW1). This approach involves the contractor(s) using less space than standard working width due to localised constraints, such as working in roads or sensitive areas.

8.3 Overview of Section Refinement

- 8.3.1 The overall approach to design development and route refinement is set out in Chapter 3 Scheme Development, and in further detail in ES Chapter 4 Design Evolution. The following sub-headings outline key considerations relating to corridor selection, sub-option selection and specific design refinements which have influenced the design development of Section A of the route.

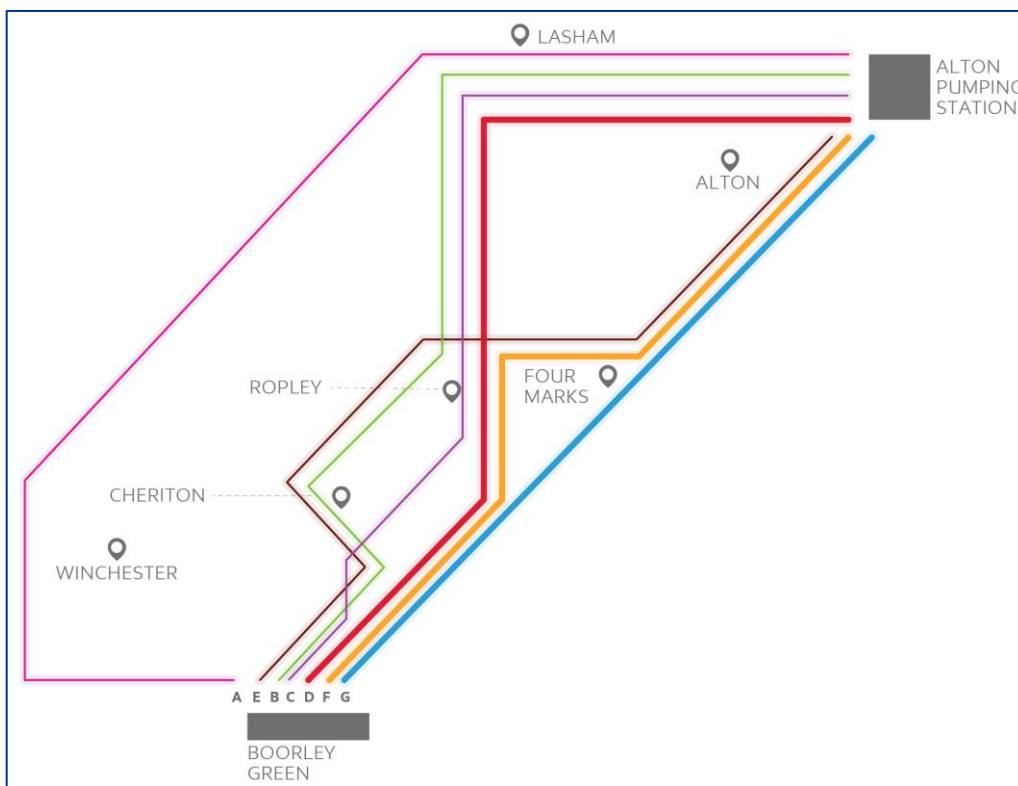
Corridor Selection

- 8.3.2 Chapter 3 of this Planning Statement outlines the evolution of the project, a long list of corridor options for the route of the replacement pipeline were identified and considered. A sifting process was carried out based on environmental, planning and engineering factors. Illustration 8.1 shows the corridor options North of Alton. These corridor options were the subject of non-statutory consultation, supported by the document 'Replacement Pipeline Corridor Consultation: Securing aviation fuel supplies in South East England'.
- 8.3.3 Through the design development of the project, a number of corridor options (see Illustration 8.1) were reduced to a single preferred corridor, which informed the selection of a preferred route for Section A of the replacement pipeline. Given the national significance of the South Downs National Park (SDNP), and NPS EN-1 policy relating to its protection (NPS EN-1 5.9.10), this included a corridor option

which avoided the SDNP by passing to the west of Winchester (corridor A) and alternative corridor options through the SDNP (corridors B to G).

8.3.4 The consideration of these corridor options against national policy for the protection of the SDNP is set out in Chapter 7 Planning Assessment: Project-Wide (paragraphs 7.4.170 to 7.4.190). Following the Corridor Options consultation, corridor G, which was partly within the SDNP, was selected as the preferred corridor. This informed the selection of the preferred route. Details of all consultations undertaken are presented in the Consultation Report (**application document 5.1**).

Illustration 8.1: Longlist Corridor Options – South of Alton



Sub-option Selection and Design Refinement

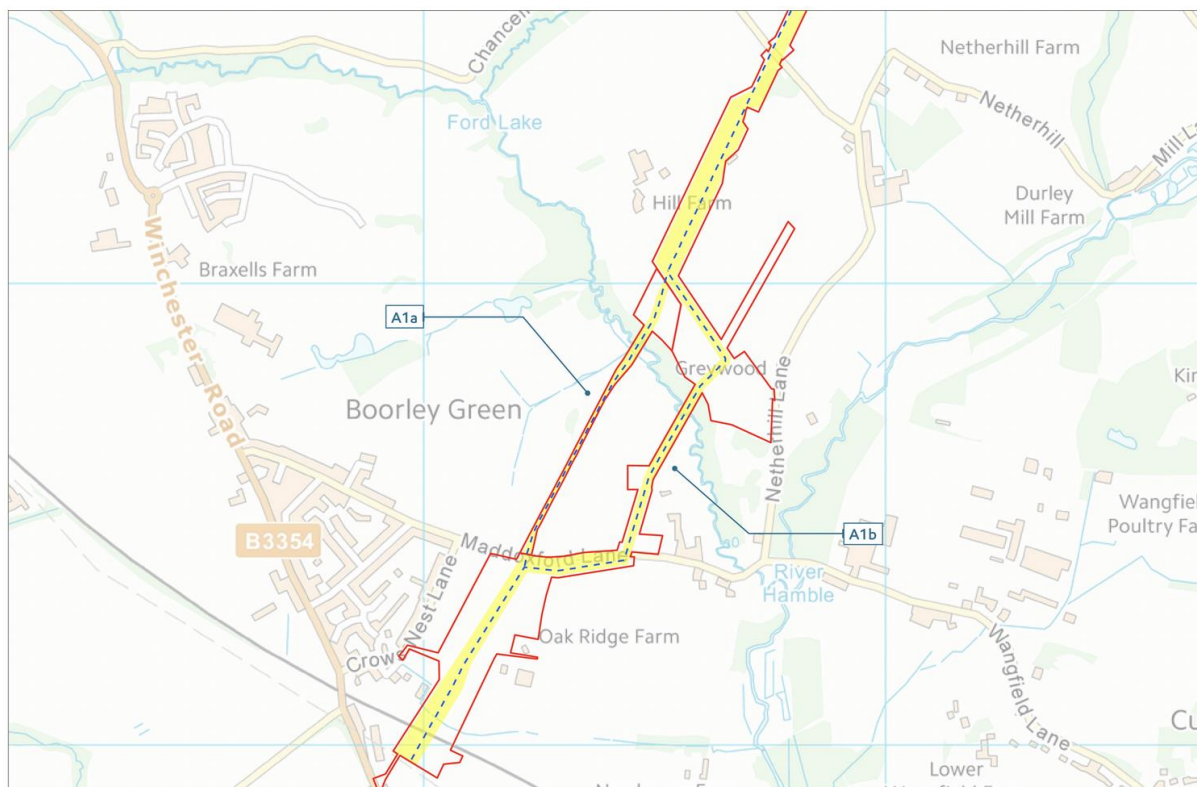
8.3.5 As part of statutory consultation on the preferred route, route sub-options were considered at two locations in Section A as identified in Table 8.1.

Table 8.1: Sub-options Selected for Section A

Sub-option	Main Reasons for Sub-option Selection
A1a and A1b Boorley Green	A1b was selected as it takes into consideration residential development proposals around Maddoxford Lane.
A2a and A2b Hinton Ampner	Both options have been taken forward and both options have been assessed within the ES, as further detailed engagement is required with local landowners and other stakeholders along the two sub-options to help establish the most appropriate pipeline route. It is proposed that the project will commit to one of these sub-options during the examination of the application for development consent, and request that the other be withdrawn.

8.3.6 Sub-options A1a and A1b at Boorley Green are shown in Illustration 8.2. These sub-options were considered in order to identify a route through the Boorley Green area.

Illustration 8.2: A1 Sub-options – Boorley Green



8.3.7 Having regard to feedback received during statutory consultation on the preferred route and engagement with affected landowners and developers, sub-option A1b was selected, taking into consideration the major residential development north and east of Boorley Green on the former golf course, which is currently under construction. The crossing of the river (Ford Lake) will be by trenchless construction and will, therefore, avoid conflict with the north and east of the Boorley Green development.

8.3.8 Sub-option A1b will also provide greater accessibility for trenchless installation of the pipeline than sub-option A1a. It will also be safer, as sub-option A1a was located underneath the existing pipeline alignment which would make it more difficult to maintain once the pipeline is operational.

8.3.9 Following statutory consultation, the Order Limits extending further to the south of Maddoxford Lane at Boorley Green were removed from the project as it was identified that they were no longer required. This also removed a potential conflict with development allocations and planning application sites in the area, including at Crows Nest Lane and north and east of Winchester Street.

8.3.10 The Development Consent Order (DCO) Limits and Limits of Deviation at Maddoxford Lane still intersect with areas of planned and potential future development as identified in Table 8.4. Through consultation and engagement with landowners and developers, the project has sought to reduce any potential conflict

with allocated and committed development. Engagement with landowners and developers will continue ahead of and during the construction of the project, seeking to reduce any potential disruption to other planned developments through both detailed design and timing of implementation.

8.3.11 The locations of the pigging station and valve at Hill Farm near Boorley Green were selected following a series of engagement with the landowner and consideration of a number of options by the design team. The location of the pigging station was limited by a number of factors including:

- the location should be as close to the start of the replacement pipeline as practicable;
- locations south of Ford Lake were not viable due to a conflict with residential development proposals;
- two locations north of Ford Lake were considered unacceptable due to visual impacts; and
- the need to limit impacts upon ecological receptors and priority habitats.

8.3.12 Sub-options A2a and A2b at Hinton Ampner are shown in Illustration 8.3. These two sub-options just east of Joan's Acre Wood were designed to take account of sites of environmental and cultural importance in the area.

Illustration 8.3: A2 Sub-options – Hinton Ampner



8.3.13 As previously noted, both sub-options are included within the application for development consent, and the project will commit to one during the examination of the application, and request that the other be withdrawn. The decision will follow further detailed engagement with local landowners along the two sub-options to help establish the most appropriate pipeline route. Selection of a sub-option will take into account concerns raised around potentially impacting National Trust land, along with strong feedback from other stakeholders in favour of passing through its land.



8.4 Relevant Planning Authorities

8.4.1 The relevant Planning Authorities for Section A are:

- Eastleigh Borough Council;
- Winchester City Council;
- South Downs National Park (SDNP) Authority (Planning Authority for all land within the SDNP); and
- Hampshire County Council (Minerals and Waste Planning Authority and Highways Authority).

8.4.2 Details of the relevant Planning Authorities' adopted and emerging plans together with a list of the policies relevant to the consideration of the project can be found in Chapter 6 Planning Policy Context and will form part of Statements of Common Ground (SoCG) with the relevant planning authorities.

8.5 Key Environmental and Planning Designations Within the Order Limits

8.5.1 The relevant adopted Local Plans for Section A are as follows:

- Outside the SDNP:
 - Eastleigh Borough Local Plan: Review (2001-2011) – to be replaced by emerging Eastleigh Borough Local Plan (2016-2036);
 - Winchester District Local Plan Part 1 – Joint Core Strategy (2013) – to be replaced by Winchester City Council – Local Plan 2036;
 - Winchester District Local Plan Part 2 – Development Management and Site Allocations (2017); and
 - Hampshire Minerals and Waste Plan (2013).
- Within the SDNP:
 - Saved policies in the Winchester District Local Plan Review (2006) - to be replaced by emerging South Downs Local Plan (2017) for area of district in SDNP;
 - Winchester District Local Plan Part 1 – Joint Core Strategy (2013) - to be replaced by emerging South Downs Local Plan (2017) for area of district in SDNP; and
 - Hampshire Minerals and Waste Plan (2013).

Eastleigh Borough Council

8.5.2 Section A starts at Boorley Green in Eastleigh Borough, in an area currently designated as countryside, but likely to soon be superseded by two separate housing allocations (DM24) (each with outline planning consent) within the emerging Eastleigh Borough Local Plan (2016-2036) for 1,400 and 50 houses respectively. Beyond the housing allocations, Section A crosses the Maddoxford Farm Meadows SINC (DM11).



Winchester City Council

- 8.5.3 After approximately 0.6km, the Order Limits enter the Winchester City Council area, into a rural area designated as countryside under policy MTRA4 of the Winchester District Local Plan Part 1 – Joint Core Strategy (2013), before entering the SDNP to the west of Bishop’s Waltham, outside of the urban settlement boundary.

South Downs National Park Authority

- 8.5.4 The remainder of Section A is located within the SDNP and is entirely designated as countryside (under policy MTRA4 in the Winchester Local Plan Part 1 – Joint Core Strategy (2013), until policy SD25 in the emerging South Downs Local Plan is adopted), with the Order Limits not passing through any other planning policy designations. The Order Limits have been carefully designed to avoid most local plan designations, including areas designated as a SINC, but there are four SINC within 10m of the Order Limits: Stephen’s Castle Down (East), Lomer Rows, Joan’s Acre Wood and Brockwood Copse and Roadside Strips (sub-option 2b only).
- 8.5.5 The Order Limits also cross the South Downs Way National Trail, just south of Wheely Down Farm Lane, approximately 3km west of Warnford, whilst the Order Limits for sub-option A2a pass through parcels of land owned by the National Trust at Hinton Ampner. The sub-option A2b Order Limits avoid National Trust owned land.

Hampshire County Council

- 8.5.6 The Order Limits of Section A intersect parts of the Hampshire Minerals and Waste Consultation Area from the start of the section south of Maddoxford Lane until the north west of Bishops Waltham, south of Cross Lane. This includes areas safeguarded for superficial soft sand and gravel, soft sand, and brick clay. There are no other minerals and waste designations within the Order Limits of Section A.

8.6 Relevant Planning History Within the Order Limits

- 8.6.1 Table 8.2 identifies the relevant planning history for planning permissions within the Section A Order Limits.

Table 8.2: Relevant Planning history within Section A Order Limits

Local Planning Authority	Key Developments
Eastleigh	<u>Land North and East of Boorley Green</u> Outline permission for 1,400 dwellings (O/12/71514) with associated reserved matters permissions (R/14/74872, R/15/77552 and R/16/79470): A small part of the consented area is within the Order Limits. However, this is a balancing pond area and will be crossed using trenchless techniques in order to manage impacts.
Eastleigh	<u>Land South of Maddoxford Lane, Boorley Green</u> Outline permission for up to 50 dwellings (O/16/79600): The northern part of the permitted area is within the Order Limits.
Winchester	<u>Brown Heath Park, Durley</u> Demolition of existing barn, erection of new indoor sand school incorporating stabling and horse welfare facilities (18/02112/FUL) – approved: The permitted area is within the Order Limits and the driveway falls within the Order Limits. The consented buildings are however outside of the Order Limits.
Winchester	<u>Woodlea Nurseries, SO32 2AH</u> Mixed use of agriculture, importation of wood and processing into logs, erection of wood store (18/00064/LDC) – approved: The Order Limits cross the access into this site. However, the Limits of Deviation avoid the site access following a consultation response from the landowner.

8.6.2 Table 8.3 identifies the undetermined planning applications within the Section A Order Limits.

Table 8.3: Undetermined Planning Applications within Section A Order Limits.

Local Planning Authority	Undetermined Planning Applications
Eastleigh	<u>Land South of Maddoxford Lane, Boorley Green</u> A reserved matters application (RM/19/84879) has been submitted as part of O/16/79600 but not yet determined. No new dwellings are proposed within the Order Limits. However, access roads, a balancing pond, landscaping and a local equipped area of play are shown within the Order Limits. Discussions with the applicant are continuing.
Eastleigh	<u>Land South of Maddoxford Lane, Boorley Green</u> Application for full planning permission for 86 dwellings (F/19/84937) has been submitted as part of O/16/79600 but not yet determined. The application is for the same area as given outline permission by O/16/79600. The site layout plan submitted with the application shows part of a residential curtilage, internal access roads, a balancing pond and landscaping within the Order Limits.
Eastleigh	<u>Land to the south of Maddoxford Lane and west of Westfield, Boorley Green, Botley, SO32 2DB</u> Full planning application for the construction of 104 dwellings and the creation of new vehicular access with footways from Maddoxford Lane; (F/19/85178). This application includes area allocated in emerging Eastleigh Borough Local Plan 2016-2036.
Winchester	<u>Durley Manor Farm, Manor Road, Durley, Hampshire</u> Application to demolish existing derelict farm buildings; and erect a new livestock building, covered manure store, silage clamp, a principal farmhouse,



	new landscaping and associated works (18/02928/FUL) - not yet determined. Proposed dwelling is located to the west of the Order Limits.
South Downs	<u>Land to The East of Bramdean Farm, Petersfield Road, Bramdean, Alresford, SO24 0LR</u> Proposed Agricultural Grain Store, Agricultural Building and Associated Infrastructure (Inclusive of Hardstand, Attenuation Pond and Landscaping) (SDNP/18/03404/FUL) – Refused – Time period for appeal submission not yet expired: Within Order Limits, but proposed buildings are about 30m from pipeline. Order Limits cross access road.

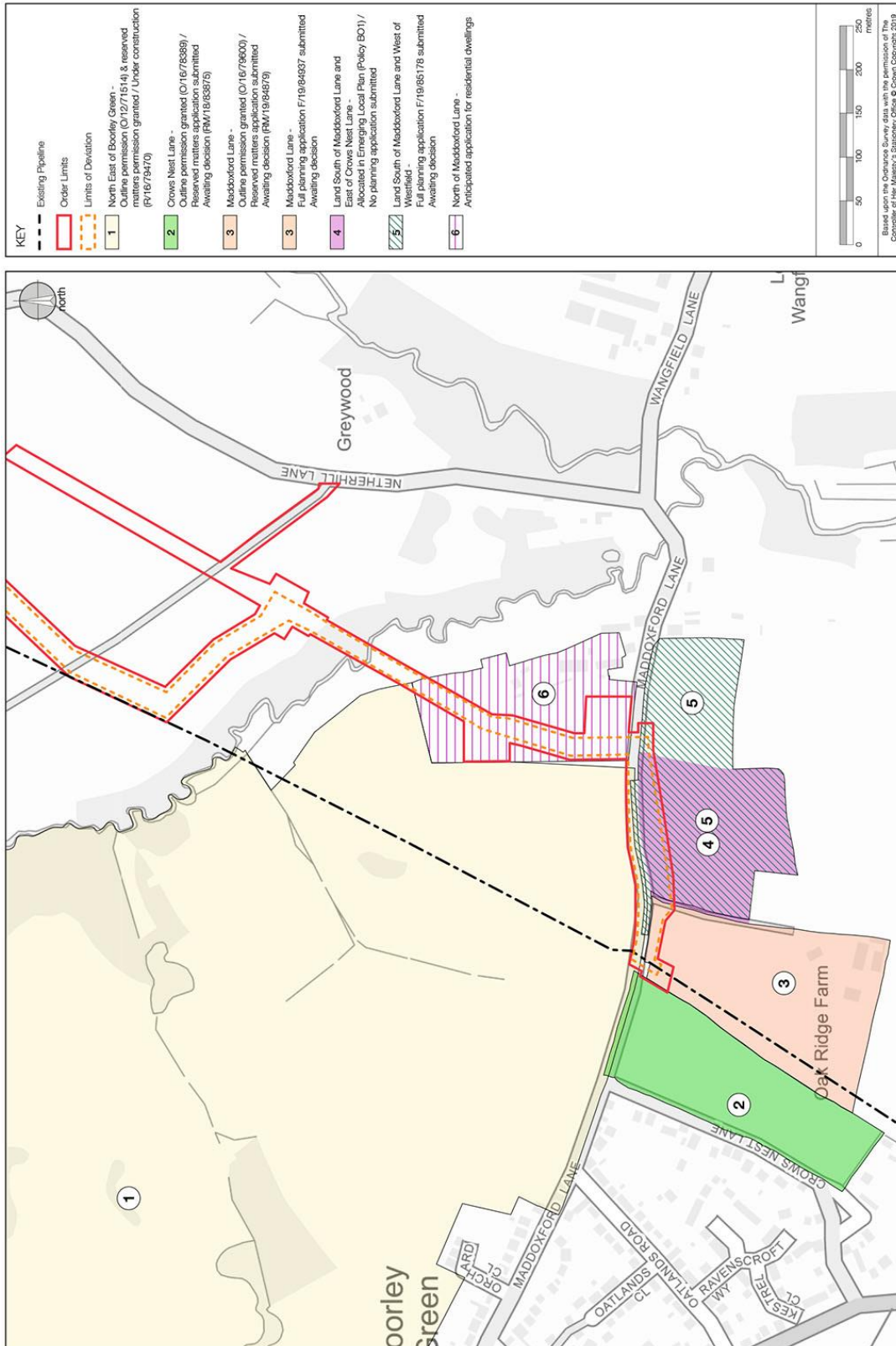
8.6.3 Table 8.4 identifies any development proposals or Local Plan allocations (where a planning application has not yet been submitted or approved) within the Section A Order Limits.

Table 8.4: Development Proposals or Allocations within Section A Order Limits.

Local Planning Authority	Development Proposals or Allocations
Eastleigh	<u>Land North of Maddoxford Lane, Boorley Green</u> Anticipated planning application for residential dwellings.

8.6.4 The application boundaries and how they are located with respect to the Order Limits are shown on Illustration 8.4.

Illustration 8.4: Proposed Development Areas at Maddoxford Lane, Boorley Green



8.7 Assessment Principles (NPS EN-1 Part 4)

8.7.1 This part of the assessment considers the acceptability of Section A of the project against the assessment principles from Part 4 of NPS EN-1, as set out in section



7.3 of Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise relating to Section A that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with the project.

8.7.2 Table 8.5. sets out the Assessment Principles that are addressed in Chapter 7 Planning Assessment: Project-wide. Other Assessment Principles are assessed in the subsequent section identifying where the assessment is in this chapter.

Table 8.5 Assessment Principles addressed in Chapter 7 Planning Assessment: Project-wide

Assessment Principles NPS (EN-1 Part 4)	Chapter 7 Planning Assessment: Project-wide Relevant Paragraphs
<u>Alternatives</u> Section 4.4 requires alternatives to the project to be assessed.	7.3.9 to 7.3.13
<u>Climate Change Adaptation</u> Section 4.8 requires climate change adaptation to be assessed.	7.3.19 to 7.3.24
<u>Pollution Control and Other Environmental Regimes</u> Section 4.10 requires discharges or emissions which affect air quality, water quality, land quality and the marine environment, or which give rise to noise and/or vibration to be assessed.	7.3.25 to 7.3.27
<u>Safety</u> Section 4.11 requires safety of the pipeline to be assessed.	7.3.28 to 7.3.31
<u>Hazardous Substances</u> Section 4.12 requires the management of hazardous substances to be assessed.	7.3.32
<u>Health</u> Section 4.13 requires the possible health and well-being impacts to be assessed.	7.3.33 to 7.3.38
<u>Common Law Nuisance and Statutory Nuisance</u> Section 4.14 requires any common law or statutory nuisances to be mitigated.	7.4.39 to 7.4.40
<u>Security Considerations</u> Section 4.15 requires security considerations to be mitigated.	7.4.41 to 7.4.43

Environmental Statement

8.7.3 The requirements set out in paragraphs 4.2.1 to 4.2.11 of NPS EN-1 are met as a comprehensive Environmental Statement (ES) (**application document 6.1-6.4**) covering the entire route (Sections A – H inclusive) accompanies the application for development consent.

8.7.4 Section 8.8 of this chapter considers how Section A of the route is in compliance with each of the generic topics in NPS EN-1 (which also broadly aligns with the technical chapters of the ES).

Habitats and Species Regulations

8.7.5 The requirements set out in paragraph 4.3.1 of NPS EN-1 are met as a comprehensive Draft Habitats Regulations Assessment (HRA) Report



(**application document 6.5**) covering the entire route accompanies the application for development consent.

- 8.7.6 The HRA report concludes that there will be no adverse effects on the integrity of any European (Natura 2000) sites from Section A of the project.

Good Design

- 8.7.7 In accordance with NPS EN-1 section 4.5, the design of the pipeline in Section A will be as set out in paragraphs 7.3.14 to 7.3.18 of Chapter 7 Planning Assessment: Project-wide.
- 8.7.8 The vast majority of the project within Section A will be below ground once complete, apart from some limited above ground infrastructure, comprising a pigging station, one cathodic protection cabinet, two valve compounds, pipeline markers and flight marker posts.
- 8.7.9 The design development for the pigging station at Boorley Green at the southern end of Section A, and the proposed valve locations, followed the iterative design development process. Areas of high environmental and social sensitivity were avoided where practicable, and the design development also sought to reduce effects on receptors. There were also a number of factors that limited the location of the pigging station as set out in paragraph 8.3.10.

8.8 Generic Impacts (NPS EN-1 Part 5 and NPS EN-4 Gas and Oil Pipelines)

- 8.8.1 This part of the assessment considers the acceptability of Section A of the project against the generic impacts from Part 5 of NPS EN-1 and the specific impacts from gas and oil pipelines specified in NPS EN-4 as set out in section 7.4 in Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise in relation to Section A of the project that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with Section A of the project.

Air Quality and Emissions

- 8.8.2 In accordance with section 5.2 of NPS EN-1, the ES Chapter 13 People and Communities and ES Appendix 13.2 Air Quality Technical Note provides a detailed assessment of the significance of the air quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide paragraphs 7.4.3 to 7.4.8 provide a project-wide overview of any impacts that the project is likely to have on air quality, together with identifying the good practice measures to manage these impacts which are set out in the Register of Environmental Actions and Commitments (REAC) and secured through DCO Requirements such as the Code of Construction Practice (CoCP) (DCO Requirement 5) and the Construction Environment Management Plan (CEMP) (DCO Requirement 6).
- 8.8.3 The Section A Order Limits do not pass through or close to any Air Quality Management Areas, whilst the maximum annual mean concentrations for nitrogen oxides (NO_x), nitrogen dioxides (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) for



the grid squares within 400m of the proposed route in Section A are all below the respective national Air Quality Objectives.

- 8.8.4 On the basis of the proposed maximum number of daily heavy-duty vehicles and light duty vehicles associated with construction traffic controlled by good practice measures, the air quality effects from construction traffic, including diversions, on human and ecological receptors in rural and urban areas are unlikely to have significant effects on the environment. Therefore, the proposals will not lead to a deterioration in air quality.

Summary

- 8.8.5 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section A of the project complies with the requirements of section 5.2 of NPS EN-1 in relation to air quality and emissions.

Biodiversity and Geological Conservation

- 8.8.6 In accordance with section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 7 Biodiversity sets out the effects of the project, during both construction and operation, on international, national and locally designated sites, protected species and habitats, and other species identified as being of principal importance for the conservation of biodiversity.
- 8.8.7 Paragraphs 7.4.9 to 7.4.63 of Chapter 7 Planning Assessment: Project-wide provides a project-wide assessment of the identified biodiversity and geology impacts of the project as a whole against the biodiversity and geology NPS policy tests identified in Chapter 6 Planning Policy Context.
- 8.8.8 This section specifically considers the biodiversity and geology impacts of the project within Section A of the project.

International and National Designated Sites

- 8.8.9 As highlighted in paragraph 7.4.14 of Chapter 7 Planning Assessment: Project-wide, the project has been designed to avoid and reduce impacts on all designated sites as far as practicable. The Order Limits of Section A avoid all international and national designated sites.
- 8.8.10 Table 8.6 identifies the international and national designated sites within 1km of the Order Limits of Section A and those a greater distance away but which are hydrologically connected (as identified in the HRA), which have been assessed in the ES as all being of high value/sensitivity.

Table 8.6: International and Nationally Designated Sites – Section A

Statutory Designated Site		Qualifying Feature	Approx. Distance and Location Relative to Order Limits
National Nature Reserve	Beacon Hill	Herb-rich chalk grassland flora with exceptional butterfly fauna.	800m east
Site of Special Scientific Interest (SSSI)	Beacon Hill, Warnford	Herb-rich chalk grassland flora with exceptional butterfly fauna.	800m east
Special Area of Conservation (SAC)	Solent Maritime	See ES Chapter 7 Biodiversity, Table 7.7	1.85km south (linked by River Hamble)
Special Protection Area (SPA)	Solent and Southampton Water	See ES Chapter 7 Biodiversity, Table 7.7	1.85km south (linked by River Hamble)
potential SPA (pSPA)	Solent and Dorset Coast	Qualifying species of Sandwich tern, common tern and little tern	1.85km south (linked by River Hamble)
Ramsar	Solent and Southampton Water	A mosaic of wetland habitats supporting important assemblages of rare plants and invertebrates and internationally important assemblages of wintering birds.	1.85km south (linked by River Hamble)
SSSI	Upper Hamble Estuary and Woods	Ancient semi-natural ecologically diverse woodland saltmarsh and reedswamp. Unimproved neutral grassland also recorded. Component SSSI of Solent and Southampton Water Ramsar, Solent and Southampton Water SPA and Solent Maritime SAC.	1.85km south (linked by River Hamble)

8.8.11 Potential likely significant effects to European sites are assessed in detail in the project's HRA Report. The assessment is summarised in section 7.5 of ES Chapter 7 Biodiversity.

8.8.12 The study to inform the HRA Report considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in-combination effects. The European sites where potential effect linkages (source-receptor-pathways) with Section A of the project were identified were:

- Solent Maritime SAC;
- Solent and Southampton Water SPA;
- Solent and Dorset Coast pSPA; and
- Solent and Southampton Water Ramsar site.

8.8.13 A pathway is formed through a hydrological link to these sites where the Order Limits cross two small tributaries of the River Hamble in Section A: a 'Main River'



known as Ford Lake and an unnamed Ordinary Watercourse in Wintershill, both of which are upstream of the SPA/SAC/Ramsar.

- 8.8.14 The two watercourses that would be crossed by the Order Limits are very small in comparison to the large freshwater and estuarine systems that comprise these SAC/SPA/Ramsar sites (e.g. the SAC has an area of 11,243 ha). There would also be a large distance between these sites and any point of potential discharge to the watercourses crossed by the Order Limits.
- 8.8.15 Furthermore, as the qualifying habitats and species of the statutory designated sites are dependent upon hydrological, geomorphological and/or marine processes that operate over a much larger scale than that of the project, any hydrological modifications to the watercourses should they occur as a result of the project, are considered not likely to have a significant effect on the statutory designated sites.
- 8.8.16 Given the above, the risk of hydrological changes, including contamination, affecting the designated sites during construction of the project is considered to be extremely low.
- 8.8.17 The potential impacts of noise and visual disturbance to the bird interest features of the SPA and Ramsar site have been considered. Based on professional judgement, the effects of noise (as well as visual/human presence) are only likely to be significant where the Order Limits extend within or are directly adjacent to the boundary of the site, or within/adjacent to an offsite area of known foraging, roosting or breeding habitat that supports mobile animal species for which the site is designated.
- 8.8.18 As such, the project is considered sufficiently distant from the SPA/Ramsar (1.85km) and project activities sufficiently minor in their potential to generate significant disturbance events (e.g. there would be no rock blasting or other controlled explosions, or piling), that noise disturbance is unlikely to have any effect on bird interest features of the sites. Similarly, at such a distance, visual disturbance to the SPA/Ramsar site will not be expected to result from project activities.
- 8.8.19 The Order Limits fall outside the core and potential roosting and foraging zones of qualifying species of the SPA. Any effect of disturbance, therefore, would likely be insignificant. Moreover, suitable habitat such as arable fields are abundant in the landscape around the route. As such, any qualifying species of the SPA/Ramsar present outside these zones that may be temporarily displaced for the duration of the project would likely find suitable alternative resource nearby without detriment to SPA/Ramsar populations.
- 8.8.20 Overall, the HRA Report concludes that, due to the small-scale nature of the works and the distance between these sites and the project, there will be no likely significant effects either alone or in combination to the Solent Waterbodies sites listed in Table 8.6.
- 8.8.21 The ES does not identify any possible linkages between Section A and either the Beacon Hill SSSI or National Nature Reserve.



Locally Designated Sites

- 8.8.22 Table 8.7 identifies the number of locally designated sites within 1km of the Order Limits of Section A which have been assessed by the ES as being of medium value/sensitivity.



Table 8.7: Locally Designated Sites in Section A

Designation Type	Local Authority	Within Order Limits	Within 100m	Within 1km
Local Nature Reserve	Winchester	0	0	1
SINC	Eastleigh	1	1	11
	Winchester	1	10	54
Road Verge of Ecological Importance	Winchester	0	1	0

8.8.23 As identified in Table 8.7, there are two SINC's that are located within the Order Limits:

- Maddoxford Farm Meadows SINC; and
- Brockwood Copse and Roadside Strips SINC (only under sub-option A2b).

8.8.24 For Maddoxford Farm Meadows SINC, in order to reduce/remove any impact upon this SINC, trenchless construction techniques will be implemented, comprising the subsurface drilling of the pipeline (TC001). There will be no above ground construction works within this site, and as such, no pathway to effects by habitat loss/gain, fragmentation or modification is anticipated for Maddoxford Farm Meadows SINC.

8.8.25 If Sub-option A2b is retained for implementation, for Brockwood Copse and Roadside Strips SINC, the Order Limits would intersect this SINC north and south of Riversdown Road. To avoid impacts to the SINC and associated ancient woodland, trenchless construction techniques comprising the subsurface drilling of the pipeline will be implemented at this location (TC003). As such, there would be no pipeline installation works within this site. Access to a site compound will be achieved through two existing farmer's access points off Riversdown Road. One of the access points that allows access to the south of Riversdown Road passes through the Brockwood Copse and Roadside Strips SINC. However, this access point has been aligned to make use of an existing farmer's gate and so a new gap in the woodland and hedgerow at this location would not be required. Overall, potential effects of habitat loss/gain, fragmentation or modification to the Brockwood Copse and Roadside Strips SINC is considered to be of minor adverse significance.

8.8.26 For both sites, the ES identifies that there is potential for invasive non-native species (INNS) to be introduced or spread via contaminated machinery or soil. There is also a risk of transferral from pedestrian movement and vehicles. Working within watercourses will also be required, with the potential to cause introduction or spread of INNS within the aquatic environment. However, it is considered that the potential spread of INNS will be adequately controlled through good practice measures, as set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5). Furthermore, a Site Waste Management Plan will identify and manage the appropriate disposal of any contaminated material and will be a requirement of the CEMP (DCO Requirement 6).

8.8.27 In terms of air quality, changes could occur through fugitive dust caused by construction plant activities. Retained terrestrial habitat receptors within the SINC's



intersected by the Section A Order Limits may be affected through changes in air quality as the vegetation present may theoretically experience reduced photosynthesis, respiration and transpiration caused by smothering from dust. ES Appendix 13.2 Air Quality Technical Note shows that, taking into account the good practice measures, there are no potentially significant effects in relation to air quality, including dust and there is no requirement for additional mitigation.

- 8.8.28 Hydrological links between the Order Limits and a watercourse which is a component of Maddoxford Farm Meadows SINC have been identified. With the implementation of the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 6), potential effects of surface water contamination on this site are highly unlikely.
- 8.8.29 Within Maddoxford Farm Meadows SINC, habitats that are dependent on groundwater levels, flows or quality have been identified. The trenchless crossing in this area (TC001) will not likely require any dewatering except at the launch and reception sites, which will require excavations no deeper than would be needed for an open cut trench installation. However, these excavations will be located outside the SINC, and therefore a negligible effect on the SINC is predicted.
- 8.8.30 Good practice and pollution prevention measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 6) will be implemented to reduce the risk of potential effects to groundwater quality in the unlikely event of chemical or pollutant leaks during installation. These measures will be detailed by the contractor in the CEMP, secured by DCO Requirement 6. The potential effects of changes to groundwater quality from chemical or pollutant leaks and spills on the groundwater dependent habitats of Maddoxford Farm Meadows SINC will be of negligible significance.
- 8.8.31 The ES also identifies the potential for groundwater flow interception and changes to groundwater quality from operation of the pipeline on Maddoxford Farm Meadows SINC. As the crossing in this area will be trenchless, the pipeline will be at sufficient depth that any changes to groundwater flows will be of negligible significance.
- 8.8.32 The pipeline will be subject to comprehensive testing during installation, and the design provides operational integrity through a range of measures, including a pipeline wall thickness greater than British Standard PD8010 standards to provide additional long term protection from deterioration or damage, and a cathodic protection system to protect against corrosion.
- 8.8.33 Overall, no significant effects have been identified on the SINC's within Section A during construction or operation of the project.

Protected Species

- 8.8.34 As set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), Landscape and Ecological Management Plan (LEMP) (DCO Requirement 12) and protected species (DCO Requirement 13), the contractor(s) would comply with relevant protected species legislation including with regards to badgers, bats, dormice, otters, water voles, sand lizards, great

crested newts and Schedule 1 birds where relevant to the stage of development. Appropriate licences would be obtained where necessary from Natural England for all works affecting protected species as identified by the Environmental Statement and through pre-construction surveys. All applicable works would be undertaken in accordance with the relevant good practice measures set out in the REAC and conditions set out in those licences. DCO Requirement 13 specifically protects against situations where unexpected protected species may be identified and encountered as part of the implementation of the project.

Badgers

- 8.8.35 The effects on badgers are not considered in the ES (“scoped out”) following the Planning Inspectorate’s 2018 Scoping Opinion response. Effects on badgers were scoped out on the basis of their conservation status and the population in the local area. As such, construction works likely to impact badgers or a sett in current use will be subject to mitigation and secured under a licence granted by Natural England.
- 8.8.36 The results of the badger surveys have nonetheless directly influenced the alignment of the Order Limits, with several changes being implemented to avoid direct impacts to main setts.

Bats

- 8.8.37 A desk study was undertaken as part of the ES in order to value habitat potentially used by commuting and foraging bats. This study identified likely bat ‘hotspots’ in Section A at:
- Lower Preshaw Lane;
 - High Dell and Brocksgrrove Farm; and
 - habitat south of Blackhouse Copse and Joan’s Acre Wood extending as far as Brookwood Park Farm.
- 8.8.38 The ES determines that due to the species composition of bats recorded within the study area and the potential for roosts to be present within the Order Limits, all bats are valued as high. The alignment of the Order Limits and Limits of Deviation have been selected to reduce the loss of trees with bat roost potential and wherever possible to maintain good practice distances between construction areas and trees.
- 8.8.39 The ES concludes that, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section A have been identified on bats. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Birds

- 8.8.40 There is one statutory site which contains notable or protected bird species as a qualifying feature within 1km of the Order Limits of Section A:



- Beacon Hill National Nature Reserve – 800m east of Section A.

- 8.8.41 There are no statutory or non-statutory sites which contain notable or protected bird species as a qualifying feature within 1km of the Order Limits of Section A. Although international statutory designated sites associated with the Solent and Southampton Water, which are designated bird habitats, are 1.85km from Section A and connected via the River Hamble, the draft HRA Report has not identified any likely significant effects on qualifying bird species from the project.
- 8.8.42 The ES determines that construction works have the potential to have a negligible impact on bird mortality and injury, and a minor impact on bird disturbance and habitat loss, fragmentation or modification.
- 8.8.43 Overall, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section A have been identified on breeding birds, either within or outside statutory designated sites. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Dormouse

- 8.8.44 Records and evidence of dormouse in Section A have been identified as set out in ES Appendix 7.9 Dormouse Factual Report. The ES determines that, due to the regional abundance of dormouse within suitable habitats, its value is medium.
- 8.8.45 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project have been identified on dormouse. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Fish

- 8.8.46 Of the watercourses crossed by the Order Limits in Section A, the following crossings were identified as having high sensitivity for fish species during habitat walkover surveys:
- WCX 002A – Ford Lake; and
 - WCX 012 – Caker Stream.
- 8.8.47 Caker Stream has been identified by the EA as particularly sensitive due to salmonid migration and coarse fish spawning. As such, the open cut crossing of Caker Stream would be subject to constraints between October to December and March to May and works undertaken in the channel or close to bank tops would be reduced/restricted during these sensitive periods.
- 8.8.48 The ES has determined fish communities with migratory life stages (within the Order Limits) to be of medium value. Fish communities comprising non-migratory



species are typically ubiquitous to watercourses surveyed across the Order Limits and are assessed as being of low value.

- 8.8.49 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section A have been identified on fish. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Great Crested Newt

- 8.8.50 Desk study and field results confirmed the presence of great crested newt (GCN) within 250m of the Order Limits in Section A at the following location:

- east of the Order Limits, north of Bishop's Waltham.

- 8.8.51 The GCN populations identified within the 250m buffer of the Order Limits likely represent a small proportion of the overall GCN populations in Hampshire, where GCN has recently been recorded in most 10km squares. As such, GCN are afforded a medium value. Appropriate licences will be obtained where necessary from Natural England for all works affecting GCN as identified by the ES and through pre-construction surveys. All relevant works will be undertaken in accordance with the relevant mitigation requirements and conditions set out in those licences.

- 8.8.52 The ES concludes that, with the measures secured through the European Protected Species (EPS) licences, no significant effects from construction or operation of the project within Section A have been identified on GCN.

Otter and Water Vole

- 8.8.53 Otters have the potential to use any watercourse. A desk study has identified records of otter at the River Hamble, north of Botley (outside of the Order Limits). No signs of otter within the Order Limits of Section A were identified from field surveys. The desk study identified one record of water vole, from 2009, on a tributary of the River Hamble to the west of Bishop's Waltham, but outside of the Order Limits. When surveyed, this watercourse was found to be sub-optimal for water vole, but it is possible that the suitability and habitats present have changed since that time. A strategy for how to deal with water vole, should they be present, is provided in ES Appendix 7.17 Protected and Controlled Species Compliance Report.

- 8.8.54 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section A have been identified on otter or water vole. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Habitats of Principal Importance for Biodiversity Conservation

- 8.8.55 The ES has gathered baseline information on the habitats within the Order Limits from both desk study and field survey.
- 8.8.56 Section A of the route largely comprises artificial habitats associated with agriculture, such as arable fields and improved grassland. Semi-natural habitats within the Order Limits comprise small stands of marshy and unimproved neutral grassland, hedgerows bounding fields and small stands of broadleaved semi-natural woodland. Other than Hedgerow Priority Habitat, which is frequent along Section A of the preferred route, Priority Habitats along this section are localised.
- 8.8.57 Outside of designated sites, Priority Habitats, including hedgerows and watercourses, are considered to be of medium value, apart from the following areas in Section A which have been revised to low value:
- all surveyed Coastal and Floodplain Grazing Marsh due to its highly improved nature;
 - Wet Woodland at Wintershill; and
 - Lowland Meadows at Betty Munday's Bottom.
- 8.8.58 All habitat not considered as Priority Habitat is assessed as negligible value and is not discussed further in the Planning Statement. Notable plant species recorded within the Section A Order Limits but outside of designated sites are valued as low.
- 8.8.59 In summary, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section A have been identified on Priority Habitats and notable plant species outside of designated sites. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Ancient Woodland and Veteran Trees

- 8.8.60 There are no ancient woodland inventory sites (i.e. areas of ancient woodland of at least 2ha) within the Order Limits of Section A. However, there are five ancient woodland inventory sites within 50m of the Order Limits in Section A, totalling approximately 20.3ha (see ES Figure 7.3). There are an additional eight areas of woodland, three within the Order Limits and five within 50m of the Order Limits, which have been identified as potential ancient woodland sites less than 2ha.
- 8.8.61 The three sites within the Order Limits comprise:
- woodland at Ford Lake that will be crossed by trenchless techniques (potential Ancient Woodland AW2 – see ES Appendix 7.3 Ancient Woodland Factual Report and ES Figure 7.3);
 - a site included for mitigation purposes only (potential Ancient Woodland AW4a); and



- woodland within the Brockwood Copse and Roadside Strips SINIC that will be crossed by trenchless techniques (potential Ancient Woodland AW7) if sub-option A2b is implemented.

- 8.8.62 For the Brockwood Copse and Roadside Strips SINIC, which lies on sub-option A2b, a proposed temporary access road passes through AW7. Access to a site compound to the south of the Riversdown Road will be achieved via two existing farmer's access points off this road. One of the access points passes through AW7 (which is also designated as Brockwood Copse and Roadside Strips SINIC). However, this access point has been aligned to make use of an existing farmer's gate, and so a new gap in the woodland and hedgerow at this location will not be required. Nearby trees will be protected as per the provisions of good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5).
- 8.8.63 The ES reports that no significant effects relating to habitat loss/gain, fragmentation or modification are predicted on ancient woodland within Section A. Furthermore, with the implementation of good practice measures, no significant effects on ancient woodland are predicted from the introduction/spread of INNS or dust deposition from air quality changes.
- 8.8.64 Details of working methods and root protection in light of the AIA will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the LEMP (DCO Requirement 12).
- 8.8.65 Overall, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7, no significant effects from construction or operation of the project have been identified on ancient woodland within or near to the Order Limits of Section A. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Hedgerows

- 8.8.66 There will be a number of locations along Section A where there will be construction impacts on hedgerows. As a result of embedded mitigation and proposed good practice measures, including those relating to working widths and reinstatement of vegetation, the impacts to hedgerows will be localised and reversible in nature. There is a high degree of confidence in the successful reinstatement of hedgerow habitat in the medium to long term, and no permanent loss of hedgerow habitat is anticipated.
- 8.8.67 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project have been identified on hedgerows within the Order Limits of Section A. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).



Summary

8.8.68 Through the route design and embedded mitigation, and the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12), Section A of the project avoids significant harm to biodiversity and geological conservation and therefore complies with the requirements of section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4.

Civil and Military Aviation and Defence Interests

8.8.69 There are no civil or military aviation and defence interests within the Order Limits in Section A of the project.

Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation

8.8.70 In accordance with section 5.6 of NPS EN-1, ES Chapter 13 People and Communities provides a detailed air quality assessment of the project, during both construction and operation.

8.8.71 Paragraphs 7.4.71 to 7.4.93 of Chapter 7 Planning Assessment: Project-wide provide an overview of any dust or artificial light impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. As paragraph 7.4.72 of Chapter 7 Planning Assessment: Project-wide states, there will be no odour, smoke, steam or insect infestation issues resulting from the project. The specific impacts arising from dust and artificial light emissions within Section A are considered below.

Dust

8.8.72 In respect to dust emissions, the possible receptors in Section A which may be affected are assessed as human receptors residing or working within 350m of the construction site and ecological receptors within 50m as identified in Table 8.8 of this Chapter. Human receptors in Section A include several community and recreation/amenity facilities, including public rights of way (PRoWs), as well as land forming part of Brockwood Park School. Ecological receptors in Section A comprise ancient woodlands.

Table 8.8: Human and Ecological Receptors in Proximity to Section A

	Human Receptor Count						Sensitivity of Ecological Receptors
	Demolition, Earthworks and Construction (Distance to Construction Boundary)				Trackout (Distance from Roads up to 200m from the Site Entrance)		Dust Soiling (Distance to Construction Boundary)
	<20m	<50m	<100m	<350m	<20m	<50m	<20m
Section A	5	29	52	409	1-10	10-100	Low



- 8.8.73 In respect to potential dust emissions, the magnitude of dust emissions in Section A is presented in Table 1.7 of ES Appendix 13.2 Air Quality Technical Note, whilst an assessment of the sensitivity of the areas around Section A for human and ecological receptors is presented in Table 1.8 and Table 1.9 respectively of ES Appendix 13.2 Air Quality Technical Note.
- 8.8.74 The ES Appendix 13.2 Air Quality Technical Note, Table 1.10, has assessed the risk to human health and ecological receptors from dust emissions arising at each of the three construction activities (earthworks, construction and trackout) in Section A as being either negligible or low. The risk of dust soiling during the construction stages ranges from a negligible risk for the trackout phase to a medium risk for the earthworks phase.
- 8.8.75 Despite the dust emission risk being judged as being negligible to low, good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6) will be incorporated in order to control all effects of dust, not just medium to high risks, as set out in paragraphs 7.4.73 to 7.4.83 of Chapter 7 Planning Assessment: Project-wide.

Artificial Light

- 8.8.76 Temporary artificial lighting will be provided during the construction phase in the working area and construction compounds located in Section A (see paragraph 8.2.11).
- 8.8.77 Six of the construction compounds are located within the SDNP in Section A (compounds 4E to 4J). Potential effects of lighting in relation to the National Park are considered in paragraphs 8.8.109 to 8.8.113 below (in relation to the SDNP as a whole). As identified in paragraph 7.4.91 of Chapter 7 Planning Assessment: Project-wide, the study area does not coincide with the Dark Sky Core Area identified by the SDNPA.
- 8.8.78 Measures to control lighting effects are included within the REAC. All lighting will be set up to avoid nuisance as far as is practicable so will be low-level and directional to avoid glare into residential properties. The construction compound lighting would be of the lowest luminosity necessary for safe delivery of each task. It would be designed, positioned and directed to reduce the intrusion into adjacent properties and habitats. The implementation of the good practice measures in the REAC are secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).
- 8.8.79 In respect of the operation phase, the pigging station at Boorley Green in Section A will be provided with permanent manually operated lighting for when the station is operated in low light conditions. However, it would not be permanently lit.

Summary

- 8.8.80 Through the good practice measures set out in the REAC and secured through the DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section A of the project will keep the impacts from dust and



artificial light to a minimum and therefore complies with the requirements of section 5.6 of NPS EN-1 in relation to dust and artificial light.

Flood Risk

- 8.8.81 In accordance with section 5.7 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the flood impacts of the project, including a Flood Risk Assessment (FRA) for the project (**application document 7.3**).
- 8.8.82 Paragraphs 7.4.94 to 7.4.125 of Chapter 7 Planning Assessment: Project-wide provide an overview of any impacts that the project is likely to have on flood risk and water infrastructure, together with identifying the mitigation that will be implemented to manage these impacts.
- 8.8.83 In respect of Section A, there are no risks either from or to the project related to reservoir flood risk or canal flood risk. None of the 10 construction compound locations in Section A are within designated flood risk zones.

Fluvial Flooding

- 8.8.84 In Section A, the FRA watercourse crossing schedule identifies six locations where the pipeline crosses a surface watercourse within the section: one 'Main River' (Ford Lake) and five unnamed ordinary watercourses.
- 8.8.85 The Ford Lake crossing is within fluvial Flood Zones 2 and 3, however a trenchless crossing is planned for this location and no haul road is proposed, therefore there will be a negligible potential to impact on flooding. As a result, the severity of impact has been assessed as Very Low and subsequently risk has been assessed as Low with no further mitigation proposed.
- 8.8.86 An assessment of the likelihood, severity and risk of flooding to and from all fluvial watercourses from the construction and operation of the pipeline is provided at FRA Appendix A. This assessment identifies two crossing locations in Section A (WCX 006 and WCX 007) as having an unmitigated medium or high risk. Watercourse crossing reports have therefore been developed for these locations in order to provide a full assessment of risk and these are included in Appendix C of the FRA (**application document 7.3**).
- 8.8.87 A range of good practice measures has been incorporated to ensure that the project does not exacerbate flood risk in the locations which are identified as medium or high risk. These include specific mitigation measures which are listed in the FRA Section (**application document 7.3**) of the ES. The implementation of these mitigation measures will reduce the overall risk to and from the project at those crossings with a medium or high risk down to a low risk. The good practice measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).
- 8.8.88 The pigging station at Boorley Green is located within Flood Zone 1 and therefore has a very low fluvial flood risk. The pigging station will be constructed with an impermeable surface, with a small bunded area around the pipeline inlet and outlet points, to contain any liquids on the inspection plant. Given the relatively small



area of impermeable area involved, the station will not be positively drained, with rainfall running off as it will at present, thereby not increasing water flood risk in accordance with NPS EN-1 paragraph 5.7.21.

Surface Water

- 8.8.89 There is one location in Section A which is within an identified surface water flow route; along the A272 just before the start of Section B of the route. A trenchless crossing is proposed in this location and therefore the risk of surface water flooding is assessed as low in FRA Section 8.

Groundwater

- 8.8.90 There are two areas in Section A where there is the potential for construction of the pipeline to impact on or be impacted by groundwater flooding:

- Ford Lake Valley, although a trenchless crossing will be used here for much of the area where the shallowest groundwater levels are likely to be present (Crossing WCX 002a – Section A); and
- Wintershill to the west of Bishop's Waltham (Crossing WCX 006 – Section A).

- 8.8.91 The risk to the project from groundwater flooding has been assessed as either low or very low due to slow onset and low velocities normally associated with groundwater flooding. In the event of prolonged groundwater flooding, work will cease in inundated areas until either the groundwater is pumped out or levels recede naturally, and operations can resume safely.

- 8.8.92 The project could exacerbate groundwater flood risk elsewhere through dewatering, although this will only be in isolated locations and the duration of the excavations will be sufficiently short not to exacerbate flood risk to third parties.

- 8.8.93 Where required, water stops or 'stanks' would be installed at intervals through the pipe bedding and side fill in order to intercept groundwater flowing along the pipeline bedding material and prevent the creation of new groundwater flow paths during the operational phase. The risk of groundwater flooding from the project is therefore assessed as low or very low.

Summary

- 8.8.94 Through the good practice measures set out in the REAC and specific mitigation identified in the Flood Risk Assessment, secured through DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section A of the project complies with the requirements of section 5.7 of NPS EN-1 and section 2.22 of NPS EN-4 in relation to flood risk.

Historic Environment

- 8.8.95 In accordance with section 5.8 of NPS EN-1, ES Chapter 9 Historic Environment provides a detailed description of the significance of the heritage assets affected by the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.126 to 7.4.149) provides a project-wide overview of any impacts



that the project is likely to have upon the historic environment, together with good practice measures that will be implemented to manage these impacts. Those related to Section A are identified below.

- 8.8.96 The route in Section A has been selected to reduce the impact on the historic environment by avoiding, where practicable, designated heritage assets in accordance with paragraph 5.8.12 of NPS EN-1. Some impacts on the historic environment may still occur as a result of construction activity, including upon as yet unidentified archaeological assets.
- 8.8.97 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.1) identifies those heritage assets where major or moderate adverse effects have been identified to result from construction of the project, prior to the application of good practice measures. Assets in Section A where major or moderate effects are identified (without good practice measures) within the ES are set out in Table 8.9.

Table 8.9: Heritage Assets Along Section A of Pipeline

Asset Number	Asset Name	Within Order Limits	Value	Significance of Effect of Project on Heritage Asset (without good practice measures)	Significance of Effect of Project on Heritage Asset (with good practice measures)
83	Remnants Of A Medieval Or Later Field System South Of Durley Street	No	Low	Moderate adverse	Negligible
92	Guidepost, Stephens Castle Down	Yes	Low	Moderate adverse	Negligible
94	Stephen's Castle Down potential Roman Villa located in a field north of Bigpath Lane	Yes	Medium	Major adverse	Minor adverse
1580	NMP Field System 6	Yes	Medium	Moderate Adverse	Minor Adverse
1592	NMP Field System 10	Yes	Medium	Moderate Adverse	Minor Adverse
1618	NMP Enclosure 9	Yes	Medium	Moderate Adverse	Negligible
1631	NMP Field System 14	Yes	Low	Moderate Adverse	Negligible
1639	NMP/Geophysical Survey Barrow	Yes	Medium	Moderate Adverse	Minor Adverse
1979	Geophysical Survey Archaeological Feature 2	Yes	Medium	Moderate Adverse	Negligible
1980	Geophysical Survey Archaeological Feature 3	Yes	Medium	Moderate Adverse	Negligible
1982	Geophysical Survey Archaeological Feature 5	Yes	Medium	Moderate Adverse	Negligible
1983	Geophysical Survey Archaeological Feature 6	Yes	Medium	Moderate Adverse	Negligible
1984	Geophysical Survey Archaeological Feature 7	Yes	Low	Moderate Adverse	Negligible
1985	Geophysical Survey Archaeological Feature 8	Yes	Low	Moderate Adverse	Negligible



1986	Geophysical Survey Archaeological Feature 9	Yes	Low	Moderate Adverse	Negligible
1991	Geophysical Survey Archaeological Feature 14	Yes	Low	Moderate Adverse	Negligible
1992	Geophysical Survey Archaeological Feature 15	Yes	Medium	Moderate Adverse	Negligible
1993	Geophysical Survey Archaeological Feature 16	Yes	Low	Moderate Adverse	Negligible
1995	Geophysical Survey Archaeological Feature 18	Yes	Low	Moderate Adverse	Negligible

- 8.8.98 As Table 8.9 identifies, ES Chapter 9 Historic Environment concludes that there will be no significant (major or moderate) residual effects on heritage assets in Section A, following the application of good practice measures. Good practice measures relating to archaeological protections are set out in the REAC and secured through DCO Requirement 11 which requires for an Archaeological Mitigation Strategy (AMS), to be prepared and approved by each relevant planning authority.
- 8.8.99 As set out in Table 8.9, ES Chapter 9 Historic Environment concludes that the significance of most construction effects in Section A, following the application of good practice measures are reduced to negligible. There are, however, four assets where the ES assessment identifies that minor adverse effects will still remain, following application of good practice measures:
- Stephen's Castle Down potential Roman Villa located in a field north of Bigpath Lane (outside of Stephen's Castle Down East SINC).
 - NMP Field System 6 - This is an extensive field system of which many features lie partially within the Order Limits.
 - NMP Field System 10 - This heritage asset is an extensive field system which lies partially within the Order Limits.
 - NMP/Geophysical Survey Barrow - This heritage asset lies partially within the Order Limits.
- 8.8.100 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.2) identifies additional heritage assets where no significant effects are identified, but where there may be minor adverse or negligible residual effects upon heritage assets.
- 8.8.101 Although some residual effects are therefore identified to occur, these are assessed to be either negligible or short-term minor adverse effects upon the setting of heritage assets, or at worst minor adverse effects from physical impacts on the heritage assets themselves. With regard to paragraph 5.8.15 of NPS EN-1, as the residual effects are, at worst, minor adverse, there will be no substantial harm to any heritage assets, nor will there will be any total loss of any heritage assets as a result of Section A or any other Sections of the project. Any harmful impact on the significance of any heritage assets resulting from the identified residual minor adverse effects is outweighed by the public benefit of the project, as set out in detail in Chapter 2 Need.



Summary

8.8.102 Through the good practice measures set out in the REAC such as the requirement to implement the AMS (secured through DCO Requirement 11), Section A of the project complies with the requirements of section 5.8 of NPS EN-1 in relation to heritage assets.

Landscape and Visual

8.8.103 In accordance with section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 10 Landscape and Visual accompanying the application for Development Consent provides a detailed assessment of the landscape and visual impacts of the project. Furthermore, paragraphs 7.4.150 to 7.4.196 of Chapter 7 Planning Assessment: Project-wide provides an overview of any landscape or visual impacts that the project is likely to have, together with identifying the design measures that have sought to avoid or reduce potential impacts both through the alignment of the pipeline corridor and the use of the design measures outlined in Table 10.13 of ES Chapter 10 Landscape and Visual.

8.8.104 Chapter 7 Planning Assessment: Project-wide also includes the assessment of compliance with the NPSs in relation to major development within the SDNP. This assessment is not repeated in this Section A assessment. Although the route in Section A has been selected to reduce the impact on key landscape constraints, a large part of this section lies within the SDNP and some impacts may still occur as a result of construction activity and/or operational activities.

8.8.105 Landscape or visual impacts arising from construction and operation of the project in Section A are identified below.

Construction Impacts

Landscape Character

8.8.106 Potential impacts on national landscape character areas and South Downs Integrated Character Areas identified in ES Chapter 10 in Section A are summarised in Table 8.10. Impacts during construction and post construction in years 1 and 15 are identified.

Table 8.10: Summary of Potential Impacts on Landscape Character – Section A

National Character Area	Construction	Year 1	Year 15
	Significance of Effect	Significance of Effect	Significance of Effect
128: South Hampshire Lowlands	Moderate	Moderate	Minor
125: South Downs	Moderate	Moderate	Minor
130: Hampshire Downs	Moderate	Moderate	Minor

8.8.107 The ES Chapter 10 Landscape and Visual concludes that in year 1 post construction, the line of the route will be evident from the contrast in colour between the existing and recently seeded grass across reinstated areas of pasture and grassland within all character areas, caused by disturbance during



construction and establishment of re-seeded areas. However, this will be short term and not significant in the longer term. Impacts will be localised and will not affect the overall landscape character.

Landscape Designations

- 8.8.108 Potential impacts on landscape designations identified in the ES Chapter 10 Landscape and Visual in Section A are summarised below.

South Downs National Park

- 8.8.109 Chapter 7 Planning Assessment: Project-wide includes the assessment of compliance with the NPSs in relation to major development within the SDNP. As stated above, this assessment is not repeated in this Section A assessment.
- 8.8.110 The ES Chapter 10 Landscape and Visual concludes that effects on the SDNP will be restricted to the route and immediate surroundings, which comprises a narrow corridor in the context of the wider extent of the SDNP.
- 8.8.111 The ES Chapter 10 Landscape and Visual concludes that the significance of the effect on SDNP during construction will be moderate due to the combination of temporary construction effects and vegetation loss.
- 8.8.112 The ES Chapter 10 Landscape and Visual concludes that the significance of the effect on SDNP in year 1 post construction will be moderate due to the loss of trees and hedgerow vegetation that will remain evident after the construction period. Whilst the route has been designed to avoid woodland where possible, the loss of trees and hedgerow vegetation and subsequent localised changes to the landscape character along the route within the SDNP will be noticeable.
- 8.8.113 As it will not be possible to fully mitigate the loss of mature vegetation and notable trees, the ES Chapter 10 Landscape and Visual concludes that the significance of the effect on SDNP by year 15 post construction will be minor.

Formal Parkland Landscape at Brockwood Park Krishnamurti Centre

- 8.8.114 *Sub-option A2a:* The route will run over 200m west of Brockwood Park at the closest point, beyond intervening hedgerow boundaries, substantial tree belts and woodland blocks. The ES Chapter 10 Landscape and Visual concludes that the significance of the effect upon Brockwood Park during construction will be minor and post construction, the effect will be negligible.
- 8.8.115 *Sub-option A2b:* The route will not affect Brockwood Park directly, although it will clip the southwestern corner of what has been defined as formal parkland at Brockwood Park within the SDNP Historic Landscape Characterisation Report, SDNP (Wyvern Heritage and Landscape, 2017). Potential Ancient Woodland (under 2 ha) on the boundary of the formal parkland along Brockwood Bottom will largely be retained because trenchless techniques will be used (TC003) and vegetation will be retained except where emergency access is required to trenchless equipment or ecological works have been proposed. The ES Chapter 10 Landscape and Visual concludes that the significance of the effect upon



Brockwood Park during construction will be minor and post construction the effect will be negligible.

Ancient Woodland and Tree Preservation Orders (TPOs)

8.8.116 There is no classified Ancient Woodland within the Order Limits of Section A.

8.8.117 Potential Ancient Woodland (under 2ha) has been identified within the Order Limits of Section A in the following locations:

- West of Nether Hill Lane along Ford Lake, northeast of Boorley Green. Trenchless techniques will be used (TC001) and therefore the potential Ancient Woodland (under 2ha) will be avoided as vegetation will be retained except if emergency access is required to trenchless equipment or where ecological works have been proposed.
- Group of trees north of Gregory Lane (also Durley Mill SINC). Potential ancient woodland (undesignated) very slightly encroaches within Order Limits. There would be negligible effects on potential Ancient Woodland (under 2ha) through the measures secured in the DCO through the CEMP (DCO Requirement 6).
- West of Ashton. Potential Ancient Woodland (under 2ha) is included within the Order Limits for ecological mitigation and will not involve loss of woodland (refer to ES Chapter 7 Biodiversity).
- South of Brockwood Park along Brockwood Bottom (if sub-option A2b is implemented). Trenchless techniques will be used (TC003) and therefore the potential Ancient Woodland (under 2ha) will largely be avoided as vegetation will be retained except where emergency access is required to trenchless equipment or ecological works have been proposed.

8.8.118 There are two TPOs within the Order Limits of Section A:

- Line of trees south of Winchester Road A272 – the line of protected trees is situated to the north of the proposed access road in this location, and some distance from the proposed trenchless crossing (TC004) of the A272. With these embedded design measures, and measures to retain vegetation included in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and LEMP (DCO Requirement 12), the TPO trees will not be adversely affected by the project.
- Group of trees north of Winchester Road A272 – these will not be affected as Trenchless techniques will be used to cross the A272 (TC004). With the measures to retain vegetation included in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and LEMP (DCO Requirement 12), the TPO trees will not be adversely affected by the project.

8.8.119 Powers will be secured under Schedule 1 to the DCO to construct the pipeline within the Limits of Deviation, including trenchless crossings or narrow working as required. Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the Landscape and Ecological Management Plan (DCO Requirement 12).

Visual Effects

- 8.8.120 The potential visual effects from the representative viewpoints along Section A are set out in ES Chapter 10 Landscape and Visual Appendix 10.3 and summarised in paragraphs 10.5.110 to 10.5.117 in ES Chapter 10 Landscape and Visual.
- 8.8.121 The ES Chapter 10 Landscape and Visual concludes that there will be a number of representative viewpoints in Section A where the significance of the effect during construction will be moderate, however, in all of these cases the effect is reduced to minor post construction in year 1 and the effect for all representative viewpoints will be negligible by year 15.

Operational Impacts

- 8.8.122 The ES Chapter 10 Landscape and Visual concludes that landscape and visual effects arising from pipeline operation in year 15 will be localised and not significant, when reinstatement planting outlined in Table 10.13 of ES Chapter 10 Landscape and Visual will be established. This is because the pipeline will be underground and above ground features including the proposed valves, cathodic protection cabinets and the pigging station will be small in scale. The details of planting will be secured through the LEMP, the implementation of which is secured by DCO Requirement 12.

Summary

- 8.8.123 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and LEMP (DCO Requirement 12) and the assessment of compliance with the NPSs in relation to major development within the SDNP in Chapter 7 Planning Assessment: Project-wide, Section A of the project complies with the requirements of section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4 in relation to landscape and visual.

Land Use Including Open Spaces, Green Infrastructure and Green Belt

- 8.8.124 In accordance with section 5.10 of NPS EN-1, ES Chapter 12 Land Use provides an assessment of the land use impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any land use impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.
- 8.8.125 The majority of the route in Section A is rural and passes through agricultural land, the majority of which is classified as Grade 3 and Grade 4, although there is Grade 1 and Grade 2 agricultural land present between Boorley Green and Durley. The pipeline will only have a temporary impact upon agricultural use. Following reinstatement, there will be no impact on the use of land for agricultural purposes.
- 8.8.126 There will be limited permanent land take associated with the pigging station and Valves 1, 2 and 3, all of which are located in the countryside. The loss of agricultural land involved, and any impact on the countryside, is considered to be small scale and outweighed by the need for this nationally significant infrastructure.



- 8.8.127 The pipeline construction work will cross approximately 17 PRowWs, including three long distance routes, in Section A. The level of disturbance to footpath users will be kept to a minimum and all footpaths will be fully reinstated at the end of the construction period. Proposed PRowW closures and temporary diversions are identified in DCO Schedule 5 and DCO Article 12 provides powers for their implementation, in agreement with the relevant Highway Authorities.
- 8.8.128 There are areas classed as Special Category Land (SCL) within the Order Limits of Section A. The impact on these areas is considered further in Planning Statement Chapter 17 Special Category Land. There are no areas designated by Local Plans as green infrastructure or open space within the Order Limits of Section A.
- 8.8.129 The impact on land use in Section A is limited to PRowWs and SCL. These impacts will only be short term and temporary in nature, with localised diversions provided for all PRowWs in Section A to allow for their continued use.

Summary

- 8.8.130 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section A of the project complies with the requirements of section 5.10 of NPS EN-1 in relation to land use.

Noise and Vibration

- 8.8.131 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.274 to 7.4.289) provides a project-wide assessment of any noise and/or vibration impacts that the implementation of the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. This reflects the assessment undertaken in ES Appendix 13.3 Noise and Vibration Technical Note.

Summary

- 8.8.132 The commitment to agreeing a Noise and Vibration Management Plan with the relevant Planning Authority (as part of the CEMP secured as DCO Requirement 6) would ensure that appropriate noise and vibration mitigation would be implemented during the works, in accordance with Section 5.11 of NPS EN-1 and section 2.20 of NPS EN-4 in relation to noise and vibration.

Socio-Economics

- 8.8.133 In accordance with the requirements of NPS EN-1 section 5.12, ES Chapter 13 People and Communities provides an assessment of the socio-economic impacts of the project.

Community

- 8.8.134 This section of the route passes through predominantly agricultural land and/or rural landscape, although there are a number of small, but concentrated, villages and towns situated within 500m of the project, namely Boorley Green and



Newtown (Northbrook). The community and recreation/amenity receptors within the study area or Order Limits identified in the ES are listed in Table 8.11.

Table 8.11: Community and Recreation/Amenity Receptors in Section A

Type	Receptor Name	Order Limits or Study Area
Community receptor	Brockwood Park School	Study area
	Albany Cricket Ground	Study area
	Albany Road Allotments	Study area
Recreation/amenity receptor	The Sawmills	Study area
	Hermitage Heights	Study area
	17 PRoWs including the South Downs Way National Trail	Order Limits

8.8.135 The community/recreation receptors in Section A are unlikely to experience temporary noise, vibration and visual impacts, as they are located away from the Order Limits. The PRoWs that are located within the Order Limits may experience temporary noise, vibration and visual impacts.

8.8.136 Measures that manage noise, vibration and visual impacts are set out in the REAC, and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

8.8.137 Overall, the significance of effect of disruption to communities and people within Section A is negligible.

Tourism

8.8.138 There are two tourism receptors within the Section A study area: Stable Farm Caravan and Campsite and South Downs Way National Trail.

8.8.139 Stable Farm Caravan and Campsite will be directly affected by the project, as the Order Limits cross through this site and activities will be unable to continue during the period in which the field will be required for the installation of the pipeline and the location of a construction compound. This disruption is anticipated to have the potential to adversely change visitor behaviour, albeit only limited to the period when installation is undertaken.

8.8.140 The South Downs Way National Trail crosses the Order Limits and will potentially be subject to short term localised noise and significant visual effects. For a temporary period, it will be necessary to locally divert the South Downs Way around the working area, following which it will be reinstated. PRoW crossings, including National Trails, will be managed by the measures set out in the REAC (ES Chapter 16 Environmental Management and Mitigation) and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

8.8.141 The overall significance of effects from disruption is therefore classed as negligible.



Summary

- 8.8.142 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section A of the project complies with the requirements of section 5.12 of NPS EN-1 in relation to socio-economics.

Soils and Geology

- 8.8.143 In accordance with section 2.23 of NPS EN-4, ES Chapter 11 Soils and Geology provides a detailed assessment of the soils and geology impacts of the project. Furthermore, paragraphs 7.4.330 to 7.4.351 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any soils and geology impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.
- 8.8.144 The design of the project has been iterative, and the design refinements have resulted in avoiding sensitive features as set out in section 11.4 of ES Chapter 11 Soils and Geology.

Impacts on Soils

- 8.8.145 The soil associations within Section A are mainly freely draining loamy soils, but seasonally waterlogged loamy and clayey soils are mapped around the south of the section. The bedrock geology in the study area, from Boorley Green to Bishop's Waltham, comprises Palaeogene aged strata of the Bracklesham Group (silt, sand and clay), Thames Group (sand, gravel and clay) and Lambeth Group (clay, silt and sand). From Upham, the Cretaceous Chalk Group is present for a large extent. The superficial geology mapping shows superficial deposits are absent over much of the route in Section A. From Boorley Green, undifferentiated River Terrace Deposits are present as small areas associated with the main rivers. From Bishops Waltham, Clay with Flints are locally present, particularly between Lower Farringdon and West Tisted. Head deposits are also present associated with the Clay with Flints.
- 8.8.146 The majority of Section A consists of grade 3 (undifferentiated) agricultural land, though some grade 2 is present around Durley and Bishops Waltham, and some grade 1 around Boorley Green.
- 8.8.147 ES Chapter 11 Soils and Geology considers that all soils identified within the Order Limits will be affected, such that Agricultural Land Classification grades/subgrades 1 (high value), 2 (high value), 3a (medium value), 3b (medium value) and 4 (low value) will be affected.
- 8.8.148 Good practice measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6). The assessment in ES Chapter 11 Soils and Geology is based on these measures being in place.
- 8.8.149 ES Chapter 11 Soils and Geology concludes that a minor adverse impact will occur across the range of soil receptors in Section A. This is considered to be a



temporary impact because the quality of the soils will recover over the short term, following adherence to the good practice measures as set out in the REAC in ES Chapter 16 Environmental Management and Mitigation. As a result, no additional mitigation measures have been identified and there will be no significant residual impacts on soils during construction or operation.

Land Contamination

- 8.8.150 The Order Limits pass within 250m of a historical gas valve compound. The potential exists for gas/vapour to pose a risk to construction workers and adjacent land users if not managed appropriately.
- 8.8.151 ES Chapter 11 Soils and Geology concludes that with good practice measures in place, as set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), no additional mitigation measures in respect of land contamination have been identified and there will be no significant residual impacts from land contamination during construction or operation.

Impacts on Geology (Including Minerals)

- 8.8.152 A number of Minerals Consultation Areas are present in Section A comprising:
- Soft sand, based on Palaeogene Lambeth Group (sand) and sands of the London Clay Formation north of Boorley Green (approximately 9% of Section A);
 - Brick clay, based on the Palaeogene Lambeth Group (clay, silt and sand) northwest of Bishop's Waltham (approximately 5% of Section A); and
 - Superficial soft sand and gravel between Boorley Green and Durley Street (approximately 13% of Section A).
- 8.8.153 The impacts on geology, including minerals safeguarding, are addressed on a project-wide basis in paragraphs 7.4.218 to 7.4.225 in Chapter 7 Planning Assessment: Project-wide.

Summary

- 8.8.154 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section A of the project complies with the requirements of section 2.23 of NPS EN-4 with respect to soils and geology.

Traffic and Transport

- 8.8.155 In accordance with section 5.13 of NPS EN-1, the project has assessed the traffic and transport implications of the proposals. ES Appendix 13.1 Traffic and Transport Technical Note sets out the potential traffic and transport impacts of the project and residual effects. The ES has been informed by a separate Transport Assessment submitted as part of the application for development consent (**application document 7.4**). Furthermore, paragraphs 7.4.300 to 7.4.311 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of



any traffic and transport impacts that the project is likely to have, together with identifying the management that will be implemented to manage these impacts.

- 8.8.156 While there will inevitably be some disruption during construction, good practice measures will be put place to reduce disruption during construction of the pipeline.
- 8.8.157 Good practice measures include using trenchless techniques for the following road crossings:
- Stake's Lane, and
 - A272.
- 8.8.158 The A272 carries high traffic volumes, so the use of a trenchless technique will mitigate impacts on this road. Use of a trenchless technique will be used at Stake's Lane to avoid traffic disruption, following feedback from Hampshire County Council Highways Authority. All other road crossings within Section A will be undertaken using open cut methods, maintaining access where possible and using very short term (up to two to three days) diversions where necessary to enable construction works to be completed. All diversion routes have been discussed and agreed with Hampshire County Council Highways Authority. The detailed implementation of good practice measures is secured by Articles in Part 3 of the draft DCO and the Construction Travel Management Plan (CTMP), the implementation of which is secured by DOC Requirement 7.
- 8.8.159 Logistic hubs will be used to manage construction traffic and delivery of materials and resources to the construction compounds along the working route. These facilities will allow works to progress smoothly without reliance on peak time deliveries of staff and materials. There are no logistics hubs in Section A of the route, as the section will be served by two logistics hubs located off the A31 at Ropley Dean and south west of Alton, in Section B.
- 8.8.160 Due to the short duration of construction affecting rural roads, significant effects are not anticipated in rural areas, and therefore impacts on traffic flows, changes in journey times and collisions and safety in rural areas were scoped out of the impact assessment within the ES.
- 8.8.161 Overall, no significant effects have been identified from traffic and diversions/traffic management associated with Section A on traffic flows, journey times or collisions and safety.
- 8.8.162 For walking, cycling and horse riding, this will be managed by ensuring that access to and from residential, commercial, community and agricultural land uses would be maintained throughout the construction period, including retention of vehicular access to be maintained where practicable, which will be secured through requirement 7 of the DCO.
- 8.8.163 As noted previously in this chapter, the pipeline will cross approximately 17 PRowS, including three long distance routes. This includes the South Downs Way National Trail. The level of disturbance to footpath users will be kept to a minimum, and all footpaths will be fully reinstated following construction.



Summary

8.8.164 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and Construction Traffic Management Plan (DCO Requirement 7), Section A of the project complies with the requirements of section 5.13 of NPS EN-1 with respect to traffic and transport.

Waste Management

8.8.165 In accordance with NPS EN-1 section 5.14, the REAC sets out the requirement for a Site Waste Management Plan to be produced prior to construction, as set out in paragraphs 7.4.312 to 7.4.316 of Chapter 7 Planning Assessment: Project-wide. The SWMP will be secured through the DCO requirement for a CEMP (DCO Requirement 6).

8.8.166 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section A of the project complies with the requirements of section 5.14 of NPS EN-1 with respect to waste management.

Water Quality and Resources

8.8.167 In accordance with section 5.15 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the water quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.317 to 7.4.329) provide a project-wide overview of any water quality impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

8.8.168 This section sets out any specific impacts that have been identified for the project in Section A upon:

- existing quality of waters;
- existing water resources;
- existing physical characteristics of the water environment; and
- any impacts on water bodies or protected areas under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) around potable groundwater abstractions.

Water Quality

Groundwater

8.8.169 The groundwater environment in Section A is defined as the following:

- Palaeogene bedrock geological deposits which mostly form Secondary A aquifers from Boorley Green in Hampshire to the southern boundary of the Chalk Principal aquifer at Bishop's Waltham (Groundwater Study Area A (GWSA-A)); and



- Chalk Principal aquifer from Bishop's Waltham for remainder of Section A (Groundwater Study Area B (GWSA-B)).

8.8.170 The groundwater environment in GWSA-A is identified as between medium and negligible value. The groundwater environment in GWSA-B – the chalk aquifer – is assessed as high value, as it provides a major source of drinking water in the region. Given the rural nature of both GWSA-A and GWSA-B, groundwater may have elevated agricultural pollutants (most notably nitrate from fertilisers).

8.8.171 A number of possible effects on groundwater quality in Section A are identified in ES Appendix 8.5 Potential Effects on Groundwater. Minor or negligible groundwater quality impacts have been identified for the following receptors;

- groundwater in the Chalk Principal aquifer throughout much of Section A;
- groundwater in the secondary aquifer at Ford Lake Valley and Wintershill;
- Durley Green Lane;
- Wintershill Floodplain;
- Northbrook Source Protection Zone (SPZ) 2 for licensed abstractions; and
- Licensed and unlicensed private water supplies with no SPZs.

8.8.172 Possible impacts have been identified as potentially arising from the dewatering of surface water drainage or intercepted groundwater in open-trenches, the discharge of abstracted groundwater from trenchless crossings or from leaks and spills from plant fuels and oils during the construction phase. It is recognised that a number of the receptors are of high value and as such, adherence to the measures set out in the REAC and secured through the DCO Requirements, such as the CoCP (DCO Requirement 5), will ensure that the impact on groundwater receptors is negligible. These measures are set out in Table 8.12 of ES Chapter 8 Water.

8.8.173 As set out in ES Chapter 3 Project Description, the pipeline design provides operational integrity through a range of measures (e.g. corrosion protection), and as such, the pollution risks arising from the operation of the pipeline are considered to be negligible. The specific impacts on groundwater quality are set out in ES Appendix 8.5 Potential Effects on Groundwater.

Surface Water

8.8.174 Two of the most important considerations in relation to surface water quality are potential impacts on aquatic ecology and any downstream surface water abstractions. ES Appendix 8.5 provides a summary of watercourse sensitivity from an aquatic ecology perspective.

8.8.175 In Section A, the following surface watercourses are assessed as being of moderate or high sensitivity (the remainder are low sensitivity watercourses or ephemeral drainage channels):

- High sensitivity: Ford Lake/Upper Hamble.
- Moderate sensitivity: None.



- 8.8.176 Licensed surface water abstractions located downstream (within 5km) of proposed watercourse crossings in Section A are as follows:
- River Hamble: two abstractions, approximately 600m and 900m downstream of Ford Lake.
- 8.8.177 Ford Lake is to be crossed using a trenchless crossing, therefore removing any direct effects from in-channel works or to downstream surface water abstractions. Crossing of the ordinary watercourse in Wintershill by open cut trenching technique has the potential for a moderate impact on surface water, through the escape of groundwater containing elevated contaminants. However, given the good practice measures contained within the REAC together with the low sensitivity of this watercourse, no significant effects are forecast. The implementation of the good practice measures in the REAC are secured through DCO Requirements such as the CoCP (DCO Requirement 5).
- 8.8.178 As a result, it has been assessed that operational impacts are unlikely to have a significant effect on surface water quality.

Water Resources

- 8.8.179 There are no licensed groundwater abstractions and five unlicensed Private Water Supplies (PWSs) identified within GWSA-A (low value). There are seven licensed groundwater abstractions (high value) and 24 unlicensed PWSs (low value) within GWSA-B in Section A.
- 8.8.180 Only one abstraction (licensed or unlicensed) is identified as being shallow in Section A – PW000033 (unlicensed). This abstraction is located approximately 100m away from the Order Limits, and any impacts on this would be temporary for the duration of any dewatering pumping required for the trench. With the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) the impact magnitude is considered to be small and the significance minor.

Physical Characteristics of the Water Environment

- 8.8.181 Groundwater levels are anticipated to be shallowest in the watercourse valleys, particularly for the tributary of the River Hamble in the vicinity of Ford Lake Valley. Groundwater flow in the Secondary A aquifers is principally by intergranular flow. Groundwater modelling results and groundwater level monitoring data provided by the Environment Agency does show that, generally, the depth of groundwater is not significant in relation to the depth that the pipeline trench will penetrate. However, the groundwater susceptibility flooding map does show the potential for shallow groundwater at locations throughout GWSA-B.
- 8.8.182 Potential impacts to groundwater flow due to the presence of the pipeline in Section A are largely considered to be negligible as sub-surface flows are not expected to be altered, due to the design of stanks at right angles to the pipeline. Stanks are part of the embedded mitigation, with the purposes of preventing the movement of groundwater through the pipe trench and ensuring that it continues to reach flora which rely on groundwater in the Section A Groundwater Dependent Terrestrial Ecosystems at:



- Ford Lake Valley;
- Durley Green Lane; and
- Wintershill Floodplain.

Water Bodies or Protected Areas under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) around Potable Groundwater Abstractions

8.8.183 There are two WFD surface water bodies identified in Section A:

- Horton Heath Stream – Good potential; and
- Upper Hamble – Moderate status.

8.8.184 Impacts of the project components will be localised and likely to be negligible or low for both WFD bodies. As a result, it is unlikely that the current status of the WFD water bodies will be compromised by the project. The project will also not compromise the ability of the WFD water body to achieve Good Overall Potential in the future. As such, the project is assessed as not having any effects on WFD water bodies.

Summary

8.8.185 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section A of the project complies with the requirements of section 5.15 of NPS EN-1 and section 2.22 of NPS EN-4 with respect to water quality and resources.

8.9 Conclusions on Planning Assessment of Section A

8.9.1 The proposed pipeline route between Boorley Green and Bramdean has been the subject of a detailed optioneering and design iteration process to arrive at a proposal which seeks to avoid and then reduce potential temporary and permanent impacts.

8.9.2 Impacts on residents and local businesses through Section A are very limited due to the rural nature of this section. Areas of designated public open space are avoided, whilst two SINC's within the Order Limits will be crossed using trenchless techniques to avoid impact. A large portion of Section A will however be constructed within the SDNP and the proposals will constitute a major development within this nationally designated landscape. As set out in Chapter 7 Planning Assessment: Project-wide, however, it is considered that exceptional circumstances exist for this nationally significant infrastructure project and that development within the National Park is in the public interest

8.9.3 There will be impacts from construction of the project on the historic environment and the landscape within the SDNP, however these will be localised and short-term. Construction works may also give rise to noise impacts, though these will be limited to the construction phase, whilst sensitive noise receptors in Section A are limited. The implementation of specific good practice measures set out in the REAC and secured through DCO Requirements, will ensure that these impacts



are managed and will ensure that there will be no long-term significant residual effects within Section A.

- 8.9.4 Once in place and when operational, there will be no impacts on the local residents and no permanent effects on the wider environment that will outweigh the benefit of the provision of this nationally significant aviation fuel pipeline.
- 8.9.5 The impacts arising from the project in Section A should be considered in relation to the overall planning balance of the project, which is set out in Chapter 18 Overall Planning Balance and Conclusions.

9 Planning Assessment – Section B – Bramdean to South of Alton

Key points:

- Section B passes through the South Downs National Park;
- The area is very rural, the Order Limits pass through mainly agricultural land; and
- The Order Limits avoid Chawton House Registered Park and Garden.

9.1 Introduction

9.1.1 The route is divided into geographical sections in the application. This chapter provides a planning assessment for Section B of the route from Bramdean (after the A272 crossing) to South of Alton (B3006 crossing) in Hampshire. Section A of the route is covered in Chapter 8 and C to H of the route are covered in Chapters 10 to 15 respectively.

9.1.2 It considers the acceptability of the project against the policies set out in Chapter 6 Planning Policy Context and identifies where matters relevant to specific National Policy Statement (NPS) EN-1 and NPS EN-4 policy headings arise and sets out the measures required to mitigate the identified impacts.

9.1.3 This chapter provides further consideration of the NPS policy headings for Section B of the route and is designed to be read as a standalone assessment. Key points from Chapter 7 Planning Assessment: Project-wide may, therefore, be repeated within this section where relevant.

9.1.4 The chapter sets out the following for route Section B:

- Section 9.2: Overview of the route section, development proposed and its method of construction;
- Section 9.3: Overview of Section B refinement;
- Section 9.4: Identification of relevant Planning Authorities;
- Section 9.5: Identification of key environmental and planning designations within Order Limits;
- Section 9.6: Relevant planning history within the Order Limits;
- Section 9.7: Overview of Section B against NPS EN-1 Assessment Principles (using the relevant subject headings from EN-1);
- Section 9.8: Generic Impacts for Section B (NPS EN-1 and NPS EN-4 where stated); and
- Section 9.9: Conclusions on Planning Assessment of Section B.



9.2 Overview of this Section

Route Description

- 9.2.1 Section B (Planning Statement Figure 4.1, Sheets 4 – 6) is largely rural, similar to Section A, and lies mainly within the South Downs National Park (SDNP) – with a short section between Monkwood and near Four Marks outside the SDNP. It spans Winchester City Council and East Hampshire District Council administrative areas.
- 9.2.2 Section B is approximately 15km (9 miles) long and starts just after the A272 crossing. It avoids Woodcote Copse and Bramdean Common before running north of West Tisted. It then runs through the Four Marks golf course followed by the crossing of the A32, before running outside the southern boundary of Chawton House Registered Park and Garden. The section ends at the boundary of the SDNP after the B3006 crossing.

Use of Trenchless Installation Techniques

- 9.2.3 Trenchless installation techniques are proposed to be used for the following crossings:
- TC 005 – Petersfield Road: A trenchless crossing will be used under this rural road to avoid traffic disruptions, based on feedback from the Hampshire Highways Authority.
 - TC 006 – A32: A trenchless crossing will be used as this is a main road into Chawton and Alton.

Above Ground Infrastructure

- 9.2.4 Above Ground Infrastructure (AGI) in Section B comprises a pressure transducer and valves, as set out under the following headings, together with pipeline markers and flight marker posts as set out in Chapter 4 Project Description.

Valves

- 9.2.5 There are two valves in Section B:
- Valve 4: Uncle Bills/Wolfhanger Farm, southwest of West Tisted; and
 - Valve 5: Kitwood Lane, south of Four Marks.

Pressure Transducer

- 9.2.6 There is one pressure transducer within Section B, located just within the boundary of the SDNP, east of Four Marks.
- 9.2.7 Further details on the valves and pressure transducer are set out in Chapter 4 Project Description.

Construction

9.2.8 Details of the construction method, construction schedule and reinstatement are set out in Chapter 4 Project Description.

Crossings

9.2.9 The following river and watercourse crossings are required:

- Unnamed watercourse 9 (WCX 010) – open cut construction; and
- Unnamed watercourse 10 (WCX011) – open cut construction;.

9.2.10 The following road crossings are required in this section:

- Tithelands Lane (RDX 018) – open cut construction;
- Uncle Bills Lane (RDX 019) – open cut construction;
- Stapley Lane (RDX 020) – open cut construction;
- Soames Lane (RDX 021) – open cut construction;
- Smugglers Lane (RDX 022) – open cut construction;
- Petersfield Road (RDX 023) – trenchless construction;
- Lyeway Lane (RDX 024) – open cut construction;
- Kitwood Lane (RDX 025) – open cut construction;
- Hawthorn Road (RDX 026) – open cut construction;
- Headmore Lane (RDX 027) – open cut construction;
- Brightstone Lane (RDX 028) – open cut construction;
- Woodside Lane (RDX 029) – open cut construction;
- Gosport Road – A32 (RDX 030) – trenchless construction; and
- Selborne Road – B3006 (RDX 031) – open cut construction.

9.2.11 Street works, temporary construction access and Public Rights of Way (PRoW) diversions for Section B are shown on Access and Rights of Way Plan sheets 12 to 20, and 59 (**application document 2.5**).

Construction Compounds

9.2.12 There are four construction compounds along Section B of the pipeline route located at:

- A272 North (compound no. 4K);
- Petersfield Road (compound no. 4L);
- Hawthorn Road (compound no. 4M); and
- West of A32 (compound no. 4N).



Logistics Hubs

- 9.2.13 There are two logistics hubs within Section B:
- A31 Ropley Dean, east of Ropley Dean; and
 - A31/A32 Junction Northfield Lane, Alton.
- 9.2.14 Each of the hubs will include a pipe laydown area, secure plant storage area, bunded fuel storage, single-storey offices, staff welfare facilities and a vehicle parking area.
- 9.2.15 Further details regarding the logistics hubs are set out in Chapter 4 Project Description.

Narrow Working

- 9.2.16 There is one area of narrow working in Section B. This will reduce the width of the open cut trench construction through Four Marks Golf Course. This approach involves the contractor(s) using less space than standard working width due to localised constraints, such as working in roads or sensitive areas.

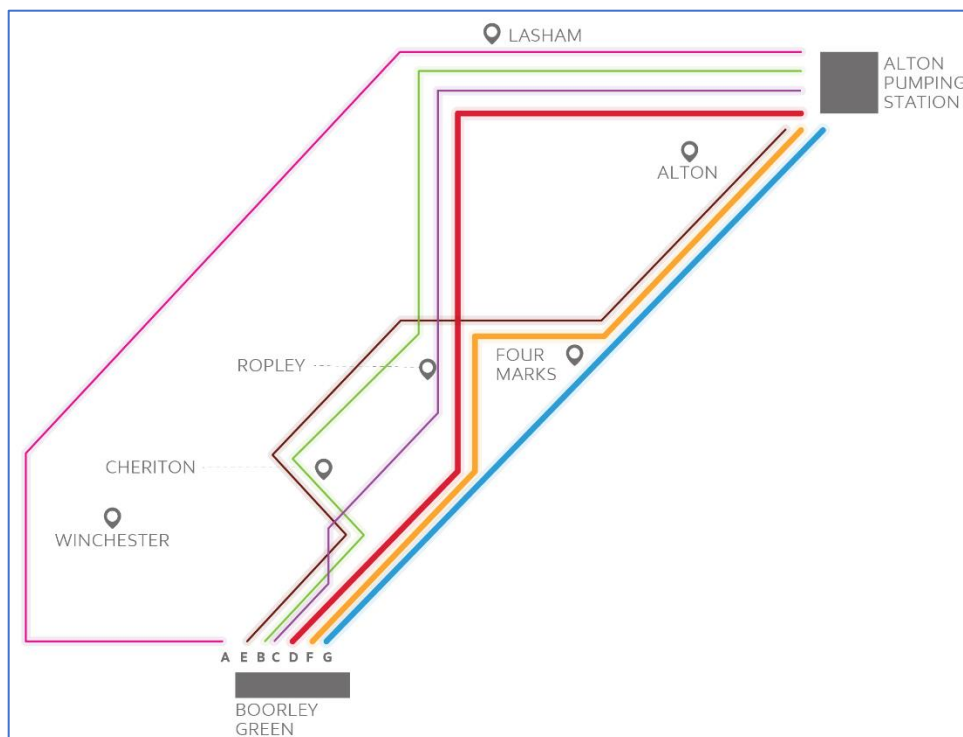
9.3 Overview of Section Refinement

- 9.3.1 The overall approach to design development and route refinement is set out in Chapter 3 Scheme Development, and in further detail in ES Chapter 4 Design Evolution. The following sub-headings outline key considerations relating to corridor selection and design refinement which has influenced the design development of Section B of the route. There were no sub-options in Section B.

Corridor Selection

- 9.3.2 Chapter 3 of this Planning Statement outlines the evolution of the project, a long list of corridor options for the route of the replacement pipeline were identified and considered. A sifting process was carried out based on environmental, planning and engineering factors. Illustration 8.1 shows the corridor options North of Alton. These corridor options were the subject of non-statutory consultation, supported by the document 'Replacement Pipeline Corridor Consultation: Securing aviation fuel supplies in South East England'.

Illustration 9.1: Longlist Corridor Options – South of Alton



- 9.3.3 Through the design development of the project, a number of corridor options (see Illustration 9.1) were reduced to a single preferred corridor, which informed the selection of a preferred route for Section B of the replacement pipeline. Given the national significance of the South Downs National Park (SDNP), and NPS EN-1 policy relating to its protection (NPS EN-1 5.9.10), this included a corridor option which avoided the SDNP by passing to the west of Winchester (corridor A) and alternative corridor options through the SDNP (corridors B to G).
- 9.3.4 The consideration of these corridor options against national policy for the protection of the SDNP is set out in Chapter 7 Planning Assessment: Project-Wide (paragraphs 7.4.170 to 7.4.190). Following the Corridor Options consultation, corridor G, which was partly within the SDNP, was selected as the preferred corridor. This informed the selection of the preferred route. Details of all consultations undertaken are presented in the Consultation Report (**application document 5.1**).

Design Refinement

- 9.3.5 Section B is largely rural and lies mainly within the SDNP. This has influenced the design considerations that were key to the development of the route in this section. Engagement with landowners, non-statutory and statutory consultations and the development of the Environmental Impact Assessment work has shaped the routing of the proposed pipeline.
- 9.3.6 Within this section, the pipeline route was designed to avoid Chawton House, including the woodland and hedgerows forming part of the registered park and garden associated with it, and to reduce and avoid potential impacts on the SDNP. To the south east of Four Marks, and following engagement with landowners in the



area, the routing of the pipeline was selected to reduce and avoid potential impacts on Westlands Care Home, a nursing home for older people requiring specialist care.

9.3.7 Consultation was also undertaken on a design refinement in Section B at Uncle Bills Lane, in the SDNP, to extend the order limits to link a valve to the nearest connection to power.

9.4 Relevant Planning Authorities

9.4.1 The relevant planning authorities for Section B are:

- Winchester City Council;
- South Downs National Park (SDNP) Authority (planning authority for all land within the SDNP);
- East Hampshire District Council; and
- Hampshire County Council (minerals and waste planning authority and highways planning authority).

9.4.2 Details of the relevant Planning Authorities' adopted and emerging plans together with a list of the policies relevant to the consideration of the project can be found in Chapter 6 Planning Policy Context and will form part of Statements of Common Ground (SoCG) with the relevant planning authorities.

9.5 Key Environmental and Planning Designations Within the Order Limits

9.5.1 The relevant adopted Local Plans for Section B are as follows:

- Within the South Downs National Park:
 - Winchester District Local Plan Part 1 – Joint Core Strategy (2013) – to be replaced by emerging South Downs Local Plan (2017) for area of district in SDNP; and
 - East Hampshire Local Plan: Second Review (2006);
 - East Hampshire District Local Plan: Joint Core Strategy (2014) – to be replaced by emerging South Downs Local Plan (2017) for area of district in SDNP;
 - Hampshire Minerals and Waste Plan (2013).
- Outside the South Downs National Park:
 - East Hampshire District Local Plan: Joint Core Strategy (2014) – to be replaced by emerging East Hampshire District Council Local Plan 2017 – 2036;
 - East Hampshire District Local Plan: Housing and Employment Allocations (2016);
 - Hampshire Minerals and Waste Plan (2013).



South Downs National Park Authority

- 9.5.2 Section B starts immediately north of the A272 at Bramdean in the SDNP in an area currently designated as countryside (under policy MTRA4 of the Winchester Local Plan Part 1 – Joint Core Strategy (2013) initially and then under policy CP19 in the East Hampshire District Local Plan: Joint Core Strategy (2014), until policy SD25 in the emerging South Downs Local Plan is adopted).
- 9.5.3 The pipeline Order Limits have been carefully designed to avoid most local plan designations, including areas designated as Sites of Importance for Nature Conservation (SINCs) but there are SINCs very close to the Order Limits: Bramdean Common – The Plantation, and Merryfield Grove, protected under East Hampshire Local Plan policy CP21 (to be superseded by Policy SD9 in the South Downs Local Plan when adopted).
- 9.5.4 From Soames Lane, southeast of Ropley, to Headmore Lane, southeast of Four Marks, the Order Limits lie outside of the SDNP, passing through East Hampshire District, as described in paragraphs 9.5.6 and 9.5.7.
- 9.5.5 The Order Limits re-enter the SDNP passing through an area designated entirely as countryside (East Hampshire policy CP19), before exiting the National Park at Selborne Road at the end of Section B. For this length within the National Park, the Order Limits have been designed to avoid SINCs, but there are SINCs very close to the Order Limits: Hughes' Copse, Noar Copse, Chawton Park Wood and Chawton Paceyway (protected under East Hampshire policy CP21). The Order Limits are close to, but have been selected to lie outside of, the Chawton House Registered Park and Garden, protected under East Hampshire policy CP30.

East Hampshire District Council

- 9.5.6 To the southeast of Ropley, the Order Limits enter East Hampshire District and land designated as countryside (policy CP19). The Order Limits do not pass through any other policy designations, but do pass very close to Little Down Wood SINC, which is protected under East Hampshire Local Plan policy CP21.
- 9.5.7 Before re-entering the SDNP, to the southeast of Four Marks, the Order Limits pass through Four Marks golf course, which is designated as a Community Facility (policy 5) in the adopted Medstead and Four Marks Neighbourhood Plan 2016.

Hampshire County Council

- 9.5.8 There are no minerals and waste designations within the Order Limits of Section B.

9.6 Relevant Planning History Within the Order Limits

- 9.6.1 Relevant planning history is summarised below and will form part of Statements of Common Ground with the relevant planning authorities.
- 9.6.2 Table 9.1 identifies the relevant planning history for planning permissions within the Section B Order Limits.



Table 9.1: Relevant Planning History within Section B Order Limits

Local Planning Authority	Key Developments
South Downs National Park Authority	<p><u>Wolfhanger Farm, SO24 0JJ</u> Demolition of existing redundant farm buildings and construction of two dwellings (SDNP/12/01248/FUL) - Refused, allowed on appeal. Construction of two new dwellings (SDNP/17/04172/FUL) – permitted. Small part of the site falls within Order Limits – this affects access but not the proposed dwellings.</p>
East Hampshire	<p><u>Grain Dryer, Scaifs Farm, Selborne Road, Selborne, Alton</u> Change of use of grain dryer from agricultural to storage and distribution (B8 use) with hardstanding/parking area including the re-roofing and re-cladding of the building (50836/001). Building located away from Order Limits, but Order Limits cross the access road.</p>

9.7 Assessment Principles (NPS EN-1 Part 4)

- 9.7.1 This part of the assessment considers the acceptability of Section B of the project against the assessment principles from Part 4 of NPS EN-1, as set out in section 7.3 of Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise related to Section B that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with the project.
- 9.7.2 Table 9.2 sets out the Assessment Principles that are addressed in Chapter 7 Planning Assessment: Project-wide. Other Assessment Principles are assessed in the subsequent section identifying where the assessment is in this chapter.



Table 9.2 Assessment Principles addressed in Chapter 7 Planning Assessment: Project-wide

Assessment Principles NPS (EN-1 Part 4)	Chapter 7 Planning Assessment: Project-wide Relevant Paragraphs
<p>Alternatives Section 4.4 requires alternatives to the project to be assessed.</p>	7.3.9 to 7.3.13
<p>Climate Change Adaptation Section 4.8 requires climate change adaptation to be assessed.</p>	7.3.19 to 7.3.24
<p>Pollution Control and Other Environmental Regimes Section 4.10 requires discharges or emissions which affect air quality, water quality, land quality and the marine environment, or which give rise to noise and/or vibration to be assessed.</p>	7.3.25 to 7.3.27
<p>Safety Section 4.11 requires safety of the pipeline to be assessed.</p>	7.3.28 to 7.3.31
<p>Hazardous Substances Section 4.12 requires the management of hazardous substances to be assessed.</p>	7.3.32
<p>Health Section 4.13 requires the possible health and well-being impacts to be assessed.</p>	7.3.33 to 7.3.38
<p>Common Law Nuisance and Statutory Nuisance Section 4.14 requires any common law or statutory nuisances to be mitigated.</p>	7.4.39 to 7.4.40
<p>Security Considerations Section 4.15 requires security considerations to be mitigated.</p>	7.4.41 to 7.4.43

Environmental Statement

- 9.7.3 The requirements set out in paragraphs 4.2.1 to 4.2.11 of NPS EN-1 are met as a comprehensive Environmental Statement (ES) (**application document 6.1-6.4**) covering the entire route (Sections A – H inclusive) accompanies the application for development consent.
- 9.7.4 Section 9.8 of this chapter considers how Section B of the route is in compliance with each of the generic topics in NPS EN-1 (which also broadly aligns with the technical chapters of the ES).

Habitats and Species Regulations

- 9.7.5 The requirements set out in paragraph 4.3.1 of NPS EN-1 are met as a comprehensive Draft Habitats Regulations Assessment (HRA) Report (**application document 6.5**) covering the complete entire route accompanies the application for development consent.
- 9.7.6 The HRA report concludes that there will be no adverse effects on the integrity of any European (Natura 2000) sites from Section B of the project.



Good Design

- 9.7.7 In accordance with NPS EN-1 section 4.5, the design of the pipeline in Section B will be in line with paragraphs 7.3.14 to 7.3.18 of Chapter 7 Planning Assessment: Project-wide.
- 9.7.8 The vast majority of the project within Section B will be below ground once complete, apart from above ground infrastructure comprising two valve compounds, a single pressure transducer valve compound, pipeline markers and flight marker posts.
- 9.7.9 The design development for the proposed valve locations followed the iterative design development process. Areas of high environmental and social sensitivity were avoided where practicable, and the design development also sought to reduce effects on receptors.

9.8 Generic Impacts (NPS EN-1 Part 5 and NPS EN-4 Gas and Oil Pipelines)

- 9.8.1 This part of the assessment considers the acceptability of Section B of the project against the generic impacts from Part 5 of NPS EN-1 and the specific impacts from gas and oil pipelines specified in NPS EN-4 as set out in section 7.4 in Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise in relation to Section B of the project that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with Section B of the project.

Air Quality and Emissions

- 9.8.2 In accordance with section 5.2 of NPS EN-1, the ES Chapter 13 People and Communities and ES Appendix 13.2 Air Quality Technical Note provides a detailed assessment of the significance of the air quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide, paragraphs 7.4.3 to 7.4.8 provide a project-wide overview of any impacts that the project is likely to have upon air quality, together with identifying the good practice measures to manage these impacts which are set out in the Register of Environmental Actions and Commitments (REAC) and secured through DCO requirements such as the Code of Construction Practice (CoCP) (DCO Requirement 5) and the Construction Environment Management Plan (CEMP) (DCO Requirement 6).
- 9.8.3 The Section B Order Limits do not pass through or close to any Air Quality Management Areas, whilst the maximum annual mean concentrations for nitrogen oxides (NO_x), nitrogen dioxides (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) for the grid squares within 400m of the proposed route in Section B are all below the respective national Air Quality Objectives.
- 9.8.4 On the basis of the proposed maximum number of daily heavy-duty vehicles and light duty vehicles associated with construction traffic, the air quality effects from construction traffic, including diversions, on human and ecological receptors in rural and urban areas are unlikely to have significant effects on the environment. Therefore, the proposals would not lead to a deterioration in air quality.



Summary

9.8.5 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section B of the project complies with the requirements of section 5.2 of NPS EN-1 in relation to air quality and emissions.

Biodiversity and Geological Conservation

9.8.6 In accordance with section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 7 Biodiversity sets out the effects of the project, during both construction and operation, on international, national and locally designated sites, protected species and habitats, and other species identified as being of principal importance for the conservation of biodiversity.

9.8.7 Paragraphs 7.4.9 to 7.4.63 of Chapter 7 Planning Assessment: Project-wide provide an overview of the identified biodiversity and geology impacts of the project as a whole against the biodiversity and geology NPS policy tests identified in Chapter 6 Planning Policy Context.

9.8.8 This section hereon specifically considers the biodiversity and geology impacts of the project within Section B of the project.

International and National Designated Sites

9.8.9 As highlighted in paragraph 7.4.14 of Chapter 7 Planning Assessment: Project-wide, the project has been designed to avoid and reduce impacts on all designated sites as far as practicable. There are no international or national designated sites relevant to Section B (the ES adopted a 1km study area, together with sites hydrologically connected or designated for bats).

Locally Designated Sites

9.8.10 Table 9.3 identifies the number of locally designated sites within 1km of the Order Limits of Section B which have been assessed by the ES as being of medium value/ sensitivity.

Table 9.3: Locally Designated Sites in Section B

Designation Type	Local Authority	Within Order Limits	Within 100m	Within 1km
SINC	Winchester	0	0	5
	East Hampshire	0	9	24
RVEI	East Hampshire	0	0	2
Other	East Hampshire	0	1	3

9.8.11 As Table 9.3 shows, there are no locally designated sites that are located within the Order Limits in Section B.

Protected Species



9.8.12 As set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), Landscape and Ecological Management Plan (LEMP) (DCO Requirement 12) and protected species (DCO Requirement 13), the contractor(s) will comply with relevant protected species legislation including with regards to badgers, bats, dormice, otters, water voles, sand lizards, great crested newts and Schedule 1 birds. Appropriate licences will be obtained where necessary from Natural England for all works affecting protected species as identified by the Environmental Statement and through pre-construction surveys. All applicable works will be undertaken in accordance with the relevant good practice measures set out in the REAC and conditions set out in those licences. DCO Requirement 13 specifically protects against situations where unexpected protected species may be identified and encountered as part of the implementation of the project.

Badgers

9.8.13 The effects on badgers are not considered in the ES (“scoped out”) following the Planning Inspectorate’s Scoping Opinion response. Effects on badgers were scoped out on the basis of their conservation status and the population in the local area. As such, construction works likely to impact badgers or a sett in current use will be subject to mitigation and secured under a licence granted by Natural England.

9.8.14 The results of the badger surveys have nonetheless directly influenced the alignment of the Order Limits, with several changes being implemented to avoid direct impacts to main setts.

Bats

9.8.15 A desk study was undertaken as part of the ES to value habitat potentially used by commuting and foraging bats. This study identified likely bat ‘hotspots’ in Section B at:

- Woodcote Manor House;
- Orchard House to the west of West Tisted;
- Monkwood; and
- area to the north of Lower Farringdon, where there are large sections of ancient woodland and an old railway corridor.

9.8.16 The ES determines that due to the species composition of bats recorded within the study area and the potential for roosts to be present within the Order Limits, all bats are valued as high. Where possible, the alignment of the Order Limits and Limits of Deviation has been selected to reduce the loss of trees with bat roost potential and wherever possible to maintain good practice distances between construction areas and trees.

9.8.17 The ES concludes that with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section B have been identified on bats. These measures are set out in the REAC and secured through



DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Birds

- 9.8.18 There are no statutory or non-statutory sites which contain notable or protected bird species as a qualifying feature within 1km of the Order Limits of Section B.
- 9.8.19 Overall, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section B have been identified on breeding birds. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12)..

Dormouse

- 9.8.20 Records and evidence of dormouse within or near to Section B have been identified in a number of locations as set out in ES Appendix 7.9. The ES determines that due to the regional abundance of dormouse within suitable habitats, its value is medium.
- 9.8.21 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section B have been identified on dormouse. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Fish

- 9.8.22 There are no watercourses crossed by the Order Limits in Section B identified as having high sensitivity for fish species during habitat walkover surveys.
- 9.8.23 The ES has determined fish communities with migratory life stages (within the Order Limits) to be of medium value. Fish communities comprising non-migratory species are typically ubiquitous to watercourses surveyed across the Order Limits, and are assessed as being of low value.
- 9.8.24 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section B have been identified on fish. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Great Crested Newt

- 9.8.25 Desk study and field results have not identified the presence of great crested newt (GCN) within 250m of the Section B Order Limits.



9.8.26 Although there are no identified GCN in Section B, GCN have been recorded in most 10km squares in Hampshire. As such, GCN are afforded a medium value. Appropriate licences will be obtained where necessary from Natural England for all works affecting GCN as identified by the ES and through pre-construction surveys. All relevant works will be undertaken in accordance with the relevant mitigation requirements and conditions set out in those licences.

9.8.27 The ES concludes that, with the measures secured through the European Protected Species (EPS) licences, no significant effects from construction or operation of the project within Section B have been identified on GCN.

Otter and Water Vole

9.8.28 Otters have the potential to use any watercourse. However, no records or signs of otter have been identified within the Order Limits of Section B. Similarly, no records or evidence of water vole have been identified within the Order Limits of Section B.

9.8.29 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project have been identified on otter or water voles. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Habitats of Principal Importance for Biodiversity Conservation

9.8.30 The ES has gathered baseline information on the habitats within the Order Limits from both desk study and field survey.

9.8.31 Section B of the route largely comprises artificial habitats associated with agriculture, such as arable fields and improved grassland (ES Figure 7.4). Semi-natural habitats within the Order Limits comprise hedgerows and broadleaved semi-natural woodland. Hedgerow Priority Habitat is frequent along Section B of the route and there are stands of Lowland Mixed Deciduous Woodland Priority Habitat within the Order Limits (ES Figure 7.3). No further Priority Habitats have been identified within this section.

9.8.32 Outside of designated sites, Priority Habitats within Section B, including hedgerows and watercourses, are considered to be of medium value.

9.8.33 All habitat not considered as Priority Habitat is assessed as being of negligible value and is not discussed further in the ES assessment. Notable plant species recorded within the Section B Order Limits, but outside of designated sites, are valued as low.

9.8.34 In summary, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity and, no significant effects from construction or operation of the project have been identified on Priority Habitats and notable plant species outside of designated sites. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP



(DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Ancient Woodland and Veteran Trees

- 9.8.35 The Order Limits of Section B do not include any Ancient Woodland Inventory (AWI) sites (i.e. areas of Ancient Woodland of at least 2ha) or any Potential Ancient Woodland habitat of less than 2ha. A single AWI site is located immediately adjacent to the Order Limits (see ES Figure 7.3). The combined area of sections of eight AWI sites within 50m of the Order Limits totals approximately 3.17ha. No Potential Ancient Woodland habitat less than 2ha was identified within 50m of the Section B Order Limits.
- 9.8.36 The ES reports that no significant effects relating to habitat loss/gain, fragmentation or modification are predicted on ancient woodland near to Section B. Furthermore, with the implementation of good practice measures, no significant effects on ancient woodland are predicted from the introduction/spread of invasive non-native species (INNS) or dust deposition from air quality changes.
- 9.8.37 Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the Landscape and Ecological Management Plan (DCO Requirement 12).
- 9.8.38 Overall, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project have been identified on ancient woodland near to the Order Limits of Section B. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Hedgerows

- 9.8.39 There will be a number of locations along Section B where there will be construction impacts on hedgerows. As a result of embedded mitigation and proposed good practice measures, including those relating to working widths and reinstatement of vegetation, the impacts to hedgerows will be localised and reversible in nature. There is a high degree of confidence in the successful reinstatement of hedgerow habitat in the medium to long term and no permanent loss of hedgerow habitat is anticipated.
- 9.8.40 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project have been identified on hedgerows within Section B of the Order Limits. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Summary

- 9.8.41 Through the route design and embedded mitigation, and the good practice measures set out in the REAC and secured through DCO Requirements such as



the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12), Section B of the project avoids significant harm to biodiversity and geological conservation and therefore complies with the requirements of section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4.

Civil and Military Aviation and Defence Interests

9.8.42 There are no civil or military aviation and defence interests within the Order Limits in Section B of the project.

Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation

9.8.43 In accordance with section 5.6 of NPS EN-1, ES Chapter 13 People and Communities provides a detailed air quality assessment of the project, during both construction and operation.

9.8.44 Paragraphs 7.4.71 to 7.4.93 of Chapter 7 Planning Assessment: Project-wide provide an overview of any dust or artificial light impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. As paragraph 7.4.72 of Chapter 7 Planning Assessment: Project-wide states, there will be no odour, smoke, steam or insect infestation issues resulting from the project. The specific impacts arising from dust and artificial light emissions within Section B are considered below.

Dust

9.8.45 In respect to dust emissions, the possible receptors in Section B which may be affected are assessed as human receptors residing or working within 350m of the construction site and ecological receptors within 50m as identified in Table 9.4. Human receptors in Section B includes several community and recreation/amenity facilities within the study area (and Order Limits), including Public Rights of Way (PRoWs), as well as Four Marks and Chawton Primary Schools, Westlands Care Home and Chawton playground. Ecological receptors in Section B comprise four parcels of ancient woodlands <20m from the Order Limits.

Table 9.4: Human and Ecological Receptors in Proximity to Section B

	Human Receptors				Ecological Receptors		
	Demolition, earthworks and construction (Distance to construction boundary)				Trackout (Distance from roads up to 200m from the site entrance)		Dust Soiling (Distance to construction boundary)
	<20m	<50m	<100m	<350m	<20m	<50m	<20m
Section B	5	16	33	176	1-10	10-100	Low
A31 Ropley Dean (Logistics Hub)	0	0	0	11	1-10	1-10	No receptors
A31/A32 (Logistics Hub)	0	0	5	28	0	0	No receptors

9.8.46 In respect to potential dust emissions, the magnitude of dust emissions in Section B is presented in Table 1.7 of ES Appendix 13.2 Air Quality Technical Note, whilst



an assessment of the sensitivity of the areas around Section B (including the logistics hubs) for human and ecological receptors is presented in Table 1.8 and Table 1.9 respectively of ES Appendix 13.2 Air Quality Technical Note.

- 9.8.47 The ES Appendix 13.2 (Table 1.10) has assessed the risk to human health and ecological receptors from dust emissions arising at each of the three construction activities (earthworks, construction and trackout) in Section B as being either negligible or low. The risk of dust soiling during the construction stages ranges from a negligible risk for the trackout phase to a medium risk for the earthworks phase. The dust risk arising from the two construction logistics hubs in Section B is assessed as negligible to human health for both hubs.
- 9.8.48 Despite the dust emission risk being judged as being negligible to low, as summarised in Appendix 13.2: Air Quality Technical Note, Table 1.10, good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6) will be incorporated in order to control all effects of dust, not just medium to high risks, as set out in paragraphs 7.4.73 to 7.4.83 of Chapter 7 Planning Assessment: Project-wide.

Artificial Light

- 9.8.49 Temporary artificial lighting will be provided during the construction phase in the working area, construction compounds and logistics hub in Section B.
- 9.8.50 During the construction phase, in addition to temporary site working area lighting, it is proposed to provide temporary lighting at the four construction compounds (paragraph 9.2.7) and two logistics hubs (paragraph 9.2.8) located in Section B.
- 9.8.51 Two of the compounds are located within the SDNP (compounds 4K and 4N). Potential effects of lighting in relation to the National Park are considered in Chapter 8 Planning Assessment - Section A in relation to the SDNP as a whole. Section B of the pipeline lies outside of the Core Dark Sky area as identified by the SDNP.
- 9.8.52 Measures to control lighting effects are included within the REAC. All lighting will be set up to avoid nuisance as far as is practicable so will be low-level and directional to avoid glare into residential properties. The construction compound and logistics hub lighting would be of the lowest luminosity necessary for safe delivery of each task. It would be designed, positioned and directed to reduce the intrusion into adjacent properties and habitats. The implementation of the good practice measures in the REAC are secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

Summary

- 9.8.53 Through the good practice measures set out in the REAC and secured through the DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section B of the project will keep the impacts from dust and artificial light to a minimum and therefore complies with the requirements of section 5.6 of NPS EN-1 in relation to dust and artificial light.



Flood Risk

- 9.8.54 In accordance with section 5.7 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the flood impacts of the project, including a Flood Risk Assessment (FRA) for the project (**application document 7.3**).
- 9.8.55 Paragraphs 7.4.94 to 7.4.125 of Chapter 7 Planning Assessment: Project-wide provide an overview of any impacts that the project is likely to have on flood risk and water infrastructure, together with identifying the mitigation that will be implemented to manage these impacts.
- 9.8.56 In respect of Section B, there are no risks either from or to the project related to reservoir flood risk or canal flood risk.

Fluvial Flooding

- 9.8.57 In Section B, the FRA watercourse crossing schedule identifies 4 locations where the pipeline crosses a surface watercourse within this section – all unnamed ordinary watercourses as listed in 9.2.6 of this chapter.
- 9.8.58 The crossing of unnamed watercourse 7 (WCX008) (an access road only) is within fluvial flood zone 3 will be by open-cut and is assessed as a high risk. The other three watercourse crossings in Section B, are will also be by open cut crossing, but are assessed as having a low risk.
- 9.8.59 A watercourse crossing report has been developed for crossing WCX008 in order to provide a full assessment of risk and this is included in Appendix C of the FRA (**application document 7.3**).
- 9.8.60 A range of good practice measures will be implemented to ensure that the project does not exacerbate flood risk at WCX008 which is identified as high risk. These include specific mitigation measures which are listed in Table 13.2 in the FRA. The implementation of these measures will reduce the overall risk to and from the project at this crossing down to a low risk. These good practice measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).
- 9.8.61 All of the four construction compound locations and two logistics hubs in Section B are within fluvial flood zone 1 or 2 and are assessed as having a very low risk of fluvial flooding.
- 9.8.62 In respect of the operational stage, the only above ground infrastructure in Section B will be small elements including valves, the pressure transducer, and pipeline markers and flight marker posts. Therefore, the risk to and from the project in the operational phase is considered to be very low and no specific mitigation measures are proposed, thereby not increasing flood risk in accordance with NPS EN-1 paragraph 5.7.21.

Surface Water

- 9.8.63 There is one location in Section B which is within an identified surface water flow route, assessed as being in excess of 1 in 30 probability of flooding:



- 9.8.64 Along Hawthorn Road, southeast of Four Marks.
- 9.8.65 These locations are identified as having a medium risk of surface water flooding, which construction works have the potential to exacerbate the risk to third parties.
- 9.8.66 The four construction compounds and two logistic hubs are assessed as being at low risk from surface water flooding.
- 9.8.67 A range of water good practice construction measures are set out in Table 13.2 in the FRA which will reduce the impact from surface water flooding on the projecting and also of the project increasing the risk to other parties. These measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

Groundwater

- 9.8.68 There are two areas in Section B of the pipeline where there is the potential for construction of the pipeline to impact on or be impacted by groundwater flooding;
- in the vicinity of the A272 to the east of Bramdean (although the crossing of the road is by trenchless techniques) (NGR: 462399, 127552); and
 - in the vicinity of the A32 to the south of Chawton (although the crossing of the road is by trenchless techniques) (NGR: 470128, 135669 to NGR: 470532, 135959).
- 9.8.69 Construction compounds 4K and 4N and the A31 Ropley Dean Logistics Hub are also identified to have the potential of groundwater flooding.
- 9.8.70 The risk to the project in Section B from groundwater flooding has been assessed as either low or very low due to slow onset and low velocities normally associated with groundwater flooding.
- 9.8.71 The project could exacerbate groundwater flood risk elsewhere through dewatering although this would only be in isolated locations and the duration of the excavations would be sufficiently short not to exacerbate flood risk to third parties.
- 9.8.72 Where required, water stops or 'stanks' would be installed at intervals through the pipe bedding and side fill in order to intercept groundwater flowing along the pipeline bedding material and prevent the creation of new groundwater flow paths during the operational phase.

Summary

- 9.8.73 Through the good practice measures set out in the REAC and specific mitigation identified in the Flood Risk Assessment, secured through the DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section B of the project complies with the requirements of section 5.7 of NPS EN-1 and section 2.22 of NPS EN-4 in relation to flood risk.



Historic Environment

- 9.8.74 In accordance with section 5.8 of NPS EN-1, ES Chapter 9 Historic Environment provides a detailed description of the significance of the heritage assets affected by the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.126 to 7.4.149) provides a project-wide overview of any impacts that the project is likely to have upon the historic environment, together with good practice measures that will be implemented to manage these impacts. Those related to Section B are identified below.
- 9.8.75 The route in Section B has been selected to reduce the impact on the historic environment by avoiding, where practicable, designated heritage assets in accordance with paragraph 5.8.12 of NPS EN-1. Some impacts on the historic environment may still occur as a result of construction activity, including upon as yet unidentified archaeological assets.
- 9.8.76 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.1) identifies those heritage assets where major or moderate adverse effects have been identified to result from construction of the project, prior to the application of good practice measures. Assets in Section B where major or moderate effects are identified (without good practice measures) within the ES are set out in Table 9.5.

Table 9.5: Heritage Assets Along Section B of Pipeline

Asset Number	Asset Name	Within Order Limits	Value	Significance of Effect of Project on Heritage Asset (without good practice measures)	Significance of Effect of Project on Heritage Asset (with good practice measures)
1998	Geophysical Survey Archaeological Feature 21	Yes	Low	Moderate Adverse	Negligible
1999	Geophysical Survey Archaeological Feature 22	Yes	Low	Moderate Adverse	Negligible
2000	Geophysical Survey Archaeological Feature 23	Yes	Medium	Moderate Adverse	Negligible

- 9.8.77 As Table 9.5 identifies, ES Chapter 9 Historic Environment concludes that there will be no significant (major or moderate) residual effects on heritage assets in Section B, following the application of good practice measures. Good practice measures relating to archaeological protections are set out in the REAC and secured through DCO Requirement 11 which requires for an Archaeological Mitigation Strategy (AMS), to be prepared and approved by each relevant planning authority.
- 9.8.78 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.2) identifies additional heritage assets where significant effects are not identified, but where there may be minor adverse or negligible effects upon a heritage asset. There is one asset located within the Order Limits where the ES assessment identifies a possible minor adverse permanent effect, following the application of good practice measures, as follows:
 - Trackway 1 – This asset crosses the order limits south west of West Tisted.



- 9.8.79 The ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.2) identifies additional heritage assets located beyond the Order Limits where there may be minor adverse residual effects to the assets.
- 9.8.80 Although some residual effects are therefore identified to occur, these are assessed to be either negligible or short-term minor adverse effects upon the setting of heritage assets, or at worst minor adverse effects from physical impacts on the heritage assets themselves. With regard to paragraph 5.8.15 of NPS EN-1, as the residual effects are, at worst, minor adverse, there will be no substantial harm to any heritage assets, nor will there will be any total loss of any heritage assets as a result of Section B or any other Sections of the project. Any harmful impact on the significance of any heritage assets resulting from the identified residual minor adverse effects is outweighed by the public benefit of the project, as set out in detail in Chapter 2 Need.

Summary

- 9.8.81 Through the good practice measures set out in the REAC such as the requirement for an AMS (secured through DCO Requirement 11), there is no loss or harmful impact on the significance of any designated heritage assets in Section B of the project complies with the requirements of section 5.8 of NPS EN-1 in relation to heritage assets.

Landscape and Visual

- 9.8.82 In accordance with section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 10 Landscape and Visual accompanying the application for Development Consent provides a detailed assessment of the landscape and visual impacts of the project. Furthermore, paragraphs 7.4.150 to 7.4.196 of Chapter 7 Planning Assessment: Project-wide provide an overview of any landscape or visual impacts that the project is likely to have, together with identifying the design measures that have sought to avoid or reduce potential impacts both through the alignment of the pipeline corridor and the use of the design measures outlined in Table 10.13 of ES Chapter 10 Landscape and Visual.
- 9.8.83 Chapter 7 Planning Assessment: Project-wide also includes the assessment of compliance with the NPSs in relation to major development within the SDNP. This assessment is not repeated in this Section B assessment. Although the route in Section B has been selected to reduce the impact on key landscape constraints, a large part of this section lies within the SDNP and some impacts may still occur as a result of construction activity and/or operational activities.
- 9.8.84 Landscape or visual impacts arising from construction and operation of the project in Section B are identified below.

Construction Impacts

Landscape Character

- 9.8.85 Potential impacts on national landscape character areas and South Downs Integrated Character Areas identified in ES Chapter 10 in Section B are



summarised in Table 9.6. Impacts during construction and post construction in years 1 and 15 are identified.

Table 9.6: Summary of Potential Impacts on Landscape Character – Section B

National Character Area	South Downs Integrated Character Area	Construction	Year 1	Year 15
		Significance of Effect	Significance of Effect	Significance of Effect
130: Hampshire Downs	D3a Bramdean and Cheriton Downland Mosaic (Enclosed)	Moderate	Moderate	Minor
	Landscape Type C: Clay Plateau			
	C1 Froxfield Clay Plateau			
	D4a Newton Valence Downland Mosaic (Enclosed)			

9.8.86 The ES Chapter 10 Landscape and Visual concludes that in year 1 post construction, the line of the route will be evident from the contrast in colour between the existing and recently seeded grass across reinstated areas of pasture and grassland within all character areas, caused by disturbance during construction and establishment of re-seeded areas. However, this will be short term and not significant. Impacts will be localised and will not affect the overall landscape character.

Landscape Designations

9.8.87 Potential impacts landscape designations identified in the ES Chapter 10 Landscape and Visual in Section B are summarised below.

South Downs National Park

9.8.88 Chapter 7 Planning Statement: Project-wide includes the assessment of compliance with the NPSs in relation to major development within the SDNP. As stated above, this assessment is not repeated in this Section B assessment.

9.8.89 The ES Chapter 10 Landscape and Visual concludes that effects on the SDNP will be restricted to the route and immediate surroundings, which comprises a narrow corridor in the context of the wider extent of the SDNP.

9.8.90 The ES Chapter 10 Landscape and Visual concludes that the significance of the effect on SDNP during construction will be moderate due to the combination of temporary construction effects and vegetation loss.

9.8.91 The ES Chapter 10 Landscape and Visual concludes that the significance of the effect on SDNP in year 1 post construction will be moderate due to the loss of trees and hedgerow vegetation that will remain evident after the construction period. Whilst the route has been designed to avoid woodland where possible, the loss of trees and hedgerow vegetation and subsequent localised changes to the landscape character along the route within the SDNP will be noticeable.



- 9.8.92 The ES Chapter 10 Landscape and Visual concludes that the significance of the effect on SDNP by year 15 post construction will be minor as it will not be possible to fully mitigate the loss of mature vegetation and notable trees.

Ancient Woodland and Tree Preservation Orders (TPOs)

- 9.8.93 Apart from roadside trees protected by TPO at the start of Section B at the A272 proposed trenchless crossing (refer to Chapter 8: Planning Assessment – Section A for further details), there are no classified ancient woodland, potential ancient woodland (undesigned) or TPOs within the Order Limits of Section B.
- 9.8.94 Powers will be secured under Schedule 1 to the DCO to construct the pipeline within the Limits of Deviation, including trenchless crossings or narrow working as required. Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the Landscape and Ecological Management Plan (DCO Requirement 12).

Visual Effects

- 9.8.95 The potential visual effects from the representative viewpoints along Section B are set out in ES Chapter 10 Landscape and Visual Appendix 10.3 and summarised in paragraphs 10.5.118 to 10.5.121 in ES Chapter 10 Landscape and Visual.
- 9.8.96 The ES Chapter 10 Landscape and Visual concludes that for 6 out of 8 of the representative viewpoints in Section B the significance of the effect during construction will be moderate, however, in all of these cases the effect is reduced to minor post construction in year 1 and the effect for all representative viewpoints will be negligible by year 15.

Operational Impacts

- 9.8.97 The ES Chapter 10 Landscape and Visual concludes that landscape and visual effects arising from pipeline operation in year 15 will be localised and not significant when reinstatement planting outlined in Table 10.13 of ES Chapter 10 Landscape and Visual will be established. This is because the pipeline will be underground and above ground features including the proposed valves and pressure transducer will be small in scale. The details of planting will be secured through the Landscape and Ecological Management Plan, the implementation of which is secured by DCO Requirement 12.

Summary

- 9.8.98 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and LEMP (DCO Requirement 12) and the assessment of compliance with the NPSs in relation to major development within the SDNP in Planning Statement Chapter 7: Project Wide, Section B of the project complies with the requirements of section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4 in relation to landscape and visual.



Land Use Including Open Spaces, Green Infrastructure and Green Belt

- 9.8.99 In accordance with section 5.10 of NPS EN-1, ES Chapter 12 Land Use provides a detailed assessment of the land use impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any land use impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.
- 9.8.100 The majority of the SLP route in Section B is rural and passes through agricultural land, the majority of which is classified as Grade 3, although there is a small section of Grade 2 agricultural land present southeast of Chawton. The pipeline will only have a temporary impact upon its agricultural use. Following reinstatement there will be no impact upon the use of land for agricultural purposes, except for the limited permanent land take associated with Valves 4 and 5, and the pressure transducer.
- 9.8.101 One community receptor, Four Marks Golf Course, would be directly affected by the construction and positioning of the pipeline. There would be a temporary impact on this facility during construction while works are ongoing across four holes of the nine hole course. This would have a temporary adverse effect on users.
- 9.8.102 The pipeline construction work will cross approximately 28 Public Rights of Way (PRoWs) in Section B. The level of disturbance to footpath users will be kept to a minimum and all footpaths will be fully reinstated at the end of the construction period. Proposed PRoW closures and temporary diversions are identified in DCO Schedule 5 and DCO Article 12 provides powers for their implementation, in agreement with the relevant highway authorities.
- 9.8.103 No areas designated as green infrastructure or open space by Local Plans are within the Order Limits of Section B. There are a number of areas classed as Special Category Land (SCL) that are within the Order Limits of Section B. The impacts on SCL are set out in Chapter 17 Special Category Land of this Planning Statement.
- 9.8.104 There will be a temporary adverse land use impact at Four Marks Golf Course, however overall, the impact on land use in Section B will be minimal and generally temporary in nature.

Summary

- 9.8.105 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section B of the project complies with the requirements of section 5.10 of NPS EN-1 in relation to Land use.

Noise and Vibration

- 9.8.106 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.274 to 7.4.289) provides a project-wide assessment of any noise and/or vibration impacts that the implementation of the project is likely to have, together with identifying the



mitigation that will be implemented to manage these impacts. This reflects the assessment undertaken in ES Appendix 13.3 Noise and Vibration Technical Note.

Summary

9.8.107 The commitment to agreeing a Noise and Vibration Management Plan (NVMP) with the relevant planning authority (as part of the CEMP secured as DCO Requirement 6) would ensure that appropriate noise and vibration mitigation would be implemented during the works, in accordance with section 5.11 of NPS EN-1 and section 2.20 of NPS EN-4 in relation to noise and vibration.

Socio-economic

9.8.108 In accordance with the requirements of NPS EN-1 section 5.12, ES Chapter 13 People and Communities provides an assessment of the socio-economic impacts of the project.

Community

9.8.109 This section of the route passes through predominantly rural landscape, though the small villages of Lower and Upper Farringdon are within 500m of the Order Limits. The community and recreation/amenity receptors within the study area or Order Limits are listed in Table 9.7.

Table 9.7: Community and Recreation/Amenity Receptors in Section B

Type	Receptor Name	Order Limits or Study Area
Community receptor	St Mary Magdalene (Church)	Study area
	Four Marks Golf Course	Order Limits
	Westlands Care Home	Study area
	Ropley Station	Study area
	Jubilee Playing Fields (used by Alton Cricket Club)	Study area
	Chawton Cricket Club	Study area
	Four Marks Church of England Primary School	Study area
	Chawton Church of England Primary School	Study area
Recreation/amenity receptor	Chawton playground	Study area
	Bramdean Common	Study area
	28 PRowS	Order Limits

9.8.110 Section B is situated within a rural and scenic setting, meaning construction activity throughout the construction phase within this section could potentially bring about noise, vibration and visual impacts to the study area.

9.8.111 Measures that manage noise, vibration and visual impacts and ensure that there are temporary diversions for PRowS are set out in the REAC (ES Chapter 16 Environmental Management and Mitigation) and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).



- 9.8.112 Construction activity in Section B is anticipated to alter a number of viewpoints within the SDNP throughout the duration of the construction phase, however, the impact of these visual effects is considered to be very localised. The disturbed viewpoints would largely affect users of the 28 PRoWs within the Order Limits and some local residents. There is also the potential for short-term localised, but significant noise impacts during installation.
- 9.8.113 There would likely be partial loss of one community receptor, Four Marks Golf Course. This would have a temporary adverse effect on users.
- 9.8.114 Overall the significance of effect of disruption to communities and people within Section B is determined to be minor.

Tourism

- 9.8.115 There are three tourism receptors within the Section B study area: Chawton Park Farm, Chawton House and Jane Austen's House Museum.
- 9.8.116 Although these tourism receptors lie within the study area, they are all located outside of the Order Limits and close to the logistics hub at Chawton rather than the replacement pipeline route.
- 9.8.117 Visitors to Chawton Park Farm would only be passing the logistics hub and so the effects would not be experienced for a long period. Furthermore both Chawton House and the Jane Austen's House Museum are approximately 500m from the logistics hub and are therefore not expected to experience any adverse effects during construction.
- 9.8.118 PRoW crossings will be managed by the measures set out in the REAC (ES Chapter 16 Environmental Management and Mitigation) and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).
- 9.8.119 In summary, due to the nature of the tourism receptors affected and the distance from the installation, the disruption to tourism receptors and visitor numbers within Section B would be minor adverse and would not be significant.

Summary

- 9.8.120 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section B of the project complies with the requirements of section 5.12 of NPS EN-1 in relation to socio-economics.

Soils and Geology

- 9.8.121 In accordance with section 2.23 of NPS EN-4, ES Chapter 11 Soils and Geology provides a detailed assessment of the soils and geology impacts of the project. Furthermore, paragraphs 7.4.330 to 7.4.351 of Chapter 7 Planning Assessment – Project-wide provides a project-wide overview of any soils and geology impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.



9.8.122 The design of the project has been iterative and the design refinements have resulted in avoiding sensitive features as set out in section 11.4 of ES Chapter 11 Soils and Geology.

Impacts on Soils

9.8.123 The soil associations within Section B are characterised by freely draining loamy soils – mainly slightly acid over superficial deposits, interspersed with shallow lime-rich soils often directly over chalk. The bedrock geology in the study area starts from Bramdean to Chawton (Section B). From Upham to Crondall (Sections A, B and C), the Cretaceous Chalk Group is present for a large extent.

9.8.124 There are no Mineral Consultation areas in Section B.

9.8.125 The majority of Section B consists of Grade 3 (undifferentiated) land. Subgrades 3a and 3b are mapped in Section B to the southeast of Four Marks. 'Other land' is also mapped southeast of Four Marks.

9.8.126 In respect of land contamination, there are three sites in Section B which may potentially be affected by contamination from historical and/or current uses:

- West Tisted – illegal tapping of a pipeline.
- Four Marks Golf Club (former landfill Southwood Farm) – historical landfill site within the Study Area.
- Farringdon Business Park – current industrial estate within the Study Area.

9.8.127 ES Chapter 11 Soils and Geology considers that all soils identified within the Order Limits will be affected, such that Agricultural Land Classification grades/subgrades 2 (high value), 3a (medium value), 3b (medium value) and 4 (low value) will be affected.

9.8.128 Good practice measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6). The assessment in ES Chapter 11 Soils and Geology is based on these measures being in place.

9.8.129 ES Chapter 11 Soils and Geology concludes that a minor adverse impact will occur across the range of soil receptors in Section B. This is considered to be a temporary impact because the quality of the soils will recover over the short term following adherence to the good practice measures as set out in the REAC. As a result, no additional mitigation measures have been identified and there will be no significant residual impacts on soils during construction or operation.

Land Contamination

9.8.130 The Order Limits include a site in West Tisted where illegal tapping of a pipeline led to a loss of product to ground.

9.8.131 Further along the route there is a historic landfill site (Four Marks Golf Club) and a current industrial estate (Farringdon Business Park), both within the study area. At



both sites the potential exists for gas/vapour to pose a risk to construction workers and adjacent land users if not managed appropriately.

- 9.8.132 ES Chapter 11 Soils and Geology concludes that with good practice measures in place, as set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), no additional mitigation measures in respect of land contamination have been identified as being required and there will be no significant residual impacts from land contamination during construction or operation.

Impacts on Geology (Including Minerals)

- 9.8.133 The impacts on geology, including minerals safeguarding are addressed on a project-wide basis in paragraphs 7.4.218 to 7.4.225 in Planning Statement Chapter 7 Project-wide.

Summary

- 9.8.134 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section B of the project complies with the requirements of section 2.23 of NPS EN-4 with respect to soils and geology.

Traffic and Transport

- 9.8.135 In accordance with section 5.13 of NPS EN-1, the project has assessed the traffic and transport Implications of the proposals. ES Appendix 13.1 Traffic and Transport Technical Note sets out the potential traffic and transport impacts of the project and residual effects. The ES has been informed by a separate Transport Assessment submitted as part of the application for development consent (**application document 7.4**). Furthermore, paragraphs 7.4.300 to 7.4.311 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any traffic and transport impacts that the project is likely to have, together with identifying the management that will be implemented to manage these impacts.
- 9.8.136 While there will inevitably be some disruption during construction, good practice measures will be put in place to reduce disruption during construction of the pipeline.
- 9.8.137 Good practice measures include using trenchless techniques for the following road crossings:
- Petersfield Road, and;
 - A32 Gosport Road.
- 9.8.138 A trenchless crossing would be used under the A32 to mitigate impacts on this road, as this is a main road into Chawton and Alton. In order to avoid traffic disruption, and following feedback from Hampshire County Council (HCC) Highways Authority, a trenchless technique would also be used to cross Petersfield Road southeast of Ropley.



- 9.8.139 All other road crossings within Section B will be undertaken using open cut methods, maintaining access where possible and using very short term (up to two to three days) diversions where necessary to enable construction works to be completed. All diversion routes have been discussed and agreed with HCC Highways Authority. The detailed implementation of these good practice measures is secured by Articles in Part 3 of the draft DCO and the Construction Travel Management Plan (CTMP), the implementation of which is secured by DOC Requirement 7.
- 9.8.140 Logistic hubs will be used to manage construction traffic and delivery of materials and resources to the construction compounds along the working corridor. These facilities will allow works to progress smoothly without reliance on peak time deliveries of staff and materials. There are two logistics hubs within Section B located off the A31 at Ropley Dean and south west of Alton. Further details regarding the logistics hubs are set out in Chapter 4 Project Description.
- 9.8.141 Due to the short duration of construction affecting rural roads, significant effects are not anticipated in rural areas, and therefore impacts on traffic flows, changes in journey times and collisions and safety in rural areas were scoped out of the impact assessment within the ES.
- 9.8.142 Overall, no significant effects have been identified from traffic and diversions/traffic management associated with Section B on traffic flows, journey times or collisions and safety.
- 9.8.143 For walking, cycling and equestrians, this will be managed by ensuring that pedestrian access to and from residential, commercial, community and agricultural land uses would be maintained throughout the construction period, including retention of vehicular access to be maintained where practicable which will be secured through requirement 7 of the DCO.
- 9.8.144 As noted previously in this chapter, the pipeline will cross approximately 28 PRoWs within Section B. The level of disturbance to footpath users will be kept to a minimum and all footpaths will be fully reinstated at the end of the construction period.

Summary

- 9.8.145 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and Construction Traffic Management Plan (DCO Requirement 7), Section B of the project complies with the requirements of section 5.13 of NPS EN-1 with respect to traffic and transport.

Waste Management

- 9.8.146 In accordance with NPS EN-1 section 5.14, the REAC sets out the requirement for a Site Waste Management Plan (SWMP) to be produced prior to construction, as set out in paragraphs 7.4.312 to 7.4.317 of Chapter 7 Planning Assessment: Project-wide. The SWMP will be secured through the DCO requirement for a CEMP (DCO Requirement 6).



9.8.147 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section B of the project complies with the requirements of section 5.14 of NPS EN-1 with respect to waste management.

Water Quality and Resources

9.8.148 In accordance with section 5.15 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the water quality impacts of the project. Furthermore, Chapter 7 (paragraphs 7.4.318 to 7.4.330) provide a project-wide overview of any water quality impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

9.8.149 This section sets out any specific impacts that have been identified for the project in Section B upon;

- existing quality of waters;
- existing water resources;
- existing physical characteristics of the water environment; and
- any impacts on water bodies or protected areas under the Water Framework Directive (WFD) and source protection zones (SPZs) around potable groundwater abstractions.

Water Quality

Groundwater

9.8.150 The groundwater environment in Section B is defined as the following;

- Chalk Principal aquifer for all of Section B (GWSA-B).

9.8.151 The groundwater environment in GWSA-B – the chalk aquifer – is assessed as high value, as it provides a major source of drinking water in the region.

9.8.152 A number of possible effects on groundwater quality in Section B are identified in ES Appendix 8.5. Minor or negligible groundwater quality impacts have been identified for the following receptors;

- Groundwater in Chalk principal aquifer;
- Groundwater in Chalk principal aquifer bedrock to east of Bramdean and in the vicinity of the A32;
- Peck Copse (groundwater dependent terrestrial ecosystem)
- Lavant Stream Floodplain
- New Alresford Watercress Beds SPZ2 for licensed abstraction
- Selborne Road SPZ3 – licensed abstractions
- Groundwater quality of unlicensed small scale PWSs – Wolfhanger Farm



- 9.8.153 Possible impacts have been identified as potentially arising from the dewatering of surface water drainage or intercepted groundwater in open-trenches, the discharge of abstracted groundwater from trenchless crossings or from leaks and spills from plant fuels and oils during the construction phase. It is recognised that a number of the receptors are of high value and as such, adherence to the measures set out in the REAC and secured through the DCO Requirements, such as the CoCP (DCO Requirement 5), will ensure that the impact on groundwater receptors is negligible. These measures are set out in Table 8.12 of ES Chapter 8 Water.
- 9.8.154 In respect of the operation of the pipeline, embedded design measures provide pipeline integrity. As set out in ES Chapter 3 Project Description, the pipeline design provides operational integrity through a range of measures (e.g. corrosion protection), and as such, the pollution risks in arising from the operation of the pipeline are considered to be negligible. The specific impacts on groundwater quality are set out in ES Appendix 8.5 Potential Effects on Groundwater.

Surface Water

- 9.8.155 Two of the most important considerations in relation to surface water quality are potential impacts on aquatic ecology and any downstream surface water abstractions. ES Appendix 8.5 provides a summary of watercourse sensitivity from an aquatic ecology perspective.
- 9.8.156 In Section B, only ordinary watercourses are crossed, all of which are classed as low sensitivity with respect to aquatic ecology and downstream surface water abstractions.
- 9.8.157 There are no licensed surface water abstractions located in Section B.
- 9.8.158 Crossing of the ordinary watercourses will be by open cut trenching technique which has the potential for a moderate impact on surface water, through the escape of groundwater containing elevated contaminants. However, given the good practice measures contained within the REAC together with the low sensitivity of this watercourse, no significant effects are forecast. The implementation of the good practice measures in the REAC are secured through DCO Requirements such as the CoCP (DCO Requirement 5).
- 9.8.159 The assessment has identified that the operational impacts of the project are unlikely to have a significant effect on surface water quality receptors in Section B.

Water Resources

- 9.8.160 There are no public water supplies within Section B.
- 9.8.161 There are a number of licensed groundwater abstractions (high value) located around West Tisted.
- 9.8.162 Taking account of the water good practice measures set out in the REAC the likelihood of occurrence of pollution incidents during construction is considered to be very low. With the measures set out in the REAC and secured through DCO



Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6) the impact on licenced groundwater abstractions in Section B is identified as negligible.

Physical Characteristics of the Water Environment

- 9.8.163 In respect of groundwater levels, groundwater modelling results and groundwater level monitoring data provided by the EA do show that generally the depth to groundwater is not significant in relation to the depth that the pipeline trench would penetrate. However, the groundwater susceptibility flooding map does show the potential for shallow groundwater at six principal locations throughout GWSA-B.
- 9.8.164 Potential impacts to groundwater flow due to the presence of the pipeline in Section B are largely considered to be negligible as sub-surface flows are not expected to be altered, due to the design of stanks at right angles to the pipeline. Stanks are part of the embedded mitigation, with the purposes of preventing the movement of groundwater through the pipe trench and ensuring that it continues to reach flora which rely on groundwater.
- 9.8.165 The project is assessed as having a negligible impact upon the following Groundwater Dependent Terrestrial Ecosystems in Section B:
- Peck Copse
 - Caker and Lavant Streams Floodplain

Water bodies or Protected Areas Under the Water Framework Directive and Source Protection Zones Around Potable Groundwater Abstractions

- 9.8.166 There are no Water Framework Directive surface water bodies present in Section B.
- 9.8.167 The Order Limits pass through a number of SPZs (zones 2 and 3) associated with the New Alresford watercress beds and a SPZ3 at Selborne Road.
- 9.8.168 Taking account of the water good practice measures identified in the REAC the likelihood of occurrence of pollution incidents during construction is considered to be very low. With the measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6) the impact on SPZs in Section B is identified as minor or negligible.

Summary

- 9.8.169 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section B of the project complies with the requirements of section 5.15 of NPS EN-1 and section 2.22 of NPS EN-4 with respect to water quality and resources.



9.9 Conclusions on Planning Assessment of Section B

- 9.9.1 The proposed pipeline route between Bramdean and South of Alton has been the subject of a detailed optioneering and design iteration process to result in a proposal which seeks to avoid and then reduce potential temporary and permanent impacts.
- 9.9.2 Impacts on residents and local businesses through Section B are very limited due to the rural nature of this section. Areas of designated public open space are avoided, as have designated areas of biodiversity importance. A large portion of Section B will however be constructed within the SDNP and the proposals will constitute a major development within this nationally designated landscape. As set out in Chapter 7 Planning Assessment: Project-wide, however, it is considered that exceptional circumstances exist for this nationally significant infrastructure project and that development within the SDNP is in the public interest
- 9.9.3 There will be impacts from construction of the project on the historic environment and the landscape within the SDNP, however these will be localised and short-term.
- 9.9.4 Construction works will also result in the partial loss of one community receptor, Four Marks Golf Course. This would have a temporary adverse effect on users.
- 9.9.5 Construction works may also give rise to noise impacts, though these will be limited to the construction phase, and sensitive noise receptors in Section B are limited.
- 9.9.6 The implementation of specific good practice measures set out in the REAC and secured through the DCO Requirements, will ensure that these impacts are managed and will ensure that there will be no long-term significant residual effects within Section B.
- 9.9.7 Once in place and when operational, there will be no impacts on the local residents and no permanent effects on the wider environment that will outweigh the benefit of the provision of this nationally significant aviation fuel pipeline.
- 9.9.8 The impacts arising from the project in Section B should be considered in relation to the overall planning balance of the project, which is set out in Chapter 18 Overall Planning Balance and Conclusions.



10 Planning Assessment – Section C – South of Alton to Crondall

Key points:

- Replacement pipeline connects to Alton Pumping Station;
- The Order Limits cross the A31 in a trenchless crossing;
- The route is very rural in character.

10.1 Introduction

- 10.1.1 The route is divided into geographical sections in the application. This chapter provides a planning assessment for Section C of the route, from South of Alton (B3006 crossing) to Crondall via Alton Pumping Station in Hampshire. Section A and B of the route is covered in Chapters 8 and 9, and Sections D to H are covered in Chapters 11 to 15 respectively.
- 10.1.2 It considers the acceptability of the project against the policies set out in Chapter 6 Planning Policy Context and identifies where matters relevant to specific National Policy Statement (NPS) EN-1 and NPS EN-4 policy headings arise and sets out the measures required to mitigate the identified impacts.
- 10.1.3 This chapter provides further consideration of the NPS policy headings for Section C of the route and is designed to be read as a standalone assessment. Key points from Chapter 7 Planning Assessment: Project-wide may, therefore, be repeated within this section where relevant.
- 10.1.4 The chapter sets out the following for route Section C:
- Section 10.2: Overview of the route section, development proposed and its method of construction;
 - Section 10.3: Overview of Section C refinement;
 - Section 10.4: Identification of relevant Planning Authorities;
 - Section 10.5: Identification of key environmental and planning designations within Order Limits;
 - Section 10.6: Relevant planning history;
 - Section 10.7: Overview of Section C against NPS EN-1 Assessment Principles (using the relevant subject headings from EN-1);
 - Section 10.8: Planning assessment, topic by topic (NPS EN-1 and NPS EN-4 where stated); and
 - Section 10.9: Conclusions on Planning Assessment of Section C.



10.2 Overview of this Section

Route Description

- 10.2.1 Section C (Planning Statement Figure 4.1, Sheets 6 – 8) is largely rural with long stretches passing through agricultural land. It spans East Hampshire District Council and Hart District Council administrative areas.
- 10.2.2 Section C is approximately 15km (9 miles) long and starts at the boundary of the South Downs National Park (SDNP) after the B3006 crossing. It deviates slightly from the existing pipeline route to avoid local businesses.
- 10.2.3 The Section then runs east of Alton, skirting around Worldham golf course before crossing Caker Lane (B3004). This is followed by a crossing of the River Wey and the Alton to Waterloo railway line before it approaches Alton Pumping Station. From Alton Pumping Station the route passes under the A31 and then runs to the southeast of Upper and Lower Froyle. It avoids Locks Grove and Lee Wood Sites of Importance for Nature Conservation (SINC). The section ends at Dippenhall Street.

Use of Trenchless Installation Techniques

- 10.2.4 Trenchless installation techniques are proposed to be used for the following crossings:
- TC 007 – Caker Lane: may be trenchless or open cut - this is still to be determined;
 - TC 008 – River Wey and Alton to Waterloo railway line: a trenchless crossing will be used to avoid impacting the sensitive water course and main line railway; and
 - TC009 –the A31 and minor access road: a trenchless crossing will be used to avoid disruption to the major road network.

Above Ground Infrastructure

- 10.2.5 Above Ground Infrastructure (AGI) in Section C comprises a replacement booster pump at Alton Pumping Station and valves, as set out under the following headings, together with pipeline markers and flight marker posts as set out in Chapter 4 Project Description.

Installation of a Replacement Booster Pump at Alton Pumping Station

- 10.2.6 The replacement pipeline will be routed through the existing Alton Pumping Station. There are currently three existing external pumps at Alton Pumping Station. A replacement pump will be installed at the Pumping Station. Further detail is set out in Chapter 4 Project Description.

Valves

- 10.2.7 There are two valves located within Section C:

- Valve 6: Selborne Road, south of Alton; and
- Valve 7: Alton Pumping Station, northeast of Alton.

10.2.8 Further details on the valves are set out in Chapter 4 Project Description.

Construction

10.2.9 Details of the construction method, construction schedule and reinstatement are set out in Chapter 4 Project Description.

Crossings

10.2.10 The following river and watercourse crossings are required:

- Caker Stream (WCX 012) – open cut construction;
- Caker Stream (WCX 013) – open cut construction;
- Unnamed watercourse (WCX 114) – open cut construction;
- Unnamed watercourse (WCX 014a) – open cut construction;
- Unnamed watercourse 12 (WCX 015) – open cut construction;
- Unnamed watercourse 13 (WCX 016) – open cut construction;
- Unnamed watercourse 14 (WCX 017) – open cut construction;
- Unnamed watercourse 15 (WCX 018) – open cut construction;
- River Wey (WCX 019) – trenchless construction;
- Unnamed watercourse 16 (WCX 020) – open cut construction;
- Ryebriidge Stream (WCX 021) – open cut construction;
- Unnamed watercourse 17 (WCX 023) – open cut construction; and
- Unnamed watercourse 87 (WCX 111) – open cut construction.

10.2.11 The following road crossings are required in this section:

- Caker Lane – B3004 (RDX 032) – using trenchless or open cut construction;
- Binsted Road (RDX 033) – open cut construction;
- Veolia Access Road (RDX 034) – using trenchless construction;
- Alton Bypass – A31 (RDX 035) – using trenchless construction;
- West End (RDX 036) – open cut construction;
- Access to Treloar School (RDX 037) – open cut construction;
- Gid Lane (RDX 038) – open cut construction;
- Froyle Road (RDX 039) – open cut construction;
- Isnage Farm Lane (RDX 040) – open cut construction;
- Hole Lane (RDX 041) – open cut construction;



- Dippenhall Road (RDX 042) – open cut construction; and
- Dippenhall Street (RDX 043) – open cut construction.

10.2.12 Street works, temporary construction access and Public Rights of Way (PRoW) diversions for Section C are shown on Access and Rights of Way Plan sheets 20 to 28 (**application document 2.5**).

10.2.13 There is one railway crossing in Section C: the Alton to Waterloo railway line. This will be crossed using trenchless construction.

Construction Compounds

10.2.14 There are six construction compounds along Section C of the pipeline route located at:

- North of Selborne Road (compound no. 4O);
- North of Caker Lane (compound no. 4P);
- Binsted Road (compound no. 4Q);
- Alton Pumping Station (compound no. 4R);
- Hen & Chicken East (compound no. 4S); and
- North of Froyle Road (compound no. 4T).

Logistic Hubs

10.2.15 There are no logistic hubs within Section C. Construction within this section will be served by logistics hubs in Sections B and D.

10.2.16 Further details regarding the logistics hubs are set out in Chapter 4 Project Description.

Narrow Working

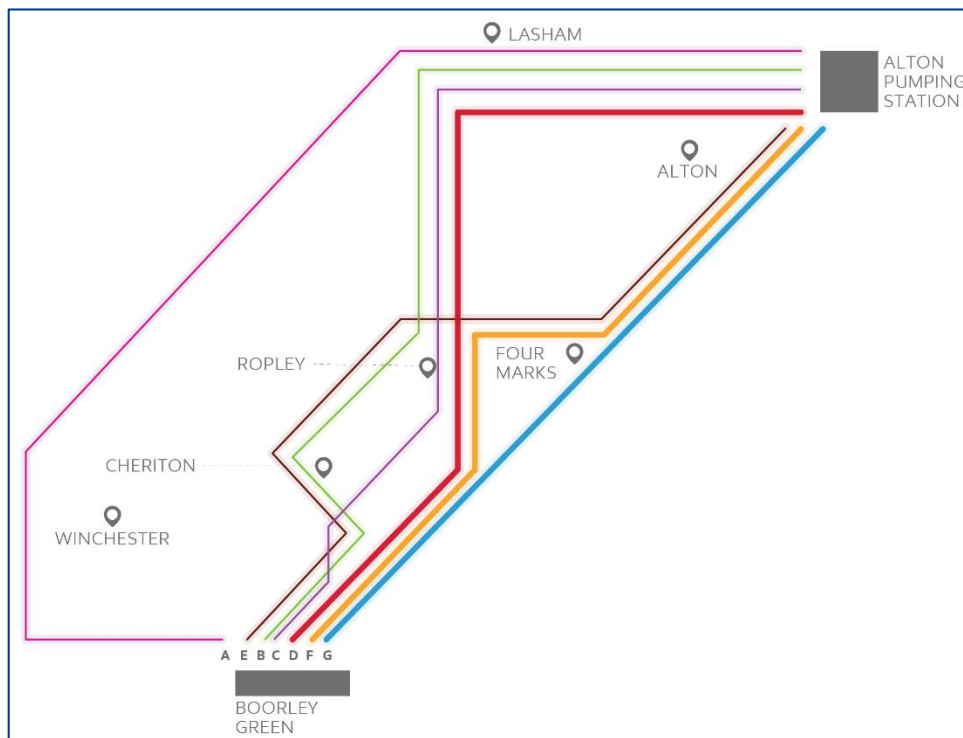
10.2.17 There are three areas of narrow working in Section C. This will reduce the width of the open cut trench construction at north of Locks Grove (NW4 and 5) and Dippenhall Road (NW6). This approach involves the contractor(s) using less space than standard working width due to localised constraints, such as working in roads or sensitive areas.

10.3 Overview of Section Refinement

10.3.1 The overall approach to design development and route refinement is set out in Chapter 3 Scheme Development, and in further detail in ES Chapter 4 Design Evolution. The following sub-heading outlines key design refinements which have influenced the design development of Section C of the route. There were no sub-options in Section C.

Corridor Selection

Illustration 10.1: Longlist Corridor Options – South of Alton



- 10.3.2 Through the design development of the project, a number of corridor options (see Illustration 10.1) were reduced to a single preferred corridor, which informed the selection of a preferred route for Section C of the replacement pipeline. Given the national significance of the South Downs National Park (SDNP), and NPS EN-1 policy relating to its protection (NPS EN-1 5.9.10), this included a corridor option which avoided the SDNP by passing to the west of Winchester (corridor A) and alternative corridor options through the SDNP (corridors B to G).
- 10.3.3 The consideration of these corridor options against national policy for the protection of the SDNP is set out in Chapter 7 Planning Assessment: Project-Wide (paragraphs 7.4.170 to 7.4.190). Following the Corridor Options consultation, corridor G, which was partly within the SDNP, was selected as the preferred corridor. This informed the selection of the preferred route. Details of all consultations undertaken are presented in the Consultation Report (**application document 5.1**).

Design Refinement

- 10.3.4 A key requirement for the design of Section C of the route was the need for the replacement pipeline to be routed via the existing pumping station facility at Alton, in order to connect to existing infrastructure.
- 10.3.5 The route of the replacement pipeline in Section C was also designed to avoid local businesses, and as such it deviates slightly from the existing pipeline route. This includes avoiding Worldham Golf Club and the existing solar farm to the north of Caker Lane, both of which are to the southeast of Alton.



- 10.3.6 Two further design changes were consulted on in the Design Refinement Consultation in early 2019. The Order Limits around Water Lane, to the southeast of Alton, were amended to avoid sensitive environmental features and an area of potential Ancient Woodland. In addition, a minor amendment was made to extend the Order Limits near to Froyle Park to include a nearby pond for the relocation of great crested newts.

10.4 Relevant Planning Authorities

- 10.4.1 The relevant planning authorities for Section C are:
- East Hampshire District Council;
 - Hart District Council; and
 - Hampshire County Council (minerals and waste authority and highways planning authority).
- 10.4.2 Details of the relevant Planning Authorities' adopted and emerging plans together with a list of the policies relevant to the consideration of the project can be found in Chapter 6 Planning Policy Context and will form part of Statements of Common Ground (SoCG) with the relevant planning authorities.

10.5 Key Environmental and Planning Designations Within the Order Limits

- 10.5.1 The relevant adopted Local Plans for Section C are:
- East Hampshire District Local Plan: Joint Core Strategy (2014) – to be replaced by emerging East Hampshire District Council Local Plan 2017 – 2036 (2019);
 - Hart District Local Plan (Replacement) 1996-2006 and First Alterations to the Hart District Local Plan (Replacement) 1996-2006 (2009) ('the Hart District Local Plan') – to be replaced by emerging Hart Local Plan: Strategy and Sites 2016-2032 (2018); and
 - Hampshire Minerals and Waste Plan (2013).

East Hampshire District Council

- 10.5.2 Section C starts immediately north of Selborne Road in East Hampshire District in an area designated as countryside, under policy CP19 in the East Hampshire District Local Plan: Joint Core Strategy (2014). To the southeast of Alton, the Order Limits cross the narrow linear Water Lane SINC (East Hampshire policy CP21).
- 10.5.3 The Order Limits do not pass through any further policy designations within Section C in East Hampshire but do pass adjacent to Neatham Farm Manor Copse SINC (East Hampshire policy CP21). The Order Limits also pass adjacent to both the Upper and Lower Foyle Conservation Areas (East Hampshire Local Plan policy CP30).



10.5.4 The Order Limits also pass through both the Alton and Bentley Neighbourhood Plan areas, but do not pass near or through any designated areas within these plans.

Hart District Council

10.5.5 Between Bentley and Crondall, the Order Limits cross into Hart District and an area designated as countryside (under policy RUR2 in the adopted Hart District Local Plan, until policy NBE1 in the emerging Hart Local Plan: Strategy and Sites 2016-2032 is adopted). The Order Limits pass through a small area north of Dippenhall Road identified as green infrastructure (to be protected by emerging Hart Local Plan policy I2). Additionally, an area of designated open space, Farnham Lane Recreation Ground is located immediately adjacent to the Order Limits at the end of Section C in Crondall (designated under policy URB21 in the adopted Hart District Local Plan, to be replaced by policy I4 when the emerging Hart Local Plan is adopted).

Hampshire County Council

10.5.6 The Order Limits of Section C intersect the Hampshire Minerals and Waste Consultation Area to the east and north east of Alton, which includes an area safeguarded for superficial soft sand and gravel. In addition, to the north east of Alton the Order Limits of Section C intersect the areas safeguarded under the Hampshire Minerals and Waste Local Plan (2013) for the Holybourne Rail Export Terminal and Alton Materials Recovery Facility sites.

10.6 Relevant Planning History Within the Order Limits

10.6.1 Relevant planning history is summarised below and will form part of Statements of Common Ground with the relevant planning authorities.

10.6.2 Table 10.1 identifies the relevant planning history for planning permissions within the Section C Order Limits.

Table 10.1: Relevant Planning History within Section C Order Limits

Local Planning Authority	Key Developments
East Hampshire	<p><u>Alton Pumping Station, Holybourne, Alton, GU34 4JD</u> Installation of four storage containers (as amended by plans received 16 April 2018) (26326/015) – temporary five-year permission. This application, submitted by Esso, falls within the Order Limits; however, this is within a wider/site compound area of Order Limits and will not affect the pipeline installation.</p>
<u>East Hampshire</u>	<p><u>Land West of The Clock House, Truncheaunts Lane, East Worldham, Alton</u> Retention of wooden shed (52629/002) – approved. Application site area crosses the Order Limits, but the shed itself is to the north of the site, away from the Order Limits.</p>



<u>East Hampshire</u>	<u>West End House, Farnham Road, Froyle, Alton, GU34 4JG</u> Change of use from existing outbuilding to Sui Generis use in conjunction with the existing bed and breakfast and proposed A3 café use (49319/005) – approved Access road crosses the Order Limits, but buildings are located away from the Order Limits.
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10.7 Assessment Principles (NPS EN-1 Part 4)

- 10.7.1 This part of the assessment considers the acceptability of Section C of the project against the assessment principles from Part 4 of NPS EN-1 as set out in section 7.3 of Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise relating to Section C that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with the project.
- 10.7.2 Table 10.2 sets out the Assessment Principles that are addressed in Chapter 7 Planning Assessment: Project-wide. Other Assessment Principles are assessed in the subsequent section identifying where the assessment is in this chapter.

Table 10.2: Assessment Principles addressed in Chapter 7 Planning Assessment: Project-wide

Assessment Principles NPS (EN-1 Part 4)	Chapter 7 Planning Assessment: Project-wide Relevant Paragraphs
<u>Alternatives</u> Section 4.4 requires alternatives to the project to be assessed.	7.3.9 to 7.3.13
<u>Climate Change Adaptation</u> Section 4.8 requires climate change adaptation to be assessed.	7.3.19 to 7.3.24
<u>Pollution Control and Other Environmental Regimes</u> Section 4.10 requires discharges or emissions which affect air quality, water quality, land quality and the marine environment, or which give rise to noise and/or vibration to be assessed.	7.3.25 to 7.3.27
<u>Safety</u> Section 4.11 requires safety of the pipeline to be assessed.	7.3.28 to 7.3.31
<u>Hazardous Substances</u> Section 4.12 requires the management of hazardous substances to be assessed.	7.3.32
<u>Health</u> Section 4.13 requires the possible health and well-being impacts to be assessed.	7.3.33 to 7.3.38
<u>Common Law Nuisance and Statutory Nuisance</u> Section 4.14 requires any common law or statutory nuisances to be mitigated.	7.4.39 to 7.4.40
<u>Security Considerations</u> Section 4.15 requires security considerations to be mitigated.	7.4.41 to 7.4.43

Environmental Statement

- 10.7.3 The requirements set out in paragraphs 4.2.1 to 4.2.11 of NPS EN-1 are met as a comprehensive Environmental Statement (ES) (**application document 6.1-6.4**)



covering the entire route (Sections A – H inclusive) accompanies the application for development consent.

- 10.7.4 Section 10.8 of this chapter considers how Section C of the route is in compliance with each of the generic topics in NPS EN-1 (which also broadly aligns with the technical chapters of the ES).

Habitats and Species Regulations

- 10.7.5 The requirements set out in paragraph 4.3.1 of NPS EN-1 are met as a comprehensive Draft Habitats Regulations Assessment (HRA) Report (**application document 6.5**) covering the entire route accompanies the application for development consent.
- 10.7.6 The HRA Report concludes that there will be no adverse effects on the integrity of any European (Natura 2000) sites from Section C of the project.

Good Design

- 10.7.7 In accordance with NPS EN-1 section 4.5, the design of the pipeline in Section C will be in line with paragraphs 7.3.14 to 7.4.18 of Chapter 7 Planning Assessment: Project-wide.
- 10.7.8 The vast majority of the project within Section C will be below ground once complete, apart from above ground infrastructure comprising the development within Alton Pumping Station, two further valve compounds and pipeline markers and flight marker posts.
- 10.7.9 The design development for the proposed valve locations followed the iterative design development process. Areas of high environmental and social sensitivity were avoided where practicable, and the design development also sought to reduce effects on receptors.

10.8 Generic Impacts (NPS EN-1 Part 5 and NPS EN-4 Gas and Oil Pipelines)

- 10.8.1 This part of the assessment considers the acceptability of Section C of the project against the generic impacts from Part 5 of NPS EN-1 and the specific impacts from gas and oil pipelines specified in NPS EN-4 as set out in section 7.4 in Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise in relation to Section C of the project that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with Section C of the project.

Air Quality and Emissions

- 10.8.2 In accordance with section 5.2 of NPS EN-1, the ES Chapter 13 People and Communities and ES Appendix 13.2 Air Quality Technical Note provides a detailed assessment of the significance of the air quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide paragraphs 7.4.3 to 7.4.8 provide a project-wide overview of any impacts that the project is likely to



have on air quality, together with identifying the good practice measures to manage these impacts which are set out in the Register of Environmental Actions and Commitments (REAC) and secured through DCO requirements such as the Code of Construction Practice (CoCP) (DCO Requirement 5) and the Construction Environment Management Plan (CEMP) (DCO Requirement 6).

- 10.8.3 The Section C Order Limits do not pass through or close to any Air Quality Management Areas, whilst the maximum annual mean concentrations for nitrogen oxides (NO_x), nitrogen dioxides (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) for the grid squares within 400 m of the proposed route in Section C are all significantly below the respective national Air Quality Objectives.
- 10.8.4 At Alton Pumping Station, one existing pump will be replaced by another pump of a similar size and type to the existing. This is not identified as leading to any air quality impacts.
- 10.8.5 On the basis of the proposed maximum number of daily heavy-duty vehicles and light duty vehicles associated with construction traffic controlled by good practice measures, the air quality effects from construction traffic, including diversions, on human and ecological receptors in rural and urban areas are unlikely to have significant effects on the environment. Therefore, the proposals will not lead to a deterioration in air quality.

Summary

- 10.8.6 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section C of the project complies with the requirements of section 5.2 of NPS EN-1 in relation to air quality and emissions.

Biodiversity and Geological Conservation

- 10.8.7 In accordance with section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 7 Biodiversity sets out the effects of the project, during both construction and operation, on international, national and locally designated sites, protected species and habitats, and other species identified as being of principal importance for the conservation of biodiversity.
- 10.8.8 Paragraphs 7.4.9 to 7.4.63 of Chapter 7 Planning Assessment: Project-wide provide an overview of the identified biodiversity and geology impacts of the project as a whole against the biodiversity and geology NPS policy tests identified in Chapter 6 of the Planning Statement.
- 10.8.9 This section specifically considers the biodiversity and geology impacts of the project within Section C of the project.

International and National Designated Sites

- 10.8.10 As highlighted in paragraph 7.4.14 of Chapter 7 Planning Assessment: Project-wide, the project has been designed to avoid and reduce impacts on all designated sites as far as practicable. The Order Limits of Section C avoid any



international or national designated sites and there are none within 1km of the Order Limits of Section C.

Locally Designated Sites

10.8.11 Table 10.3 identifies the number of locally designated sites within 1km of the Order Limits of Section C which have been assessed by the ES as being of medium value/sensitivity, except Water Lane SINC, which is designated for supporting Ancient Woodland, and therefore considered of high value/sensitivity

Table 10.3: Locally Designated Sites in Section C

Designation Type	Local Authority	Within Order Limits	Within 100m	Within 1km
SINC	East Hampshire	1	3	9
	Hart	0	1	3

10.8.12 The ES identifies the potential for habitat loss/gain, fragmentation or modification to arise at Water Lane SINC intersected by the Order Limits. The Order Limits intersect the Water Lane SINC at an existing farmer’s access track at which location there are several wide gaps in the tree line. Pipeline installation at this location will therefore seek to utilise existing gaps and the working width will be reduced to 10m. At this location, a gap of approximately 10m is present and the SINC is devoid of sensitive woodland or ground flora interest. As such, potential impacts on the SINC and the Ancient Woodland habitat will be avoided. It should be noted that the Order Limits in this location were refined during the design development of the project in order to reduce impacts on sensitive environmental features.

10.8.13 For this site, the ES identifies that during construction works there is potential for invasive non-native species (INNS) to be introduced or spread via contaminated machinery or soil. There is also a risk of transferral from pedestrian movement and vehicles. Working within watercourses will also be required, which could introduce or spread INNS within the aquatic environment. However, it is considered that the potential spread of INNS will be adequately controlled through good practice measures, as set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5). Furthermore, a Site Waste Management Plan will identify and manage the appropriate disposal of any contaminated material and will be a requirement of the CEMP (DCO Requirement 6).

10.8.14 In terms of air quality, changes could occur through fugitive dust caused by construction plant activities. Retained terrestrial and freshwater habitat receptors within the Water Lane SINC may be affected through changes in air quality as the vegetation present may theoretically experience reduced photosynthesis, respiration and transpiration caused by dust. ES Appendix 13.2 Air Quality Technical Note shows that, taking into account the good practice measures, there are no potentially significant effects in relation to air quality and there is no requirement for additional mitigation.

10.8.15 Hydrological links between the Order Limits of Section C and a number of watercourses which are components of Water Lane SINC have been identified.



With the implementation of the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 6), potential effects of surface water contamination on these sites are highly unlikely.

- 10.8.16 Overall, no significant effects have been identified on Water Lane SINC from construction or operation of the project.

Protected Species

- 10.8.17 As set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), Landscape and Ecological Management Plan (LEMP) (DCO Requirement 12) and protected species (DCO Requirement 13), the contractor(s) will comply with relevant protected species legislation including with regards to badgers, bats, dormice, otters, water voles, sand lizards, great crested newts and Schedule 1 birds. Appropriate licences will be obtained where necessary from Natural England for all works affecting protected species as identified by the Environmental Statement and through pre-construction surveys. All applicable works will be undertaken in accordance with the relevant good practice measures set out in the REAC and conditions set out in those licences. DCO Requirement 13 specifically protects against situations where unexpected protected species may be identified and encountered as part of the implementation of the project.

Badgers

- 10.8.18 The effects on badgers are not considered in the ES following the Planning Inspectorate's Scoping Opinion response. Effects on badgers were scoped out on the basis of their conservation status and the population in the local area. As such, construction works likely to impact badgers or a sett in current use will be subject to mitigation and secured under a licence granted by Natural England.
- 10.8.19 The results of the badger surveys have nonetheless directly influenced the alignment of the Order Limits, with several changes being implemented to avoid direct impacts to main setts.

Bats

- 10.8.20 A desk study was undertaken as part of the ES in order to value habitat potentially used by commuting and foraging bats. This study identified likely bat 'hotspots' in Section C at:
- Neath Down and north towards Holybourne.
- 10.8.21 The ES determines that due to the species composition of bats recorded within the study area and the potential for roosts to be present within the Order Limits, all bats are valued as high. Where possible, the alignment of the Order Limits and limits of deviation has been selected to reduce the loss of trees with bat roost potential and wherever possible to maintain good practice distances between construction areas and trees.
- 10.8.22 The ES concludes that, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant



effects from construction or operation of the project within Section C have been identified on bats. These measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Birds

- 10.8.23 There are no statutory or non-statutory sites which contain notable or protected bird species as a qualifying feature within 1km of the Order Limits of Section C.
- 10.8.24 Overall, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section C have been identified on breeding birds. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Dormouse

- 10.8.25 As set out in ES Appendix 7.9 Dormouse Factual Report, no records or evidence of dormouse within or near to Section C has been identified. However, dormouse are assumed to be present in part of Section C due to the presence of suitable habitats. The ES determines that, due to the regional abundance of dormouse within suitable habitats, its value is medium.
- 10.8.26 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section C have been identified on dormouse. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Fish

- 10.8.27 Of the watercourses crossed by the Order Limits in Section C, the River Wey crossing (WCX 019) was identified as having high sensitivity for fish species during habitat walkover surveys.
- 10.8.28 Furthermore, Caker Stream (WCX 012) and Ryebriidge Stream (WCX 021) have been identified as important for salmonid migration and coarse fish spawning. These streams will be subject to constraints on working between October to December and March to May during which works in channel or close to bank tops will be reduced or restricted.
- 10.8.29 The ES has determined fish communities with migratory life stages (within the Order Limits) to be of medium value. Fish communities comprising non-migratory species are typically ubiquitous to watercourses surveyed across the Order Limits, and are assessed as being of low value.
- 10.8.30 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from



construction or operation of the project within Section C have been identified on fish. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Great Crested Newt

- 10.8.31 Desk study and field results confirmed the presence of great crested newt (GCN) within 250m of the Order Limits in Section C at the following locations:
- Southeast of Alton (west of the A31) and north of Upper Froyle.
- 10.8.32 The GCN populations identified within the 250m buffer of the Order Limits likely represent a small proportion of the overall GCN populations in Hampshire, where GCN has recently been recorded in most 10km squares. As such, GCN are afforded a medium value. Appropriate licences will be obtained where necessary from Natural England for all works affecting GCN as identified by the ES and through pre-construction surveys. All relevant works will be undertaken in accordance with the relevant mitigation requirements and conditions set out in those licences.
- 10.8.33 The ES concludes that, with the measures secured through European Protected Species (EPS) licences, no significant effects from construction or operation of the project within Section C have been identified on GCN.

Otter and Water Vole

- 10.8.34 Otters have the potential to use any watercourse. Records of otters have been identified at the River Wey, near Alton (outside of the Order Limits). No signs of otter have been identified from field surveys within the Order Limits of Section C. No records or evidence of water voles have been identified in Section C of the Order Limits. A strategy for how to deal with water vole, should they be present, is provided in ES Appendix 7.17 Protected and Controlled Species Compliance Report.
- 10.8.35 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section C have been identified on otters or water voles. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Habitats of Principal Importance for Biodiversity Conservation

- 10.8.36 The ES has gathered baseline information on the habitats within the Order Limits from both desk study and field survey.
- 10.8.37 Section C of the route largely comprises artificial habitats associated with agriculture, such as arable fields and improved grassland (ES Figure 7.4). Semi-natural habitats within the Order Limits comprise hedgerows and broadleaved semi-natural woodland. Hedgerows Priority Habitat is frequent along Section C of



the route and there are small stands of Lowland Mixed Deciduous Woodland Priority Habitat within the Order Limits (ES Figure 7.3).

- 10.8.38 Outside of designated sites, Priority Habitats, including hedgerows and watercourses, are considered to be of medium value, apart from the following areas in Section C which has been revised to low value:
- all surveyed Coastal and Floodplain Grazing Marsh due to its highly improved nature; and
 - Arable Field Margins.
- 10.8.39 All habitat not considered as Priority Habitat is assessed as negligible value and is not discussed further in the Planning Statement. Notable plant species recorded within the Section C Order Limits but outside of designated sites are valued as low.
- 10.8.40 In summary, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section C have been identified on Priority Habitats and notable plant species outside of designated sites. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Ancient Woodland and Veteran Trees

- 10.8.41 The Order Limits of Section C do not include any Ancient Woodland Inventory sites (i.e. areas of Ancient Woodland of at least 2ha). Two Ancient woodland Inventory sites are located within 50m of the Order Limits, totalling approximately 0.29ha. There are four areas of potential ancient woodland less than 2ha within 50m of the Order Limits, two of these intersect with the Order Limits (see ES Figure 7.3) and comprise a component of Water Lane SINC (AW41 – see ES Appendix 7.3 Ancient Woodland Factual Report) and a connective hedgerow to Monk Woods SINC (AW12).
- 10.8.42 At AW12, the limits of deviation have been narrowed to align with an existing farmer's access point between two arable fields. For AW41, the Order Limits intersect the SINC at an existing farmer's access track at which location there are several wide gaps in the tree line. At both locations, pipeline installation will therefore not require the creation of a new gap. The soils at these locations are likely to have been degraded due to the regular movement of agricultural machinery through the access point at this location. No significant effects relating to habitat loss/gain, fragmentation or modification are therefore predicted on Ancient Woodland within Section C.
- 10.8.43 Furthermore, with the implementation of good practice measures, no significant effects on Ancient Woodland are predicted from the introduction/spread of INNS or dust deposition from air quality changes.



- 10.8.44 Details of working methods and root protection in light of the AIA will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the LEMP (DCO Requirement 12).
- 10.8.45 Overall, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7, no significant effects from construction or operation of the project have been identified on Ancient Woodland within or near to the Order Limits of Section C. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Hedgerows

- 10.8.46 There will be a number of locations along Section C where there will be construction impacts on hedgerows. As a result of embedded mitigation and proposed good practice measures, including those relating to working widths and reinstatement of vegetation, the impacts to hedgerows will be localised and reversible in nature. There is a high degree of confidence in the successful reinstatement of hedgerow habitat in the medium to long term and no permanent loss of hedgerow habitat is anticipated.
- 10.8.47 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project have been identified on hedgerows within the Order Limits of Section C. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Summary

- 10.8.48 Through the route design and embedded mitigation, and the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12), Section C of the project avoids significant harm to biodiversity and geological conservation and therefore complies with the requirements of section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4.

Civil and Military Aviation and Defence Interests

- 10.8.49 There are no civil or military aviation and defence interests within the Order Limits along Section C of the project.

Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation

- 10.8.50 In accordance with section 5.6 of NPS EN-1, ES Chapter 13 People and Communities provides a detailed air quality assessment of the project, during both construction and operation.
- 10.8.51 Paragraphs 7.4.71 to 7.4.93 of Chapter 7 Planning Assessment: Project-wide provide an overview of any dust or artificial light impacts that the project is likely to



have, together with identifying the good practice measures that will be implemented to manage these impacts. As paragraph 7.4.72 of Planning Statement Chapter 7 Project-wide states, there will be no odour, smoke, steam or insect infestation issues resulting from the project. The specific impacts arising from dust and artificial light emissions within Section C are considered below.

Dust

10.8.52 In respect to dust emissions, the possible receptors in Section C which may be affected are assessed as human receptors residing or working within 350m of the construction site and ecological receptors within 50m as identified in Table 10.4 of this Chapter. Human receptors in Section C include several community and recreation/amenity facilities, including PRoWs, as well as Crondall Primary School, Spire Clare Park Hospital & St Marys and two churches. Ecological receptors in Section C comprise two parcels of ancient woodlands <20m from the Order Limits.

Table 10.4: Human and Ecological Receptors in Proximity to Section C

	Human Receptors				Ecological Receptors		
	Demolition, Earthworks and Construction (Distance to construction boundary)				Trackout (Distance from roads up to 200m from the site entrance)		Dust Soiling (Distance to construction boundary)
	<20m	<50m	<100m	<350m	<20m	<50m	<20m
Section C	5	14	33	371	1-10	10-100	Low

10.8.53 In respect to potential dust emissions, the magnitude of dust emissions in Section C is presented in Table 1.7 of ES Appendix 13.2 Air Quality Technical Note, whilst an assessment of the sensitivity of the areas around Section C for human and ecological receptors is presented in Table 1.8 and Table 1.9 respectively of ES Appendix 13.2 Air Quality Technical Note.

10.8.54 The ES Appendix 13.2, Table 1.10, has assessed the risk to human health and ecological receptors from dust emissions arising at each of the three construction activities (earthworks, construction and trackout) in Section C as being either negligible or low. The risk of dust soiling during the construction activities ranges from a negligible risk for the trackout phase to a medium risk for the earthworks phase.

10.8.55 Despite the dust emission risk being judged as being negligible to low, good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6) will be incorporated in order to control all effects of dust, not just medium to high risks, as set out in paragraphs 7.4.73 to 7.4.83 of Chapter 7 Planning Assessment: Project-wide.

Artificial Light



- 10.8.56 Temporary artificial lighting will be provided during the construction phase in the working area and construction compounds in Section C.
- 10.8.57 Measures to control lighting effects are included within the REAC. All lighting will be set up to avoid nuisance as far as is practicable so will be low-level and directional to avoid glare into residential properties. The construction compound lighting will be of the lowest luminosity necessary for safe delivery of each task. It will be designed, positioned and directed to reduce the intrusion into adjacent properties and habitats. The implementation of the good practice measures in the REAC are secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

Summary

- 10.8.58 Through the good practice measures set out in the REAC and secured through the DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section C of the project will keep the impacts from dust and artificial light to a minimum and therefore complies with the requirements of section 5.6 of NPS EN-1 in relation to dust and artificial light.

Flood Risk

- 10.8.59 In accordance with section 5.7 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the flood impacts of the project, including a Flood Risk Assessment (FRA) for the project (**application document 7.3**).
- 10.8.60 Paragraphs 7.4.94 to 7.4.125 of Chapter 7 Planning Assessment: Project-wide provide an overview of any impacts that the project is likely to have on flood risk and water infrastructure, together with identifying the good practice measures that will be implemented to manage these impacts.
- 10.8.61 In respect of Section C, there are no flood risks either from or to the project related to reservoir, canal or surface water (overland flow).

Fluvial Flooding

- 10.8.62 In Section C, the FRA watercourse crossing schedule identifies 12 locations where the pipeline crosses a surface watercourse within this section: two main rivers (Caker Stream and the River Wey), one named ordinary watercourse (Ryebridge Stream) and nine unnamed ordinary watercourses which are tributaries to either the River Wey or Caker Stream.
- 10.8.63 For the River Wey crossing, which is fluvial Flood Zone 3, a trenchless crossing is planned, resulting in a low flood risk.
- 10.8.64 The open-cut crossings of Caker Stream (WCX012) and unnamed watercourses 12 and 15 (WCX015 and WCX018) are assessed as being high risk, as a result of being located in Flood Zone 3 or having a greater than 1 in 30 annual probability chance of flooding. In addition, the crossings of unnamed watercourses 14 and 17 and Ryebridge Stream are assessed as being medium risk. Watercourse crossing reports have therefore been developed for these locations in order to provide a full



assessment of risk and these are included in Appendix C of the FRA (**application document 7.3**). The remaining 5 watercourse crossings in Section C, are all proposed as open cut crossings and assessed as low risk.

- 10.8.65 A range of good practice measures has been incorporated to ensure that the project does not exacerbate flood risk in the locations which are identified as medium or high risk. These include specific mitigation measures which are listed in Table 13.2 in the FRA. The implementation of these measures will reduce the overall risk to and from the project at those crossings with a medium or high risk down to a low risk. The good practice measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).
- 10.8.66 All of the six construction compound locations in Section C are within fluvial Flood Zone 1 and assessed as very low risk.
- 10.8.67 In respect of the operational stage, the only above ground infrastructure in Section C will be small elements including the development within Alton Pumping Station, valves, pipeline markers and flight marker posts. Therefore, the risk to and from the project in the operational phase is considered to be very low and no specific mitigation measures are proposed, thereby not increasing flood risk in accordance with NPS EN-1 paragraph 5.7.21.

Groundwater

- 10.8.68 There are two areas along Section C where there is the potential for construction of the pipeline to impact on or be impacted by groundwater flooding:
- the area of Chalk aquifer to the east and northeast of Alton in the Wey Valley shown on the groundwater flood susceptibility maps as having potential for groundwater flooding at the surface (NGR: 473968, 139593 to NGR: 476167, 143086); and
 - in the vicinity of Crondall near to where the Chalk aquifer becomes confined (NGR: 479271, 147243 to NGR: 480377, 148468).
- 10.8.69 Construction compound 4R has been identified to have the potential of groundwater flooding and is assessed as being low risk.
- 10.8.70 Overall, the risk to the project in Section C from groundwater flooding has been assessed as either low or very low due to slow onset and low velocities normally associated with groundwater flooding. In the event of prolonged groundwater flooding, work will cease in inundated areas until either the groundwater is pumped out or levels recede naturally, and operations can resume safely.
- 10.8.71 The project could exacerbate groundwater flood risk elsewhere through dewatering although this will only be in isolated locations and the duration of the excavations would be sufficiently short not to exacerbate flood risk to third parties.
- 10.8.72 Where required, water stops or 'stanks' will be installed at intervals through the pipe bedding and side fill in order to intercept groundwater flowing along the pipeline bedding material and prevent the creation of new groundwater flow paths



during the operational phase. The risk of groundwater flooding from the project is therefore assessed as low or very low.

Summary

- 10.8.73 Through the good practice measures set out in the REAC and specific mitigation identified in the FRA, secured through DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section C of the project complies with the requirements of section 5.7 of NPS EN-1 and section 2.22 of NPS EN-4 in relation to flood risk.

Historic Environment

- 10.8.74 In accordance with section 5.8 of NPS EN-1, ES Chapter 9 Historic Environment provides a detailed description of the significance of the heritage assets affected by the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.126 to 7.4.149) provides a project-wide overview of any impacts that the project is likely to have on the historic environment, together with good practice measures that will be implemented to manage these impacts. Those related to Section C are identified below.
- 10.8.75 The route in Section C has been selected to reduce the impact on the historic environment by avoiding, where practicable, designated heritage assets in accordance with paragraph 5.8.12 of NPS EN-1. Some impacts on the historic environment may still occur as a result of construction activity, including on as yet unidentified archaeological assets.
- 10.8.76 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.1) identifies those heritage assets where major or moderate adverse effects have been identified to result from construction of the project, prior to the application of good practice measures. Assets in Section C where major or moderate effects are identified (without good practice measures) within the ES are set out in Table 10.5.



Table 10.5: Heritage Assets Along Section C of Pipeline

Asset Number	Asset Name	Within Order Limits	Value	Significance of Effect of Project on Heritage Asset (without good practice measures)	Significance of Effect of Project on Heritage Asset (with good practice measures)
308	WWII Aircraft Crash Site, Near Westbrook Grange	No	Low	Moderate Adverse	Negligible
2001	Geophysical Survey Archaeological Feature 24	Yes	Low	Moderate Adverse	Negligible
2002	Geophysical Survey Archaeological Feature 25	Yes	Medium	Moderate Adverse	Negligible
2003	Geophysical Survey Archaeological Feature 26	Yes	Medium	Moderate Adverse	Negligible
2004	Geophysical Survey Archaeological Feature 27	Yes	Low	Moderate Adverse	Negligible

10.8.77 As Table 10.5 identifies, ES Chapter 9 Historic Environment concludes that there will be no significant (major or moderate) residual impacts on heritage assets in Section C, following the application of good practice measures. Good practice measures relating to archaeological protections are set out in the REAC and secured through DCO Requirement 11 which requires for an Archaeological Mitigation Strategy (AMS), to be prepared and approved by each relevant planning authority.

10.8.78 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.2) identifies additional heritage assets where significant effects are not identified, but where there may be minor adverse or negligible residual effects upon a heritage asset. There is one asset located within the Order Limits where the ES assessment identifies a possible minor adverse permanent effect, following the application of good practice measures, as follows:

- Water Lane – this asset is crossed by the Order Limits southeast of Alton.

10.8.79 Although some residual effects are therefore identified to occur, these are assessed to be either negligible or short-term minor adverse effects upon the setting of heritage assets, or at worst minor adverse effects from physical impacts on the heritage assets themselves. With regard to paragraph 5.8.15 of NPS EN-1, as the residual effects are, at worst, minor adverse, there will be no substantial harm to any heritage assets, nor will there will be any total loss of any heritage assets as a result of Section C. Any harmful impact on the significance of any heritage assets resulting from the identified residual minor adverse effects is outweighed by the public benefit of the project, as set out in detail in Chapter 2 Statement of Need.

Summary

10.8.80 Through the good practice measures set out in the REAC such as the requirement for an AMS (secured through DCO Requirement 11), Section C of the project complies with section 5.8 of NPS EN-1 in relation to heritage assets.



Landscape and Visual

- 10.8.81 In accordance with section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 10 Landscape and Visual accompanying the application for Development Consent provides a detailed assessment of the landscape and visual impacts of the project. Furthermore, paragraphs 7.4.150 to 7.4.196 of Chapter 7 Planning Assessment: Project-wide provides an overview of any landscape or visual impacts that the project is likely to have, together with identifying the design measures that have sought to avoid or reduce potential impacts both through the alignment of the pipeline corridor and the use of the design measures outlined in Table 10.13 of ES Chapter 10 Landscape and Visual.
- 10.8.82 Landscape or visual impacts arising from construction and operation of the project in Section C are identified below.

Construction Impacts

Landscape Character

- 10.8.83 Potential impacts on national landscape character areas identified in ES Chapter 10 Landscape and Visual in Section C are summarised in Table 10.6. Impacts during construction and post construction in years 1 and 15 are identified.

Table 10.6: Summary of Potential Impacts on Landscape Character – Section C

National Character Area	Construction	Year 1	Year 15
	Significance of Effect	Significance of Effect	Significance of Effect
130: Hampshire Downs	Moderate	Moderate	Minor
120: Wealden Greensand	Moderate	Moderate	Minor
129: Thames Basin Heaths	Moderate	Moderate	Minor

- 10.8.84 The ES Chapter 10 Landscape and Visual concludes that in year 1 post construction, the line of the route will be evident from the contrast in colour between the existing and recently seeded grass across reinstated areas of pasture and grassland within all character areas, caused by disturbance during construction and establishment of re-seeded areas. However, this will be short term and not significant. Impacts will be localised and will not affect the overall landscape character.

Landscape Designations

- 10.8.85 Potential impacts landscape designations identified in the ES Chapter 10 Landscape and Visual in Section C are summarised below.

Ancient Woodland and Tree Preservation Orders (TPOs)

- 10.8.86 There is no classified Ancient Woodland or TPOs within the Order Limits of Section C



- 10.8.87 Potential Ancient Woodland (undesigned) has been identified within the Order Limits of Section C in the following locations:
- Along Water Lane northwest of West Worldham. There will be negligible effects on trees within the Potential Ancient Woodland (undesigned) because the route would utilise an existing farm access between trees.
 - Neatham Down, west of Monk Wood. Potential Ancient Woodland (undesigned) is included within the Order Limits. This is predominately for ecological mitigation (refer to ES Chapter 7 Biodiversity) not involving any adverse effect on the woodland. The pipeline route does pass through the woodland, utilising a gap between trees. There will be negligible effects on Potential Ancient Woodland (undesigned).
- 10.8.88 Powers will be secured under Schedule 1 to the DCO to construct the pipeline within the Limits of Deviation, including trenchless crossings or narrow working as required. Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the Landscape and Ecological Management Plan (DCO Requirement 12).

Visual Effects

- 10.8.89 The potential visual effects from the representative viewpoints along Section C are set out in ES Chapter 10 Landscape and Visual Appendix 10.3 and summarised in paragraphs 10.5.122 to 10.5.126 in ES Chapter 10 Landscape and Visual.
- 10.8.90 The ES Chapter 10 Landscape and Visual concludes that for 5 out of 9 of the representative viewpoints in Section C the significance of the effect during construction will be moderate, however, in all cases the effect is reduced to minor post construction in year 1 and, with the exception of one viewpoint, the effect will be negligible by year 15.

Operational Impacts

- 10.8.91 The ES Chapter 10 Landscape and Visual concludes that landscape and visual effects arising from pipeline operation in year 15 will be localised and not significant when reinstatement planting outlined in Table 10.13 of ES Chapter 10 Landscape and Visual will be established. This is because the pipeline will be underground and above ground features including the proposed valves and the replacement pump at Alton Pumping Station will be small in scale. The details of planting will be secured through the landscape and ecological management plan, the implementation of which is secured by DCO Requirement 12.

Summary

- 10.8.92 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and LEMP (DCO Requirement 12) and the assessment of compliance with the NPSs in relation to major development within the SDNP in Chapter 7 Planning Assessment: Project-wide, Section C of the project complies with the requirements of section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4 in relation to landscape and visual.



Land Use Including Open Spaces, Green Infrastructure and Green Belt

- 10.8.93 In accordance with section 5.10 of NPS EN-1, ES Chapter 12 Land Use provides an assessment of the land use impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide provides an overview of any land use impacts that the project is likely to have, together with identifying the good practice measures that will be implemented to manage these impacts.
- 10.8.94 The majority of the route in Section C is rural and passes through agricultural land, the majority of which is classified as Grade 3, although there is an area of Grade 2 agricultural land present between Holybourne and Lower Froyle. The pipeline will only have a temporary impact on agricultural use. Following reinstatement, there will be no impact on the use of land for agricultural purposes, except for the limited permanent land take associated with Valves 6 and 7.
- 10.8.95 The pipeline construction work will cross approximately 19 PRowS in Section C. The level of disturbance to footpath users will be kept to a minimum and all footpaths will be fully reinstated at the end of the construction period. Proposed PRowS closures and temporary diversions are identified in DCO Schedule 5 and DCO Article 12 provides powers for their implementation, in agreement with the relevant highway authorities.
- 10.8.96 The River Wey, identified as a Local Natural or Semi-Natural Green Space within the East Hampshire Open Space Assessment (2018), will be crossed by the pipeline, though this will be by trenchless crossing (TC 008), with the design ensuring that the trenchless crossing will be extended to the south out of flood zone 2 and Priority Habitats.
- 10.8.97 There are areas classed as Special Category Land (SCL) that are within the Order Limits of Section C. The impacts on SCL are set out in Planning Statement Chapter 17 Special Category Land.
- 10.8.98 The impact on land use in Section C is limited to PRowS and SCL. These impacts will only be short term and temporary in nature, with diversions provided for all PRowS in Section C to allow for their continued use.

Summary

- 10.8.99 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section C of the project complies with the requirements of section 5.10 of NPS EN-1 in relation to land use.

Noise and Vibration

- 10.8.100 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.274 to 7.4.289) provides a project-wide assessment of any noise and/or vibration impacts that the implementation of the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. This reflects the assessment undertaken in ES Appendix 13.3 Noise and Vibration Technical Note.



Summary

10.8.101 The commitment to agreeing a Noise and Vibration Management Plan with the relevant planning authority (as part of the CEMP secured as DCO Requirement 6) would ensure that appropriate noise and vibration mitigation would be implemented during the works, in accordance with section 5.11 of NPS EN-1 and section 2.20 of NPS EN-4 in relation to noise and vibration.

Socio-economics

10.8.102 In accordance with the requirements of NPS EN-1 section 5.12, ES Chapter 13 People and Communities provides an assessment of the socio-economic impacts of the project.

Community

10.8.103 This section of the route is approximately 2km away from the large town of Alton, although the preferred route itself passes through predominately agricultural land. The community and recreation/amenity receptors within the study area or Order Limits are listed in Table 10.7.

Table 10.7: Community and Recreation/Amenity Receptors in Section C

Type	Receptor Name	Order Limit or Study Area
Community receptor	Worldham Golf Club	Study area
	Church of the Assumption of the Blessed Virgin Mary	Study area
	All Saints Church	Study area
	Spire Clare Park Hospital & St Marys	Study area
	Crondall Primary School	Study area
Recreation/amenity receptor	Farnham Lane Recreation Ground	Study area
	19 PRowS	Order Limits

10.8.104 Construction activity in Section C is anticipated to affect a number of viewpoints throughout the duration of the construction phase. However, the impact of these visual effects is considered to be very localised. The changes at viewpoints will largely affect users of the 19 PRowS within the Order Limits and some local residents. There is also the potential for short term localised, but significant, noise impacts during installation.

10.8.105 Measures that manage noise, vibration and visual impacts and ensure that there are temporary diversions for PRowS are set out in the REAC (ES Chapter 16 Environmental Management and Mitigation) and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

10.8.106 Overall, the significance of effect of disruption to communities and people within Section C is determined to be negligible.

Tourism



- 10.8.107 There are three tourism receptors within the Section C study area, all of which provide accommodation: West End House Bed and Breakfast, Froyle Park Estate/Hotel and The Anchor Inn.
- 10.8.108 Although these tourism receptors lie within the study area, they are located outside of the Order Limits. However, West End House Bed and Breakfast is likely to be disrupted as the Order Limits are located 150m from the receptor and cross over the access road to the bed and breakfast, potentially restricting access for a short period of time and causing noise impacts. However, these will not be significant due to noise good practice measures that will be within the CoCP, the implementation of which is secured by DCO Requirement 5. It is also likely to experience visual impacts, although due to existing screening, these are unlikely to be significant.
- 10.8.109 The two other tourism receptors within Section C, Froyle Park and The Anchor Inn, may potentially experience visual effects and potential localised noise effects due to the lack of screening between the installation works and the receptors. However, these effects are not anticipated to be significant and visitor numbers are not likely to be affected.
- 10.8.110 Measures that mitigate noise, vibration and visual impacts and ensure that there are temporary diversions for PRowers are set out in the REAC (ES Chapter 16 Environmental Management and Mitigation) and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).
- 10.8.111 Due to the nature of the tourism receptors affected and the length of time of installation in any one location, the overall significance of effects of disruption is classed as minor adverse.

Summary

- 10.8.112 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section C of the project complies with the requirements of section 5.12 of NPS EN-1 in relation to socio-economics.

Soils and Geology

- 10.8.113 In accordance with section 2.23 of NPS EN-4, ES Chapter 11 Soils and Geology provides a detailed assessment of the soils and geology impacts of the project. Furthermore, paragraphs 7.4.330 to 7.4.351 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any soils and geology impacts that the project is likely to have, together with identifying the good practice measures that will be implemented to manage these impacts.
- 10.8.114 The design of the project has been iterative, and the design refinements have resulted in avoiding sensitive features as set out in section 11.4 of ES Chapter 11 Soils and Geology.

Impacts on Soils

- 10.8.115 The soil associations within Section C, from South of Alton to Crondall, are predominately COOMBE 1 which contains freely draining lime-rich loamy soils over chalk, but freely draining slightly acid loamy soils are also common, particularly HARWELL. From Upham to Crondall (Sections A, B and C), the Cretaceous Chalk Group is present for a large extent and there is a smaller section of the Upper Greensand Formation and Gault Formation of the Selborne Group between Chawton and Bentley (Section C), both of which represent the rim of the Weald Anticline. From Crondall to West Bedfont (Sections C to H), the Palaeogene aged strata are present again for a large extent with the Bracklesham Group outcrop comprising the Camberley Formation, Windlesham Formation and the Bagshot Formation.
- 10.8.116 The Minerals Consultation Area present in Section C comprises the following:
- Superficial Soft Sand and Gravel northeast of Alton (approximately 27% of the Order Limits in Section C).
- 10.8.117 Section C is made up of small areas of Grade 2 agricultural land to the southeast of Crondall. The rest consists of mostly Grade 3 agricultural land.
- 10.8.118 In respect of land contamination, there are three sites in Section C which may potentially be affected by contamination from historical and/or current uses:
- Star Energy – COMAH site (oil terminal) located within the study area;
 - Alton Material Recovery Facility (former railway sidings) – current material recovery facility with historical land use (railway sidings) within the Order Limits; and
 - Upper Froyle Land at Manor Farm (former landfill) – historic landfill within Order Limits.
- 10.8.119 ES Chapter 11 Soils and Geology considers that all soils identified within the Order Limits will be affected, such that Agricultural Land Classification grades/subgrades 2 (high value), 3a (medium value), 3b (medium value) and 4 (low value) will be affected.
- 10.8.120 Good practice measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6). The assessment in ES Chapter 11 Soils and Geology is based on these being in place.
- 10.8.121 ES Chapter 11 concludes that a minor adverse impact will occur across the range of soil receptors in Section C. This is considered to be a temporary impact because the quality of the soils will recover over the short term, following adherence to the good practice measures set out in the REAC. As a result, no additional mitigation measures have been identified and there will be no significant residual impacts on soils during construction or operation.



Land Contamination

- 10.8.122 The Order Limits include a historic landfill site at Upper Froyle which has the potential to give rise to gas/vapour which could pose a risk to construction workers and adjacent land users if not managed appropriately.
- 10.8.123 ES Chapter 11 Soils and Geology concludes that with good practice measures in place, as set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), no additional mitigation measures in respect of land contamination have been identified and there will be no significant residual impacts from land contamination during construction or operation.

Impacts on Geology (including Minerals)

- 10.8.124 In respect of geology, Section C crosses Water Lane SINC which is geologically important. Water Lane is generally less than 10m wide and predominantly a sunken lane, with the lane bed below the surrounding fields, with bedrock locally exposed in the lane walls and floor. The position of the Order Limits crossing point is the one location along the entire length of the Water Lane SINC where the existing trackway is at grade with the surrounding land.
- 10.8.125 The proposal is for the pipeline to be trenched through this section which will have a very short term impact on the geological site during installation, when the site would be disrupted by trenching. When reinstated to the current ground conditions in accordance with the good practice measures in the REAC, it will have a negligible medium to long term impact on the character of the geological site.
- 10.8.126 The impacts on minerals safeguarding are addressed on a project-wide basis in paragraphs 7.4.218 to 7.4.225 in Chapter 7 Planning Assessment: Project-wide.

Summary

- 10.8.127 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section C of the project complies with the requirements of section 2.23 of NPS EN-4 with respect to soils and geology.

Traffic and Transport

- 10.8.128 In accordance with section 5.13 of NPS EN-1, the project has assessed the traffic and transport Implications of the proposals. ES Appendix 13.1 Traffic and Transport Technical Note sets out the potential traffic and transport impacts of the project and residual effects. The ES has been informed by a separate Transport Assessment submitted as part of the application for development consent (**application document 7.4**). Furthermore, paragraphs 7.4.300 to 7.4.311 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any traffic and transport impacts that the project is likely to have, together with identifying the management that will be implemented to manage these impacts.



- 10.8.129 While there will inevitably be some disruption during construction, good practice measures will be put in place to reduce disruption during construction of the pipeline.
- 10.8.130 Good practice measures include using trenchless techniques for the following road crossings:
- A31 Alton Bypass; and
 - Veolia Access Road, off A31.
- 10.8.131 A trenchless crossing will be used under the A31 Alton Bypass, in order to avoid impacts on this major road out of Alton. This trenchless crossing will also cross a minor road used to access the Alton Materials Recovery Facility operated by Veolia. Trenchless techniques may also be used to cross Caker Lane, although further design work is needed to determine the method of crossing this lane.
- 10.8.132 All other road crossings within Section C will be undertaken using open cut methods, maintaining access where possible and using very short term (up to two to three days) diversions where necessary to enable construction works to be completed. All diversion routes have been discussed and agreed with Hampshire County Council Highways Authority. The detailed implementation of these measures is secured by Articles in Part 3 of the draft DCO and the Construction Travel Management Plan (CTMP), the implementation of which is secured by DCO Requirement 7.
- 10.8.133 Logistic hubs will be used to manage construction traffic and delivery of materials and resources. These facilities will allow works to progress smoothly without reliance on peak time deliveries of staff and materials. There are no logistics hubs in Section C of the route, as the section will be served by logistics hubs in Section B and Section D.
- 10.8.134 Due to the short duration of construction affecting rural roads, significant effects are not anticipated in rural areas, and therefore impacts on traffic flows, changes in journey times and collisions and safety in rural areas were scoped out of the Transport Assessment (**application document 7.4**).
- 10.8.135 Overall, no significant effects have been identified from traffic and diversions/traffic management associated with Section C on traffic flows, journey times or collisions and safety.
- 10.8.136 For walking, cycling and equestrians, this will be managed by ensuring that pedestrian access to and from residential, commercial, community and agricultural land uses would be maintained throughout the construction period, including retention of vehicular access to be maintained where practicable which will be secured through DCO Requirement 7.
- 10.8.137 As noted previously in this chapter, the pipeline will cross approximately 19 PRowS within Section C. The level of disturbance to footpath users will be kept to a minimum, and all footpaths will be fully reinstated at the end of the construction period.



Summary

10.8.138 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and Construction Traffic Management Plan (DCO Requirement 7), Section C of the project complies with the requirements of section 5.13 of NPS EN-1 with respect to traffic and transport.

Waste Management

10.8.139 In accordance with NPS EN-1 section 5.14, the REAC sets out the requirement for a Site Waste Management Plan (SWMP) to be produced prior to construction, as set out in paragraphs 7.4.312 to 7.4.317 of Chapter 7 Planning Assessment: Project-wide. The SWMP will be secured through the DCO requirement for a CEMP (DCO Requirement 6).

10.8.140 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section C of the project complies with the requirements of section 5.14 of NPS EN-1 with respect to waste management.

Water Quality and Resources

10.8.141 In accordance with section 5.15 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the water quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.318 to 7.4.330) provide a project-wide overview of any water quality impacts that the project is likely to have, together with identifying the good practice measures that will be implemented to manage these impacts.

10.8.142 This section sets out any specific impacts that have been identified for the project in Section C on:

- existing quality of waters;
- existing water resources;
- existing physical characteristics of the water environment; and
- any impacts on water bodies or protected areas under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) around potable groundwater abstractions.

Water Quality

Groundwater

10.8.143 The groundwater environment in Section C is defined as the following:

- Chalk Principal aquifer for all of Section C (Groundwater Study Area B (GWSA-B)).

10.8.144 The groundwater environment in GWSA-B – the chalk aquifer – is assessed as high value, as it provides a major source of drinking water in the region.



- 10.8.145 A number of possible effects on groundwater quality in Section C are identified in ES Appendix 8.5 Potential Effects on Groundwater. Minor or negligible groundwater quality impacts have been identified for the following receptors;
- groundwater in Principal Chalk aquifer;
 - Caker Stream floodplain;
 - floodplain of River Wey;
 - Selborne Road SPZ3;
 - Itchel Pumping Station SPZ3; and
 - unlicensed small scale PWSs.
- 10.8.146 Possible impacts have been identified as potentially arising from the dewatering of surface water drainage or intercepted groundwater in open-trenches, the discharge of abstracted groundwater from trenchless crossings or from leaks and spills from plant fuels and oils during the construction phase. It is recognised that a number of the receptors are of high value and as such, adherence to the measures set out in the REAC and secured through the DCO Requirements, such as the CoCP (DCO Requirement 5) will ensure that the impact on groundwater receptors is minor at worst. These measures are set out in Table 8.12 of ES Chapter 8 Water.
- 10.8.147 As set out in ES Chapter 3 Project Description, the pipeline design provides operational integrity through a range of measures (e.g. corrosion protection), and as such, the pollution risks arising from the operation of the pipeline are considered to be negligible. The specific impacts on groundwater quality are set out in ES Appendix 8.5 Potential Effects on Groundwater.

Surface Water

- 10.8.148 Two of the most important considerations in relation to surface water quality are potential impacts on aquatic ecology and any downstream surface water abstractions. ES Appendix 8.5 provides a summary of watercourse sensitivity from an aquatic ecology perspective.
- 10.8.149 In Section C, the following surface watercourses are assessed as being of moderate or high sensitivity (the remainder are low sensitivity watercourses or ephemeral drainage channels):
- High sensitivity: River Wey; and
 - Moderate sensitivity: None.
- 10.8.150 Licensed surface water abstractions located downstream (within 5km) of proposed watercourse crossings in Section C are as follows:
- River Wey (Section C): two abstractions, approximately 2km and 2.4km downstream of the proposed River Wey crossing at the A31; and
 - Coldrey Farm, Lower Froyle (Section C): agricultural abstraction from a lake (the pipeline route crosses a small watercourse feeding the lake, close to the lake inlet).



- 10.8.151 The River Wey is to be crossed using Horizontal Directional Drilling (HDD) trenchless technique, therefore removing any direct effects from in-channel works or to downstream surface water abstractions. Crossing of the other watercourses by open cut trenching technique has the potential for a moderate impact on surface water, through the escape of groundwater containing elevated contaminants. However, given the good practice measures contained within the REAC together with the low sensitivity of this watercourse, no significant effects are forecast. The implementation of the good practice measures in the REAC are secured through DCO Requirements such as the CoCP (DCO Requirement 5).
- 10.8.152 The assessment has identified that the operational impacts of the project are unlikely to have a significant effect on surface water quality receptors in Section C.

Water Resources

- 10.8.153 There are no public water supplies within Section C.
- 10.8.154 There is one licensed groundwater abstraction (high value) identified within the Section C study area (near Chawton).
- 10.8.155 Taking account of the water good practice measures identified in the REAC, the likelihood of occurrence of pollution incidents during construction is considered to be very low. With the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) the impact on licenced groundwater abstractions in Section C is identified as negligible.

Physical Characteristics of the Water Environment

- 10.8.156 In respect of groundwater levels, groundwater modelling results and groundwater level monitoring data provided by the Environment Agency show that, generally, the depth to groundwater is not significant in relation to the depth that the pipeline trench will penetrate. However, the groundwater susceptibility flooding map does show the potential for shallow groundwater at six principal locations throughout GWSA-B.
- 10.8.157 The project is assessed as having a negligible impact upon the following Groundwater Dependent Terrestrial Ecosystems in Section C:
- Peck Copse; and
 - Caker and Lavant Streams Floodplain
- 10.8.158 Potential impacts to groundwater flow due to the presence of the pipeline in Section C are largely considered to be negligible as sub-surface flows are not expected to be altered, due to the design of stanks (water stops) at right angles to the pipeline. Stanks are part of the embedded mitigation, with the purposes of preventing the movement of groundwater through the pipe trench and ensuring that it continues to reach flora which rely on groundwater.



Water Bodies or Protected Areas Under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) Around Potable Groundwater Abstractions

10.8.159 There are two WFD surface water bodies present in Section C:

- Caker Stream – moderate potential; and
- North Wey (Alton to Tilford) – moderate potential.

10.8.160 Impacts of the project components will be localised and likely to be negligible or low for both WFD water bodies in Section C. As a result, it is unlikely that the current status of the WFD water bodies will be compromised by the project. The project will also not compromise the ability of the water bodies to achieve Good Overall Potential in the future. As such, the project is assessed as not having any effects on WFD water bodies.

10.8.161 The Order Limits pass through an SPZ3 (low value) associated with licensed public and private water supplies at Alton and south of Crondall.

10.8.162 Taking account of the water good practice measures identified in the REAC, the likelihood of occurrence of pollution incidents during construction is considered to be very low. With the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) the impact on SPZs in Section C is identified as minor or negligible.

Summary

10.8.163 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section C of the project complies with the requirements of section 5.15 of NPS EN-1 and section 2.22 of NPS EN-4 with respect to water quality and resources.



11 Planning Assessment – Section D – Crondall to Farnborough

Key points:

- This Section crosses public open spaces, golf courses and recreation spaces;
- The route becomes more urban in character; and
- Impacts on environmental constraints are assessed.

11.1 Introduction

- 11.1.1 This chapter provides a planning assessment for Section D of the route, from Crondall to Farnborough (A327 crossing) in Hampshire. Sections A to C of the route are covered in Chapters 8 to 10 and Sections E to H of the route are covered in Chapters 12 to 15 respectively.
- 11.1.2 The chapter considers the acceptability of the project in Section D against the policies set out in Chapter 6 Planning Policy Context and identifies where matters relevant to specific National Policy Statement (NPS) EN-1 and NPS EN-4 policy headings arise and sets out the measures required to mitigate the identified impacts.
- 11.1.3 This chapter is designed to be read as a standalone assessment and key points from Chapter 7 Planning Assessment: Project-wide may, therefore, be repeated within this section where they are relevant.
- 11.1.4 The chapter sets out the following for route Section D:
- Section 11.2: Overview of the route section, development proposed and its method of construction;
 - Section 11.3: Overview of Section D refinement;
 - Section 11.4: Identification of relevant Planning Authorities;
 - Section 11.5: Identification of key environmental and planning designations within Order Limits;
 - Section 11.6: Relevant planning history;
 - Section 11.7: Overview of Section D against NPS EN-1 Assessment Principles (using the relevant subject headings from EN-1);
 - Section 11.8: Generic Impacts of Section D (NPS EN-1 and NPS EN-4 where stated); and
 - Section 11.9: Conclusions on Planning Assessment of Section D.

11.2 Overview of this Section

Route Description

- 11.2.1 Section D (Planning Statement Figure 4.1, Sheets 8 – 9) runs through both rural and urban areas. It spans Hart District Council and Rushmoor District Council administrative areas.
- 11.2.2 Section D is approximately 9km (6 miles) long and starts at Dippenhall Street shortly after which it crosses Oak Park Golf Course. The section continues, crossing the A287. It runs along Naishes Lane and Quetta Park where it deviates from the existing pipeline and passes through Wakefords Copse to avoid crossing Fleet Business Park. After running along Beacon Hill Road for approximately 300m it passes north of a development site and across Peter Driver Sports Ground, before crossing the northern part of Tweseldown Racecourse, Ewshot, and the Bourley and Long Valley SSSI. At Norris Hill the proposed haul road diverges from the route in order to utilise an established track.
- 11.2.3 The Section then crosses the Basingstoke Canal and A323. The route passes along the northern boundary just outside Eelmoor Marsh SSSI. The section crosses Cody Technology Park and the western part of the former Southwood Golf Course, which is to be turned into Suitable Alternative Natural Greenspace (SANG) and finishes just after the crossing of the A327.

Use of Trenchless Installation Techniques

- 11.2.4 Trenchless installation techniques are proposed to be used for the following crossings:
- TC 010 – A287 Ewshot Hill: A trenchless crossing will be used to avoid disruption to the A287, which is a major route into Farnham;
 - TC 011 & 012 – Bourley and Long Valley SSSI: Two consecutive trenchless crossings will be used to avoid wetland areas in this SSSI;
 - TC 013 – Basingstoke Canal SSSI and A323: A trenchless crossing will be used to avoid disruption of the A323 between Fleet and Aldershot and takes account of the SSSI and Conservation Area designations, and to cross under the Basingstoke Canal; and
 - TC 014 – A327 Ively Road: A trenchless crossing will be used to avoid the A327, which is a major route into Farnborough and to avoid disruption to local residents.

Above Ground Infrastructure

- 11.2.5 Above Ground Infrastructure (AGI) in Section D comprises two valves, as set out under the following heading, together with a cathodic protection cabinet, pipeline markers and flight marker posts as set out in Chapter 4 Project Description.

Valves

- 11.2.6 There are two valves in Section D located as follows:



- Valve 8: Tweseldown Racecourse, Church Crookham; and
- Valve 9: Ively Road, Farnborough.

11.2.7 Further details on the valves are set out in Chapter 4 Project Description.

Construction

11.2.8 Details of the construction method, construction schedule and reinstatement are set out in Chapter 4 Project Description.

Crossings

11.2.9 The following river and watercourse crossings are required:

- Unnamed watercourse 18 (WCX 025a) – open cut construction;
- Unnamed watercourse 19 (WCX 026) – open cut construction;
- Unnamed watercourse 20 (WCX 027) – open cut construction;
- Unnamed watercourse 22 (WCX 029) – open cut construction;
- Unnamed watercourse 23 (WCX 030) – open cut construction;
- Unnamed watercourse 24 (WCX 031) – trenchless construction;
- Unnamed watercourse 25 (WCX 032) – open cut construction;
- Unnamed watercourse 26 (WCX 033) – open cut construction;
- Unnamed watercourse 27 (WCX 034) – open cut construction;
- Unnamed watercourse 28 (WCX 035) – open cut construction;
- Unnamed watercourse 29 (WCX 036) – open cut construction;
- Unnamed watercourse 31 (WCX 038) – trenchless construction;
- Unnamed watercourse 32 (WCX 039) – trenchless construction;
- Gelvert Stream (WCX 040) – trenchless construction;
- Basingstoke Canal (WCX 041) – trenchless construction;
- Unnamed watercourse 34 (WCX 043) – open cut construction;
- Unnamed watercourse 35 (WCX 044) – open cut construction; and
- Unnamed watercourse (WCX 045) – open cut construction.

11.2.10 The following road crossings are required in this section:

- Heath Lane (RDX 044) – open cut construction;
- Redlands Lane (RDX 045) – open cut construction;
- Ewshot Hill – A287 (RDX 046) – using trenchless construction;
- Ewshot Lane (RDX 047) – open cut construction;
- Naishes Lane (RDX 048 and RDX 049) – open cut construction;



- Jubilee Drive (RDX 050) – open cut construction;
- Beacon Hill Road – B3013 (RDX 051) – open cut construction;
- Bourley Road (RDX 052) – open cut construction;
- Aldershot Road (RDX 053) – open cut construction;
- Fleet Road – A323 (RDX 054) – using trenchless construction;
- Old Ively Road (RDX 054a) – using trenchless construction;
- Buccaneer Way (RDX 055) – open cut construction;
- Concorde Road (RDX 055a) – open cut construction;
- Ively Road – A327 (RDX 056) – open cut construction; and
- Ively Road – A327 (RDX 057) – using trenchless construction.

11.2.11 Street works, temporary construction access and Public Rights of Way (PRoW) diversions for Section D are shown on Access and Rights of Way Plan sheets 28–33, and 56 (**application document 2.5**).

Construction Compounds

- 11.2.12 There are eight construction compounds along Section D of the pipeline route located at:
- Dippenhall Street (compound no. 4U);
 - South of Ewshot Hill (compound no. 4V);
 - South of Ewshot Lane (compound no. 4W);
 - North of Naishes Lane (compound no. 4X);
 - Quetta Park (compound no. 4Y);
 - Bourley Road (compound no. 4Z);
 - Norris Bridge (compound no. 4AA); and
 - Ively Road (compound no. 4AB).

Logistics Hubs

- 11.2.13 There is one logistics hub within Section D at Hartland Park Village, Farnborough.
- 11.2.14 The hub will include a pipe laydown area, secure plant storage area, bunded fuel storage, single-storey offices, staff welfare facilities and a vehicle parking area.
- 11.2.15 Further details regarding the logistics hubs are set out in Chapter 4 Project Description.

Narrow Working

- 11.2.16 There are nine areas of narrow working in Section D. This will reduce the width of the open cut trench construction through Oak Park Golf Course (NW7), south of Ewshot Lane (NW32), Naishes Lane (NW8), south of fleet Business Park (NW9),

Peter Driver Sports Ground (NW10), Tweseldown racecourse (NW11), south of Aldershot Road (NW12), Norris Hill (NW13), Basingstoke Canal (NW14) and Cody Technology Park (NW15). This approach involves the contractor(s) using less space than standard working width due to localised constraints, such as working in roads or sensitive areas.

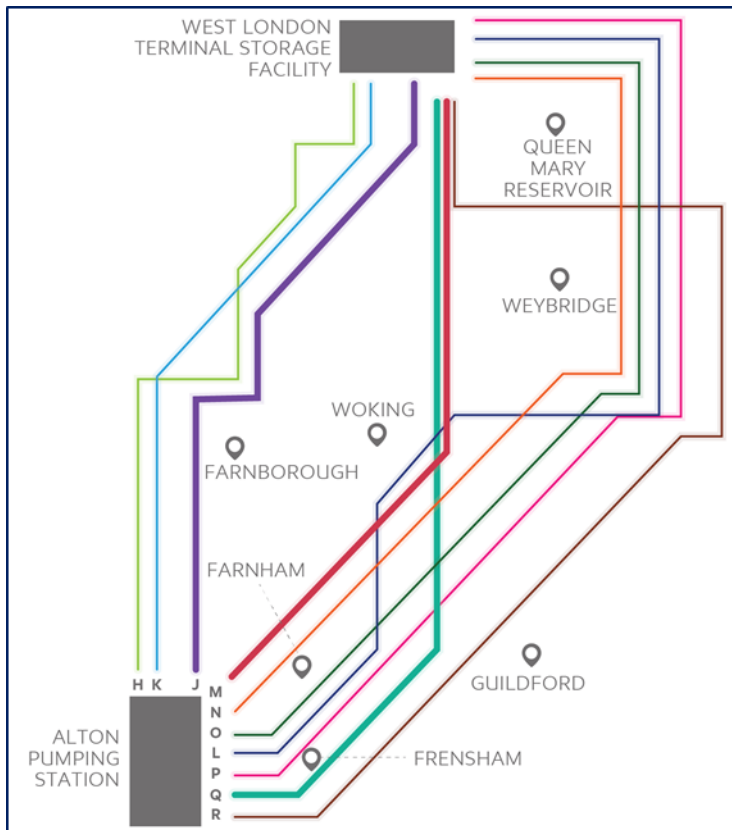
11.3 Overview of Section Refinement

11.3.1 The overall approach to design development and route refinement is set out in Chapter 3 Scheme Development, and in further detail in ES Chapter 4 Design Evolution. The following sub-headings outline key considerations relating to corridor selection, sub-option selection and specific design refinements which influenced the design development of Section D of the route.

Corridor Selection

11.3.2 Chapter 3 of this Planning Statement outlines the evolution of the project, a long list of corridor options for the route of the replacement pipeline were identified and considered. A sifting process was carried out based on environmental, planning and engineering factors. Illustration 11.1 shows the corridor options North of Alton. These corridor options were the subject of non-statutory consultation, supported by the document 'Replacement Pipeline Corridor Consultation: Securing aviation fuel supplies in South East England'.

Illustration 11.1: Longlist of Corridor Options – North of Alton





- 11.3.3 Through the design development of the project, a number of corridor options were reduced to a single preferred corridor, within which a route for the replacement pipeline has been identified in Section G.
- 11.3.4 Given the international significance of the Thames Basin Heaths (SPA) along the routes for Sections D, E and F, and NPS EN-1 relating to its protection (NPS EN-1 5.3.7 to 5.3.8), Corridors N, O, L, P, Q and R as shown in Illustration 11.1, which avoided the SPAs, were considered. However, these corridors were not taken forward because they would result in extensive sections requiring the laying of the pipe in roads, which would be complex and time-consuming to install, would result in a longer pipeline route and would result in greater disruption for local communities. In addition, some of these corridors would not have met key project objectives, such as taking the shortest route and avoiding the floodplain and mineral extraction areas. Corridors H and K did not avoid the Thames Basin Heaths SPA but were not taken forward. For Corridor H the environmental constraints were no less than for other routes, therefore there was no benefit in taking this longer route. For corridor K the route passes along a significant length of road (Stonehill Road and Longcross Road) and would impact significantly on local people and businesses as construction in the road would be slow and more disruptive. In addition, as these corridors were away from the existing pipeline, to construct along Corridors H and K would require additional above ground infrastructure, new landowners and would not reduce the complexities for construction or reduce environmental impacts.
- 11.3.5 Of the corridors considered in the north, Corridors J, M and Q were shortlisted, and Corridor J was selected following the preferred corridor consultation. Corridor J passes through the Thames Basin Heaths SPA but was favoured over the other two corridors because it avoided passing through the historic town of Farnham, it had less impact on commercial activity and would not lead to significant disruption to residential communities, Additionally, Corridor J would have less interaction with the floodplain and unlike Corridor Q does not re-enter the South Downs National Park (SDNP) and the Surrey Hill Area of Outstanding Natural Beauty.
- 11.3.6 The consideration of these corridor options against national policy for the protection of the SPA is set out in Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.34 to 7.4.47). Following the Corridor Options consultation, Corridor J which goes through the SPA was selected as the preferred corridor. This informed the selection of the preferred route. Details of all consultations undertaken are presented in the Consultation Report (**application document 5.1**).

Sub-option Selection and Design Refinement

- 11.3.7 Route sub-options were considered at four locations in Section D as summarised in Table 11.1.

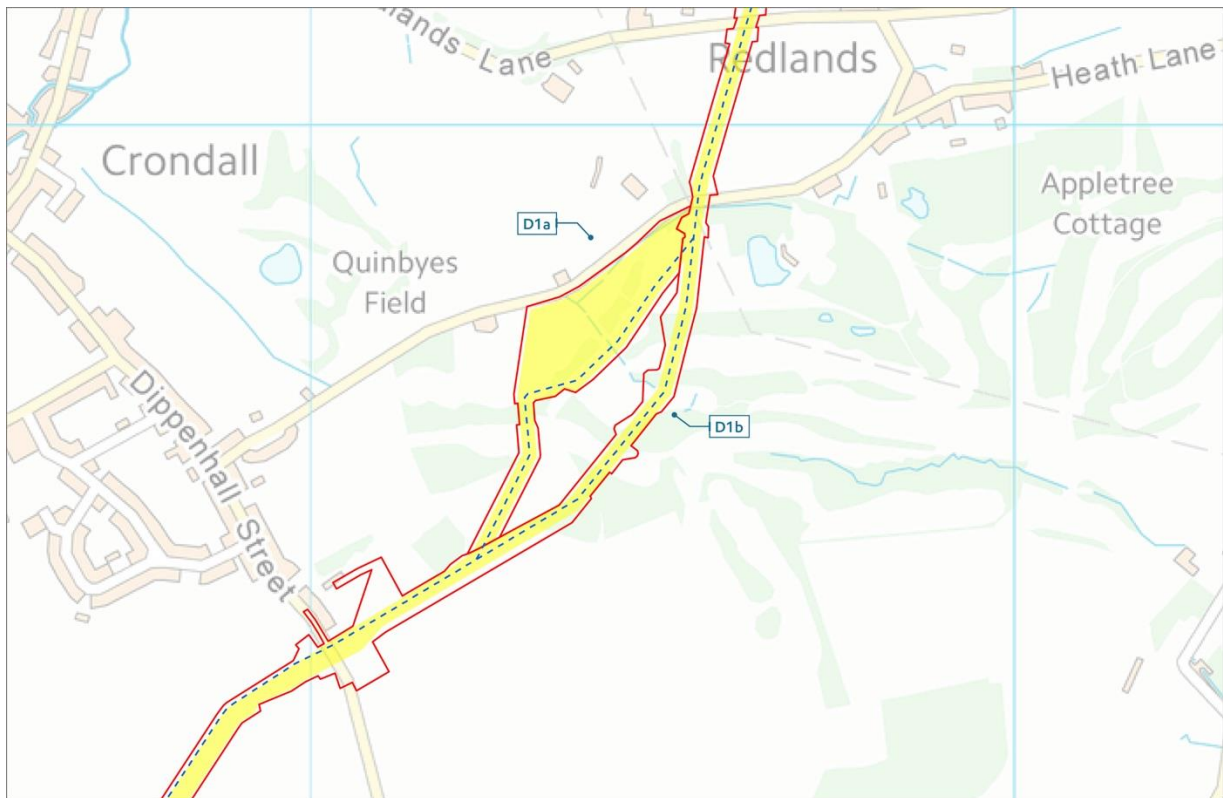
Table 11.1: Sub-Options selected for Section D

Sub-Option	Main Reasons for Sub-Option Selection
D1a and D1b Oak Park Golf Course	D1b was selected to reduce disruption to Oak Park Golf Course.
D2a and D2b Fleet Business	D2b was selected as it will have less potential traffic disruption during installation. It will also reduce impacts on Fleet Business Park and

Sub-Option	Main Reasons for Sub-Option Selection
Park	Naishes Lane.
D3a and D3b Beacon Hill Road	D3a was selected, but with some refinements, to include Beacon Hill Road within the Order Limits, to reduce the impact on development sites.
D4a and D4b Norris Hill	D4a was selected because it closely follows the existing pipeline. D4b follows an established track and will remain in the Order Limits but will only be used for temporary access route during installation.

11.3.8 Sub-options D1a and D1b were presented at statutory consultation and carefully considered, offering alternative crossing of Oak Park Golf Course near Crondall. Both options cross the golf course, though D1a may have a great impact on the golf course during construction than D1b, however, D1a it is further from the area of ancient woodland than D1b.

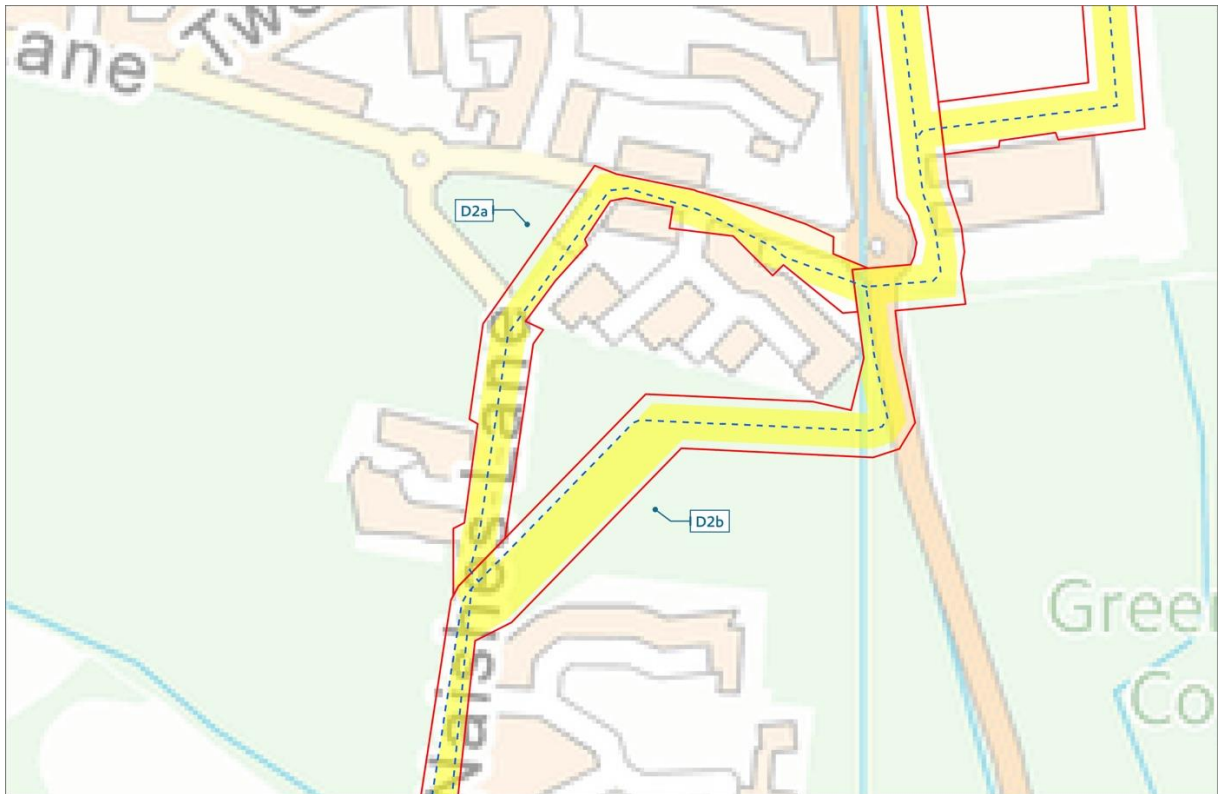
Illustration 11.2: D1 Sub-options – Oak Park Golf Course



11.3.9 D1b was selected to reduce disruption to Oak Park Golf Course. This followed responses at statutory consultation and assessment of the sub-options by the project team. At statutory consultation, the operator of the golf course indicated a preference for sub-option D1b, as it will have a reduced impact on the course.

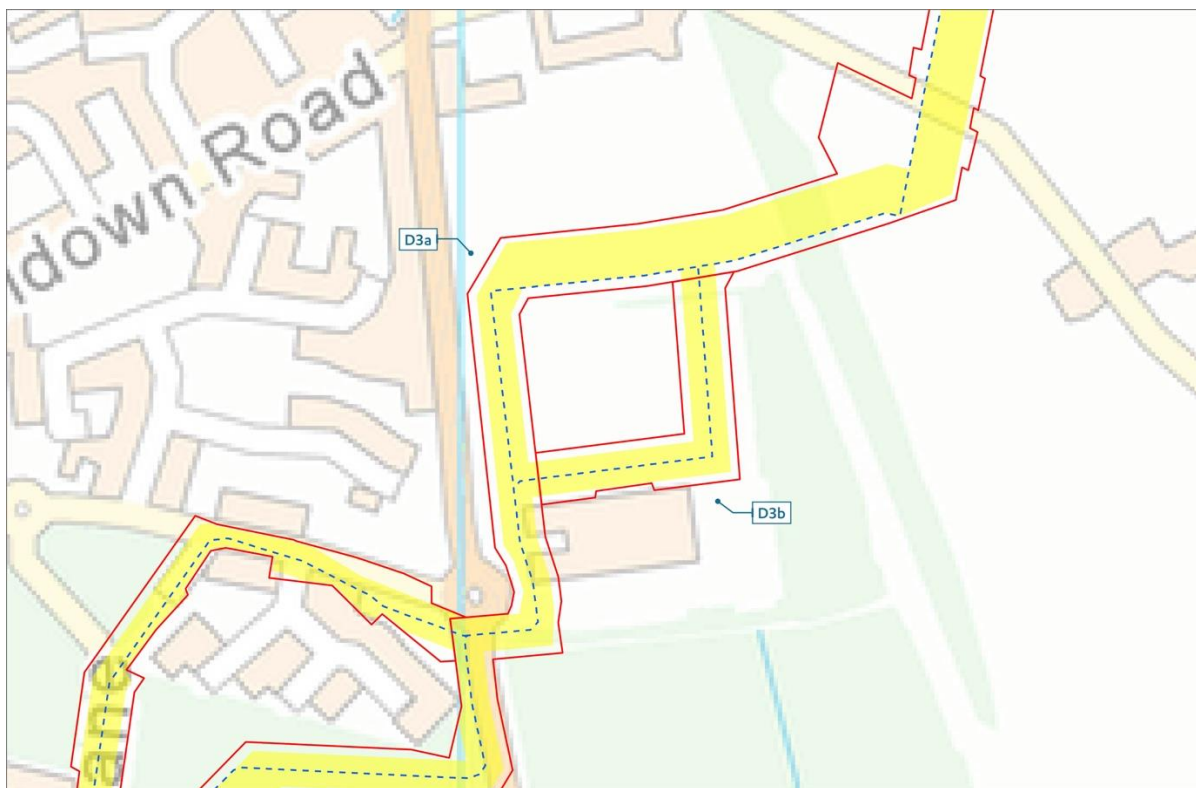
11.3.10 The sub-options near Fleet Business Park, D2a and D2b, were considered to take account of impacts on businesses, local Sites of Importance for Nature Conservation (SINC) and traffic.

Illustration 11.3: D2 Sub-options – Fleet Business Park



- 11.3.11 It was identified that D2a will avoid Soane and Wood Copses but will potentially impact roads, while D2b will cross a local copse and some SINC land. Having considered both sub-options in detail, and taking into account statutory consultation responses, D2b was selected as it will have less potential traffic disruption during installation. It will also reduce impacts on Fleet Business Park and Naishes Lane.
- 11.3.12 Sub-options D3a and D3b were considered at Beacon Hill Road in Fleet. These options took into account development proposals to the east of Beacon Hill Road.

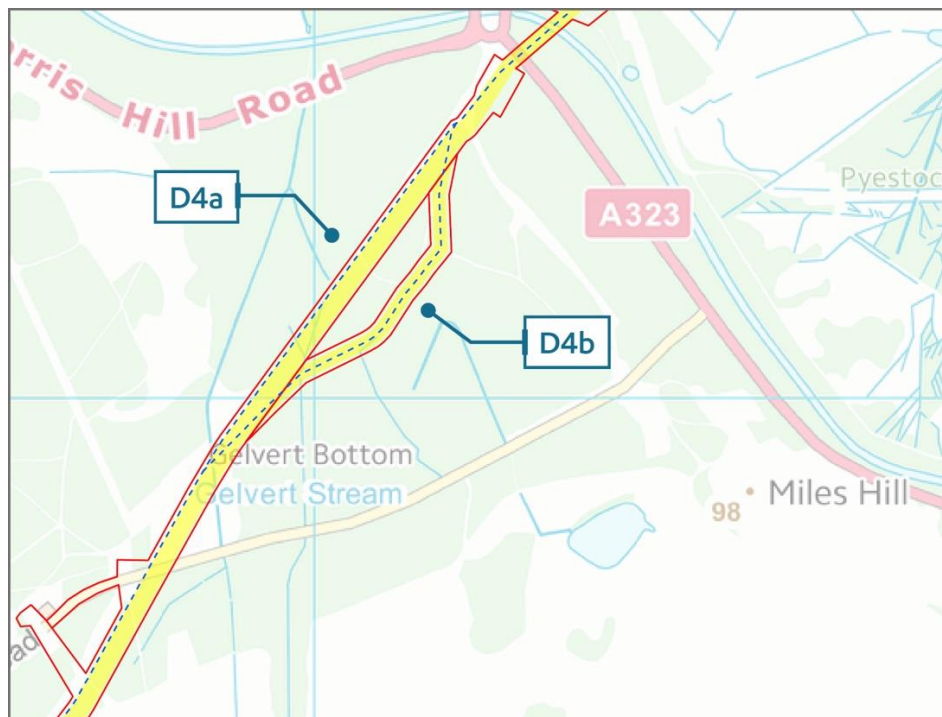
Illustration 11.4: D3 Sub-options – Beacon Hill Road



- 11.3.13 D3a travelled to the east of Beacon Hill Road before crossing land at Peter Driver Sports Ground in Church Crookham into Tweseldown Racecourse. D3b crossed through a development site south of Peter Driver Sports Ground before entering land at Tweseldown Racecourse.
- 11.3.14 Following detailed consideration of the sub-options including statutory consultation responses, along with engagement with potentially affected developers, D3a was selected, with some refinements. D3a accounted for the developer proposals better than D3b as it avoided cutting through the middle of the development site, but following from the landowner required further refinements. As such, the Order Limits were moved to the west to include Beacon Hill Road, in order to reduce the impact on the proposed development sites. This refinement was consulted on as part of the Design Refinement consultation in early 2019 and was subsequently selected for inclusion within the application following objections to both of the original D3 sub-options and preference for this refinement.
- 11.3.15 As the Consultation Report (**application document 5.1**) highlights, concerns were raised at statutory consultation regarding the impacts of D3a on Peter Driver Sports Ground football pitches. Esso will liaise with the local council and management at the sports ground to minimise the impact on the Peter Driver Sports ground football pitches. This may be achieved by, where feasible, working outside of the football season and reinstating the pitches before the following season begins.

11.3.16 Finally, sub-options D4a and D4b were considered south of Norris Hill Road within the Bourley and Long Valley SSSI, in order to avoid higher sensitivity ecological areas within the SSSI.

Illustration 11.5: D4 Sub-options – Norris Hill



11.3.17 Following discussions with stakeholders, D4a was selected as the preferred pipeline route because it closely follows the existing pipeline. D4b was retained within the Order Limits but only as an access track, however the Order Limits for D4b have been significantly narrowed to only include an established track and as such, sub-option D4b will only be used for temporary access during installation.

11.4 Relevant Planning Authorities

11.4.1 The relevant planning authorities for Section D are:

- Hart District Council;
- Rushmoor Borough Council; and
- Hampshire County Council (minerals and waste authority and highways planning authority).

11.4.2 Details of the relevant Planning Authorities' adopted and emerging plans together with a list of the policies relevant to the consideration of the project can be found in Chapter 6 Planning Policy Context and will form part of Statements of Common Ground (SoCG) with the relevant planning authorities.

11.5 Key Environmental and Planning Designations Within the Order Limits

11.5.1 The relevant adopted Local Plans for Section D are as follows:



- Hart District Local Plan (Replacement) 1996-2006 and First Alterations to the Hart District Local Plan (Replacement) 1996-2006 (2009) (Saved Policies) ('the Hart Local Plan') – to be replaced by emerging Hart Local Plan: Strategy and Sites 2016-2032;
- Rushmoor Local Plan (2019); and
- Hampshire Minerals and Waste Plan (2013).

Hart District Council

- 11.5.2 Section D starts immediately east of Dippenhall Street in Hart District and is predominantly designated as countryside (Hart Local Plan policy RUR2, to be replaced by policy NBE1 when the emerging Hart Local Plan is adopted). A short part of Section D passes through the Fleet and Church Crookham settlement area in Hart District. To the east of Fleet, the Order Limits pass through the Thames Basin Heaths Special Protection Area (SPA) and Bourley and Long Valley SSSI (Hart Local Plan policies CON1 and CON2, to be replaced by policies NBE4 and NBE5).
- 11.5.3 In respect to open space, the Order Limits are within the following designated open space areas: Crookham Park Suitable Alternative Natural Greenspace (SANG), Quetta Park and Peter Driver Sports Ground (Church Crookham) (Hart Local Plan policy URB21, to be replaced by policy I4).
- 11.5.4 The Order Limits are also within part of Ewshot Meadows SINC, Meadow Near Soanes Copse SINC and Wakefords Copse, Crondall SINC and adjacent to Ewshot Woods SINC (Hart Local Plan policy CON3, to be replaced by policy NBE5). The Order Limits pass through a number of areas designated as green infrastructure to the east of Crondall, at Tweseldown Hill and in the south of Cody Technology Park (to be protected by emerging Hart Local Plan policy I2).
- 11.5.5 In respect of development allocations, the Order Limits touch the edge of the Cody Technology Park Strategic Employment Site allocation in the emerging Hart Local Plan: Strategy and Sites 2016-2032 (2018) (which will replace the adopted DEV13 allocation for Pyestock Area B). The logistics hub in Section D at Hartland Park (Pyestock) is within the Hartland Village development allocation SS2 (emerging Hart Local Plan: Strategy and Sites 2016-2032 (2018)), which will supersede the development allocation for Pyestock Area A (DEV12) within the existing adopted Hart Local Plan.

Rushmoor Borough Council

- 11.5.6 Within Rushmoor Borough the order limits adjoin the Thames Basin Heaths Special Protection Area (SPA) and Eelmoor Marsh SSSI (Rushmoor Local Plan policies NE1 and NE4).
- 11.5.7 The Order Limits pass through the former Southwood Golf Course. Rushmoor Borough Council is currently working with the Environment Agency on plans to convert the now closed golf course to a SANG. Plans to open the first phase late in 2019 are discussed in the Borough Council March 2019 Cabinet Meeting (Adams and Mills, 2019).



11.5.8 The Order Limits also pass through part of Pyestock Hill/Pondtail Heath SINC and South of Ively Road SINC and are adjacent to Ball Hill SINC (Rushmoor Local Plan policy NE4).

Hampshire County Council

11.5.9 The Section D Order Limits pass through four Minerals and Waste consultation areas in Section D; comprising one area of brick clay to the east of Crondall and three areas of superficial soft sand and gravel to the east of Fleet.

11.6 Relevant Planning History Within the Order Limits

11.6.1 Table 11.2 identifies the relevant planning history for planning permissions within the Section D Order Limits.

Table 11.2: Relevant Planning History within Section D Order Limits

Local Planning Authority	Key Developments
Hart	<p><u>Queen Elizabeth Barracks, GU13 0BF (now known as Crookham Park)</u> The Order Limits pass through this major development site which is in the latter stages of its development. The Order Limits pass through a number of planning application boundaries, which have been completed or will be complete by the time of construction of the project. The routing has taken account of the development. There will be a temporary impact on access during construction.</p>
Hart	<p><u>Beacon Hill Road, GU52 8DY</u> Development site with outline planning permission application for commercial B1, B2, B8 development comprising 10 industrial units (Amended plans, Flood Risk Assessment and Design and Access Statement received 23 October 2017) – 16/00564/OUT – Approved. The western edge of the site falls within the Order Limits; however, the limits of deviation do not affect any of the proposed buildings. It is considered that pipeline construction will not significantly affect the proposed development at the site, with any effects limited to temporary disruption to access and landscaping areas.</p>
Hart	<p><u>Hartland Village, Bramshot Lane, Fleet</u> Permission was granted on 17/07/18 for a residential-led mixed use development at Hartland Park with up to 1,500 new dwellings in a hybrid planning application – 17/00471/OUT – which secured outline consent for the whole site and detailed consent for the first phase of development. Part of the Hartland Village development is proposed as a logistics hub site for the pipeline construction. The area proposed forms part of one of the latter stages of the Hartland Park development and has been identified in full knowledge of the site developer. The temporary logistics hub can be accommodated on that part of the site prior to it forming part of the ongoing residential led development of the wider area.</p>



Local Planning Authority	Key Developments
Hart	<p><u>Qinetic Site and Cody Park Data Centre, Ively Road, Farnborough</u></p> <p>There are a number of planning applications associated with the Qinetic and Cody data park sites that are either within, adjoining or close to the Order Limits. These include applications for new buildings, accesses, car parking and landscaping associated with the current and future development by Qinetic and by data centre operators located on parts of its land.</p> <p>The Order Limits intersect with parts of the application boundaries; however, the limits of deviation for pipeline construction do not affect any of the proposed buildings. There has been extensive and ongoing liaison with the owners and operators of the sites in this area to ensure that the pipeline construction can be undertaken without adverse impacts on their operations.</p>
Rushmoor	<p><u>Land to the South of Old Ively Road, Cody Technology Park, Ively Road, Farnborough</u></p> <p>Erection of a 16MW embedded short term operating reserve ('STOR') generating plant building, auxiliary equipment, plant control building, new bunds, landscaping and associated works (18/00133/FULPP). The Order Limits extend into the north of the application area (including proposed access). It is considered that pipeline construction will not significantly affect any proposed development, with any effects limited to temporary disruption to access.</p>

11.6.2 Table 11.3 identifies the undetermined planning applications within the Section D Order Limits.

Table 11.3: Undetermined Planning Applications within Section D Order Limits

Local Planning Authority	Undetermined Planning Applications
Hart	<p><u>Martin Lines, Beacon Hill Road, GU52 8BF</u></p> <p>Outline application for redevelopment of the site to provide a mixed use retail and industrial park, comprising up to 4,246 sqm of business floorspace (Class B1/B2/B8 and/or Trade Counter (Sui Generis)), up to 3,782 sqm of retail floorspace (Class A1) and up to 186 sqm of Class A1 and/or A3 and/or A5 floorspace, including car parking and hard and soft landscaping. Matters of access provided in detail – 18/00694/OUT – awaiting determination.</p> <p>The western edge of the site falls within the Order Limits; however, the limits of deviation do not affect any of the proposed buildings. It is considered that project construction will not significantly affect the proposed development at the site, with any effects limited to temporary disruption to access and car parking.</p>
Hart	<p><u>Beacon Hill Road, GU52 8DY</u></p> <p>Application for Approval of Reserved Matters relating to appearance, landscaping, layout and scale pursuant to outline Planning Permission 16/00564/OUT for commercial B1, B2, B8 development comprising 10 industrial units – 19/00428/REM – awaiting determination.</p> <p>The western edge of the site falls within the Order Limits; however, the limits of deviation do not affect any of the proposed buildings. It is considered that pipeline construction will not significantly affect the proposed development at the site, with any effects limited to temporary disruption to access and landscaping areas.</p>



- 11.6.3 Local Plan Development allocations within the Section D Order Limits include Hartland Park mixed use residential led development, and Qinetiq/Cody Technology Park strategic employment allocation (see paragraph 11.5.4 above).

11.7 Assessment Principles (NPS EN-1 Part 4)

- 11.7.1 This part of the assessment considers the acceptability of Section D of the project against the assessment principles from Part 4 of NPS EN-1 as set out in section 7.3 of Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise relating to Section D that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with the project.
- 11.7.2 Table 11.4 sets out the Assessment Principles that are addressed in Chapter 7 Planning Assessment: Project-wide. Other Assessment Principles are assessed in the subsequent section identifying where the assessment is in this chapter.

Table 11.4: Assessment Principles addressed in Chapter 7 Planning Assessment: Project-wide

Assessment Principles NPS (EN-1 Part 4)	Chapter 7 Planning Assessment: Project-wide Relevant Paragraphs
<u>Alternatives</u> Section 4.4 requires alternatives to the project to be assessed.	7.3.9 to 7.3.13
<u>Climate Change Adaptation</u> Section 4.8 requires climate change adaptation to be assessed.	7.3.19 to 7.3.24
<u>Pollution Control and Other Environmental Regimes</u> Section 4.10 requires discharges or emissions which affect air quality, water quality, land quality and the marine environment, or which give rise to noise and/or vibration to be assessed.	7.3.25 to 7.3.27
<u>Safety</u> Section 4.11 requires safety of the pipeline to be assessed.	7.3.28 to 7.3.31
<u>Hazardous Substances</u> Section 4.12 requires the management of hazardous substances to be assessed.	7.3.32
<u>Health</u> Section 4.13 requires the possible health and well-being impacts to be assessed.	7.3.33 to 7.3.38
<u>Common Law Nuisance and Statutory Nuisance</u> Section 4.14 requires any common law or statutory nuisances to be mitigated.	7.4.39 to 7.4.40
<u>Security Considerations</u> Section 4.15 requires security considerations to be mitigated.	7.4.41 to 7.4.43

Environmental Statement

- 11.7.3 The requirements set out in paragraphs 4.2.1 to 4.2.11 of NPS EN-1 are as a comprehensive Environmental Statement (ES) (**application document 6.1-6.4**)



covering the entire route (Sections A – H inclusive) accompanies the application for development consent.

- 11.7.4 Section 11.8 of this chapter considers how Section D of the route is in compliance with each of the generic topics in NPS EN-1 (which also broadly aligns with the technical chapters of the ES).

Habitats and Species Regulations

- 11.7.5 Section D of the project transects the Thursley Ash, Pirbright and Chobham Special Area of Conservation (SAC). Chapter 7 Planning Assessment (paragraphs 7.4.26 to 7.4.47) includes the assessment of compliance with the NPSs in relation to the impact of the project on European Designated (Natura 2000) sites. In order for the pipeline to reach the West London Terminal Storage facility it is necessary to cross the TAP&C SAC in this section of the project.
- 11.7.6 A Habitats Regulations Assessment (HRA) Report (**application document 6.5**) has considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in combination effects.
- 11.7.7 Based on the information presented within the HRA Report it is considered that there will be no adverse effects on the integrity of either designated site and as such an assessment beyond Stage 2 Appropriate Assessment has not been carried out.

Good Design

- 11.7.8 In accordance with NPS EN-1 section 4.5, the design of the pipeline in Section D will be in line with paragraphs 7.3.14 to 7.3.17 of Chapter 7 Planning Assessment: Project-wide.
- 11.7.9 The vast majority of the project within Section D will be below ground once complete, apart from some limited above ground infrastructure comprising one cathodic protection cabinet, two valve compounds, pipeline markers and flight marker posts.
- 11.7.10 The design development for the proposed valve locations followed the iterative design development process. Areas of high environmental and social sensitivity were avoided where practicable, and the design development also sought to reduce effects on receptors.

11.8 Generic Impacts (NPS EN-1 Part 5 and NPS EN-4 Gas and Oil Pipelines)

- 11.8.1 This part of the assessment considers the acceptability of Section D of the project against the generic impacts from Part 5 of NPS EN-1 and the specific impacts from gas and oil pipelines specified in NPS EN-4 as set out in section 7.4 in Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise in relation to Section D of the project that are relevant to specific



NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with Section D of the project.

Air Quality and Emissions

- 11.8.2 In accordance with section 5.2 of NPS EN-1, the ES Chapter 13 People and Communities and ES Appendix 13.2 Air Quality Technical Note provides a detailed assessment of the significance of the air quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide paragraphs 7.4.3 to 7.4.8 provide a project-wide overview of any impacts that the project is likely to have upon air quality, together with identifying the good practice measures to manage these impacts which are set out in the Register of Environmental Actions and Commitments (REAC) and secured through DCO Requirements such as the Code of Construction Practice (CoCP) (DCO Requirement 5) and the Construction Environment Management Plan (CEMP) (DCO Requirement 6).
- 11.8.3 The Section D Order Limits do not pass through or close to any Air Quality Management Areas, whilst the maximum annual mean concentrations for nitrogen oxides (NO_x), nitrogen dioxides (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) for the grid squares within 400m of the proposed route in Section D are all below the respective national Air Quality Objectives.
- 11.8.4 On the basis of the proposed maximum number of daily heavy-duty vehicles and light duty vehicles associated with construction traffic, the air quality effects from construction traffic, including diversions, on human and ecological receptors in rural and urban areas are unlikely to have significant effects on the environment. Therefore, the proposals will not lead to a deterioration in air quality in Section D.

Summary

- 11.8.5 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section D of the project complies with the requirements of section 5.2 of NPS EN-1 in relation to air quality and emissions.

Biodiversity and Geological Conservation

- 11.8.6 In accordance with section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 7 Biodiversity sets out the effects of the project, during both construction and operation, on international, national and locally designated sites, protected species and habitats, and other species identified as being of principal importance for the conservation of biodiversity.
- 11.8.7 Paragraphs 7.4.9 to 7.4.63 of Chapter 7 Planning Assessment: Project-wide provide an overview of the identified biodiversity and geology impacts of the project as a whole against the biodiversity and geology NPS policy tests identified in Chapter 6 Planning Policy Context.
- 11.8.8 This section specifically considers the biodiversity and geology impacts of the project within Section D of the project.



International and National Designated Sites

Thames Basin Heaths SPA

- 11.8.9 Section D of the project transects the internationally designated site of the Thursley, Ash, Pirbright and Chobham SAC. Chapter 7 Planning Assessment includes the assessment of compliance with the NPSs in relation to the impact of the project on European Designated (Natura 2000) sites. In order for the pipeline to reach the West London Terminal Storage facility it is necessary to cross the TAP&C SAC in this section of the project.
- 11.8.10 A HRA has considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in combination effects.
- 11.8.11 Based on the information presented within the HRA Report it is considered that there will be no adverse effects on the integrity of either designated site and as such an assessment beyond Stage 2 Appropriate Assessment has not been carried out.
- 11.8.12 As highlighted in paragraph 7.4.14 of Chapter 7 Planning Assessment: Project-wide, the project has been designed to avoid and reduce impacts on all designated sites as far as practicable. Table 11.5 identifies the internationally and nationally designated sites within 1km of the Order Limits of Section D, which have been assessed in the ES as all being of high value/sensitivity.

Table 11.5: International and Nationally Designated Sites – Section D

Statutory Designated Site		Qualifying Feature	Approx. Distance and Location Relative to Section D
SPA	Thames Basin Heaths SPA	<p><u>Supporting populations of European importance during the breeding season:</u></p> <ul style="list-style-type: none"> • Dartford warbler (<i>Sylvia undata</i>); • nightjar (<i>Caprimulgus europaeus</i>); and • woodlark (<i>Lullula arborea</i>). 	Within Order Limits
SSSI	Bourley and Long Valley SSSI	A diverse mosaic of heathland, woodland, mire, scrub and grassland habitats supporting nationally scarce plants, nationally rare and scarce insects, bird species – woodlark, nightjar, Dartford warbler and hobby (<i>Falco subbuteo</i>) – and nationally important populations of adder. A component SSSI of the Thames Basin Heaths SPA.	Within Order Limits
	Basingstoke Canal SSSI	Nationally important for aquatic plants and invertebrates.	Within Order Limits
	Eelmoor Marsh SSSI	Extensive heathland including an area of deep peat with structural affinities to a raised bog supporting exceptionally rich bog flora and correspondingly diverse invertebrate fauna. A component SSSI of	10m south



Statutory Designated Site		Qualifying Feature	Approx. Distance and Location Relative to Section D
		the Thames Basin Heaths SPA.	
	Fleet Pond SSSI	Extensive, shallow freshwater lake supporting a rich aquatic flora and invertebrate fauna. Substantial breeding populations of reed warbler (<i>Acrocephalus scirpaceus</i>) are present and the site is an autumn and winter wildfowl resort for substantial numbers of both surface feeding and diving ducks.	590m northwest of logistics hub at Hartland Park

Thames Basin Heaths SPA (SPA) and Thursley, Ash, Pirbright and Chobham (SAC)

- 11.8.13 Section D of the project transects the Thursley, Ash, Pirbright and Chobham (SAC). Chapter 7 Planning Assessment includes the assessment of compliance with the NPSs in relation to the impact of the project on European Designated (Natura 2000) sites. In order for the pipeline to reach the West London Terminal Storage facility the assessments and consultation undertaken have identified that crossing the TAP&C SAC is the most appropriate solution.
- 11.8.14 A HRA has considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in combination effects.
- 11.8.15 Based on the information presented within the HRA Report it is considered that there will be no adverse effects on the integrity of either designated site and as such an assessment beyond Stage 2 Appropriate Assessment has not been carried out.

Bourley and Long Valley SSSI

- 11.8.16 Bourley and Long Valley SSSI is a component SSSI of the Thames Basin Heaths SPA designated for its breeding bird populations and other notified features. The total length of the route through Bourley and Long Valley SSSI is approximately 1.5km, from where it enters the site north of Tweseldown Racecourse and exits at the location of the trenchless crossing of the A323 and Basingstoke Canal (TC013 – see REAC within ES Chapter 16 Environmental Management and Mitigation for further details).
- 11.8.17 Section 7.4 of ES Chapter 7 Biodiversity sets out the overarching and embedded mitigation relating to the design of the project and ecological receptors. This includes specific embedded mitigation relating to Bourley and Long Valley SSSI at Table 7.15 of ES Chapter 7 Biodiversity, which is proposed in order to avoid/reduce potential impact on habitats and subsequently avoid potential impacts on dependent species.

- 11.8.18 Section 7.5 of ES Chapter 7 Biodiversity outlines potential impacts of the project, without additional ES mitigation, on the Bourley and Long Valley SSSI. It also highlights commitments including good practice and working measures, relating to construction and operation of the project within the SSSI, which are considered to be integral to the project.
- 11.8.19 The potential impact pathways identified for Bourley and Long Valley SSSI comprise the following and are each detailed in section 7.5 of Chapter 7 of ES Chapter 7 Biodiversity:
- habitat loss/gain, fragmentation or modification;
 - introduction/spread of invasive non-native species (INNS);
 - species mortality/injury;
 - species disturbance;
 - hydrological changes to groundwater dependent terrestrial ecosystems;
 - hydrological change – surface water contamination; and
 - air quality changes – dust deposition.
- 11.8.20 The proposed method of working within the SSSI , as set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), seeks to avoid or reduce impacts to soils, vegetation and notable species:
- avoidance of direct impacts to wet heath and wet woodland habitat through the use of trenchless construction techniques (TC011 and TC012);
 - working width reduced to 15m to reduce impacts on trees and potential bat roost features within Bourley and Long Valley SSSI. This consists of two areas with an approximate combined distance of 293m (NW11 and NW13 in ES Figure 7.5);
 - working width reduced to 15m and positioned towards the western half of the Order Limits to reduce impacts to a recorded spring over an approximate distance of 140m (NW12 in ES Figure 7.5);
 - working within ecologically designated sites will be controlled using a variety of methods. These will take account of the reasons for designation to identify the appropriate techniques to reduce impacts. This could include to limit the number of compounds, reduce corridor widths and use lighter vehicles within the sites;
 - where works in wet heath will be unavoidable, effects on soils and surface vegetation will be reduced through the use of ground protection matting and appropriate machinery where practicable;
 - at heathland SSSIs, targeted scrub and secondary woodland within the Order Limits will be removed. Subject to landowner consent, these areas will be reinstated as heathland or acid grassland through natural regeneration;
 - topsoil stripping will be reduced to a minimum extent within European sites and SSSIs except where identified within the HRA (some unavoidable stripping will

take place as part of the trenching for the pipeline and in construction compounds where matting is not a workable alternative);

- where sensitive features are to be retained within or immediately adjacent to the Order Limits, an appropriate buffer zone will be created where this extends within the Order Limits. The buffers will be established using appropriate fencing and signage. A suitable method statement will be produced to ensure that construction works are undertaken in a manner that reduces the risk of damage or disturbance to the sensitive feature; and
- heathland within statutory or non-statutory designated wildlife sites will be reinstated using natural regeneration, unless otherwise agreed with Natural England.

11.8.21 Table 7.19 of ES Chapter 7 Biodiversity provides a summary of potential impacts on Bourley and Long Valley SSSI during construction and operation (without mitigation). Overall, with the relevant design, embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects have been identified on Bourley and Long Valley SSSI, and therefore no additional mitigation is required.

11.8.22 The ES concludes that no significant residual effects have been identified on this ecological receptor during construction or operation of the project.

Basingstoke Canal SSSI

11.8.23 Basingstoke Canal SSSI is designated for its variety of swamp and fen vegetation communities, standing water habitat, wet heath, vascular plant assemblage and invertebrate (particularly dragonfly) assemblage.

11.8.24 The pipeline will cross the Basingstoke Canal via trenchless installation techniques (TC013). There will be no construction work activity within the SSSI. The closest above-ground works areas will be at the necessary drill pits, located over 50m away from the SSSI, separated from it by the A323 to the south and to the north by an area of woodland and Old Ively Road.

11.8.25 Section 7.4 of ES Chapter 7 Biodiversity sets out the overarching and embedded mitigation relating to the design of the project and ecological receptors.

11.8.26 Section 7.5 of ES Chapter 7 Biodiversity outlines potential impacts of the project, without additional ES mitigation, on the Basingstoke Canal SSSI. It also highlights commitments including good practice measures, relating to construction of the pipeline, which are considered to be integral to the project.

11.8.27 The potential impact pathways identified for Basingstoke Canal SSSI comprise the following and are each detailed in section 7.5 of ES Chapter 7 Biodiversity:

- habitat loss/gain, fragmentation or modification;
- hydrological change – surface water contamination; and
- air quality changes – dust deposition.



11.8.28 Table 7.19 of ES Chapter 7 Biodiversity provides a summary of potential impacts on Basingstoke Canal SSSI during construction and operation (without mitigation). Overall, with the relevant design, embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects have been identified on Eelmoor Marsh SSSI, and therefore no additional mitigation is required.

11.8.29 The ES concludes that no significant residual effects have been identified on this ecological receptor during construction or operation of the project.

Eelmoor Marsh SSSI

11.8.30 Eelmoor Marsh SSSI is designated for its heath, mire and acid grassland vegetation communities and its invertebrate assemblage, particularly the silver-studded blue butterfly. The Order Limits do not intersect Eelmoor Marsh SSSI but do pass immediately adjacent to it for approximately 300m along the Old Ively Road.

11.8.31 Section 7.4 of ES Chapter 7 Biodiversity sets out the overarching and embedded mitigation relating to the design of the project and ecological receptors. This includes specific embedded mitigation relating to the Eelmoor Marsh SSSI at Table 7.15 of ES Chapter 7 Biodiversity. Embedded mitigation relating to Eelmoor Marsh SSSI comprised moving the pipeline into Old Ively Road, in order to avoid direct impact on the SSSI.

11.8.32 Section 7.5 of ES Chapter 7 Biodiversity outlines potential impacts of the project, without additional ES mitigation, on the Eelmoor Marsh SSSI. It also highlights commitments including good practice measures relating to construction of the project, which are considered to be integral to the project.

11.8.33 The potential impact pathways identified for Eelmoor Marsh SSSI comprise the following and are each detailed in section 7.5 of ES Chapter 7 Biodiversity:

- introduction/spread of INNS;
- hydrological changes to groundwater dependent terrestrial ecosystems; and
- air quality changes – dust deposition.

11.8.34 Table 7.19 of ES Chapter 7 Biodiversity provides a summary of potential impacts on Eelmoor March SSSI during construction and operation (without mitigation). Overall, with the relevant design, embedded and good practice measures outlined in section 7.5 and section 7.6 of ES Chapter 7 Biodiversity, no significant effects have been identified on Eelmoor Marsh SSSI, and therefore no additional mitigation is required.

11.8.35 The ES concludes that no significant residual effects have been identified on this ecological receptor during construction or operation of the project.

Fleet Pond SSSI

11.8.36 The ES does not identify any potential pathways between the project and the Fleet Pond SSSI, which is located 590m northwest of the logistics hub at Hartland Park.



Locally Designated Sites

11.8.37 Table 11.6 identifies the number of locally designated sites within 1km of the Order Limits of Section D which have been assessed by the ES as being of medium value/ sensitivity.

Table 11.6: Locally Designated Sites in Section D

Designation Type	Local Authority	Within Order Limits	Within 100m	Within 1km
Local Nature Reserve	Hart	0	0	1
SINC	Hart	5	9	17
	Rushmoor	1	1	2

11.8.38 As identified in Table 11.6, there are six SINC's that are located within the Order Limits:

- Ewshot Meadows SINC;
- Meadow Near Soanes Copse SINC;
- Wakefords Copse, Crondall SINC;
- Pyestock Hill/Pondtail Heath SINC;
- Pyestock (North Grasslands) SINC; and
- South of Ively Road SINC.

11.8.39 The ES identifies the potential for habitat loss/gain, fragmentation or modification to arise at locally designated sites intersected by the Order Limits. In terms of direct impacts, with the relevant design, embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects have been identified on the SINC's within the Section D Order Limits during construction or operation of the project.

11.8.40 For these sites, the ES identifies that there is potential for INNS to be introduced or spread via contaminated machinery or soil. There is also a risk of transferral from pedestrian movement and vehicles. Working within watercourses will also be required, with the potential to cause introduction or spread of INNS within the aquatic environment. However, it is considered that the potential introduction or spread of INNS will be adequately controlled through good practice measures, as set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5). Furthermore, a Site Waste Management Plan will identify and manage the appropriate disposal of any contaminated material and will be a requirement of the CEMP (DCO Requirement 6).

11.8.41 In terms of air quality, changes could occur through fugitive dust caused by construction plant activities. Retained terrestrial and freshwater habitat receptors within the SINC's intersected by the Section D Order Limits may be affected through changes in air quality as the vegetation present may theoretically experience reduced photosynthesis, respiration and transpiration caused by smothering from dust. ES Appendix 13.2 Air Quality Technical Note shows that, taking into account the good practice measures, there are no potentially significant



effects arising from the project in relation to air quality and there is no requirement for additional mitigation.

- 11.8.42 Hydrological links between the Order Limits of Section D and a number of watercourses which are components of Ewshot Meadows SINC, Meadow Near Soanes Copse SINC, and Pyestock Hill/Pondtail Heath SINC, have been identified. With the implementation of the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 6), potential effects of surface water contamination on these sites are unlikely.
- 11.8.43 Within Ewshot Meadows SINC, habitats that are dependent on groundwater levels, flows or quality have been identified. In areas where construction will be by open cut trenching and the depth of the trench will intersect the water table, dewatering will be required for the duration of construction. Dewatering could lead to potential effects to groundwater dependent habitats. However, only a small area of the SINC will potentially be affected and the potential effect will be transient in nature.
- 11.8.44 Good practice and pollution prevention measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 6) will be implemented to reduce the risk of potential effects to groundwater quality in the unlikely event of chemical or pollutant leaks during installation. These measures will be detailed by the contractor in their CEMP, secured by DCO Requirement 6. The potential effects of changes to groundwater quality from chemical or pollutant leaks and spills on the groundwater dependent habitats of Ewshot Meadows SINC will be of negligible significance.
- 11.8.45 The ES also identifies the potential for groundwater flow interception and changes to groundwater quality from operation of the pipeline on Ewshot Meadows SINC. In areas where the pipeline and/or trench are below the water table and where required, water stops (or “stanks”) will be installed at intervals through the pipe bedding and side fill in order to reduce the interception of groundwater by the underground pipe and encourage unimpeded groundwater flow. As set out in ES Chapter 3 Project Description, the pipeline design provides operational integrity through a range of measures (e.g. corrosion protection), and as such, the pollution risks arising from the operation of the pipeline are considered to be negligible.
- 11.8.46 Overall, no significant effects have been identified on the SINC’s within Section D during construction or operation of the project.

Protected Species

- 11.8.47 As set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), Landscape and Ecological Management Plan (LEMP) (DCO Requirement 12) and protected species (DCO Requirement 13), the contractor(s) will comply with relevant protected species legislation including with regards to badgers, bats, dormice, otters, water voles, sand lizards, great crested newts and Schedule 1 birds. Appropriate licences will be obtained where necessary from Natural England for all works affecting protected species as identified by the ES and through pre-construction surveys. All applicable works will



be undertaken in accordance with the relevant good practice measures set out in the REAC and conditions set out in those licences. DCO Requirement 13 specifically protects against situations where unexpected protected species may be identified and encountered as part of the implementation of the project.

Badgers

- 11.8.48 The effects on badgers are not considered in the ES for the whole route following the Planning Inspectorate's Scoping Opinion response. Effects on badgers were scoped out on the basis of their conservation status and the population in the local area. As such, construction works likely to impact badgers or a sett in current use will be subject to mitigation and secured under a licence granted by Natural England.
- 11.8.49 The results of the badger surveys have nonetheless directly influenced the alignment of the Order Limits along the whole route, with several changes being implemented to avoid direct impacts to main setts.

Bats

- 11.8.50 A desk study was undertaken as part of the ES in order to value habitat potentially used by commuting and foraging bats. This study identified likely bat 'hotspots' in Section D at:
- south of Tweseldown race course;
 - Ministry of Defence (MoD) land at Bourley Wood and Long Valley; and
 - a number of woodland blocks and hedgerows south of Southwood woodland.
- 11.8.51 The ES determines that due to the species composition of bats recorded within the study area and the potential for roosts to be present within the Order Limits, all bats are valued as high. Where possible, the alignment of the Order Limits and limits of deviation have been selected to reduce the loss of trees with bat roost potential and wherever possible to maintain good practice distances between construction areas and trees. Within Section D, reduced working widths are proposed to reduce impacts on trees with moderate bat roost potential within the Bourley and Long Valley SPA/ SSSI area and south of Sandy Lane.
- 11.8.52 The ES concludes that, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section D have been identified on bats. These measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Birds

- 11.8.53 There are six statutory sites which contain notable or protected bird species as a qualifying feature within 1km of the Order Limits of Section D:
- Thames Basin Heaths SPA – Within Order Limits;
 - Bourley and Long Valley SSSI – Within Order Limits;



- Basingstoke Canal SSSI – Within Order Limits;
- Eelmoor Marsh SSSI – Immediately adjacent to Order Limits;
- Fleet Pond SSSI – 590m northwest of logistics hub at Hartland Park; and
- Fleet Pond Local Nature Reserve – 590m northwest of logistics hub at Hartland Park.

11.8.54 There are no non-statutory sites which contain notable or protected bird species as a qualifying feature within 1km of the Order Limits of Section D.

11.8.55 Overall, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section D have been identified on breeding birds, either within or outside statutory designated sites. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Dormouse

11.8.56 Records and evidence of dormouse within or near to Section D have been identified as set out in ES Appendix 7.9 Dormouse Factual Report. The ES determines that, due to the regional abundance of dormouse within suitable habitats, its value is medium.

11.8.57 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section D have been identified on dormouse. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Fish

11.8.58 There are no watercourses crossed by the Order Limits in Section D identified as having high sensitivity for fish species during habitat walkover surveys.

11.8.59 The ES has determined fish communities with migratory life stages (within the Order Limits) to be of medium value. Fish communities comprising non-migratory species are typically ubiquitous to watercourses surveyed across the Order Limits, and are assessed as being of low value.

11.8.60 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section D have been identified on fish. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).



Great Crested Newt

- 11.8.61 Desk study and field results confirmed the presence of great crested newt (GCN) within 250m of the Order Limits in Section D at Oak Park Golf Club.
- 11.8.62 The GCN populations identified within the 250m buffer of the Order Limits likely represent a small proportion of the overall GCN populations in Hampshire, where GCN has recently been recorded in most 10km squares. As such, GCN are afforded a medium value. Appropriate licences will be obtained where necessary from Natural England for all works affecting GCN as identified by the ES and through pre-construction surveys. All relevant works will be undertaken in accordance with the relevant mitigation requirements and conditions set out in those licences.
- 11.8.63 The ES concludes that, with the measures secured through the European Protected Species (EPS) licences, no significant effects from construction or operation of the project within Section D have been identified on GCN.

Otter and Water Vole

- 11.8.64 Otters have the potential to use any watercourse. However, a desk study identified no records of otters, whilst the field survey detected no signs of otters within the Order Limits of Section D. Similarly, a desk study identified no records or evidence of water voles within the Order Limits of Section D.
- 11.8.65 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project in Section D have been identified on otters or water vole. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Habitats of Principal Importance for Biodiversity Conservation

- 11.8.66 The ES has gathered baseline information on the habitats within the Order Limits from both desk study and field survey.
- 11.8.67 The southern third of Section D of the preferred route, from Crondall to the B3013 at Crookham Park, largely comprises improved grassland and built-up areas, with extensive stands of broadleaved semi-natural woodland nearby (ES Figure 7.4). Outside of designated sites, Priority Habitats, including hedgerows and watercourses, are considered to be of medium value, apart from the following areas in Section D which has been revised to low value:
- Lowland Mixed Deciduous Woodland at Oak Park Golf Course; and
 - Purple Moor-Grass and Rush Pastures at Old Ively Road.
- 11.8.68 All habitat not considered as Priority Habitat is assessed as negligible value and is not discussed further in the ES assessment. Notable plant species recorded within the Section D Order Limits but outside of designated sites are valued as low.



11.8.69 In summary, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section D have been identified on Priority Habitats and notable plant species outside of designated sites. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Ancient Woodland and Veteran Trees

11.8.70 The Order Limits of Section D do not include any Ancient Woodland Inventory sites (i.e. areas of Ancient Woodland of at least 2ha). Four Ancient Woodland Inventory sites are located within 50m of the Order Limits in Section D totalling approximately 2.74ha. There are five areas of Potential Ancient Woodland sites less than 2ha within 50m of the Order Limits (Figure 7.3 in the ES). One of these is located within the Order Limits (AW15a – see ES Appendix 7.3 Ancient Woodland Factual Report) west of Ewshot Wood SINC.

11.8.71 AW15a is a linear woodland feature linked to Ewshot Wood SINC which is designated for its Ancient Woodland habitat. This linear feature will be severed to enable vehicle and plant access to a proposed construction compound to the north. The pipeline itself will be auger bored underneath the feature.

11.8.72 A 5m gap is located where AW15a meets the adjacent woodland, where an existing ditch has been culverted. The pipeline and access route will be positioned over this gap and subject to reduced width working over an approximate length of 10m. A hazel shrub will be reduced to ground level and ground protection will be used over the culvert, stream and hazel root. As this area will have been previously excavated to install the culvert, it is not expected that sensitive ancient soils will be affected.

11.8.73 No significant effects relating to habitat loss/gain, fragmentation or modification are therefore predicted on ancient woodland within Section D. Furthermore, with the implementation of good practice measures, no significant effects on ancient woodland are predicted from the introduction/spread of INNS or dust deposition from air quality changes.

11.8.74 Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the Landscape and Ecological Management Plan (DCO Requirement 12).

11.8.75 Overall, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7, no significant effects from construction or operation of the project have been identified on ancient woodland within or near to the Order Limits of Section D. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).



Hedgerows

- 11.8.76 There will be a number of locations along Section D where there will be construction impacts on hedgerows. As a result of embedded mitigation and proposed good practice measures, including those relating to working widths and reinstatement of vegetation, the impacts to hedgerows will be localised and reversible in nature. There is a high degree of confidence in the successful reinstatement of hedgerow habitat in the medium to long term, and no permanent loss of hedgerow habitat is anticipated.
- 11.8.77 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project have been identified on hedgerows within the Order Limits of Section D. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Summary

- 11.8.78 Through the route design and embedded mitigation, and the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12), Section D of the project avoids significant harm to biodiversity and geological conservation and therefore complies with the requirements of section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4.

Civil and Military Aviation and Defence Interests

Civil and Military Aviation

- 11.8.79 A small area of the Order Limits in Section D at Church Crookham in Fleet is within the Farnborough Airport Public Safety Zone (PSZ). Part of Section D is also within the RAF Odiham aerodrome safeguarding zone.
- 11.8.80 Construction and operation of the pipeline will be associated with a very low density of people working temporarily within the PSZ and the proposal is therefore considered to be an acceptable form of development in line with the guidance set out in paragraph 11 of Department for Transport (DfT) Circular 01/2010 and section 5.4 of NPS EN-1.
- 11.8.81 As set out in paragraphs 7.4.64 to 7.4.70 of Chapter 7 Planning Assessment: Project-wide, the MoD has indicated that it has no concerns with the pipeline passing through the RAF Odiham safeguarding zone.

Defence Interests

- 11.8.82 Section D passes through land owned by the MoD at the following points:
- land between Crookham Park and Ewshot (HP589138);
 - land east of Church Crookham, including Tweseldown Hill (HP605513); and
 - land south of Hartland Park (Pyestock Hill) (HP770676).



11.8.83 As set out in Civil and Military Aviation and Defence Interests in Chapter 7 Planning Assessment: Project-wide, the MoD has indicated that it is content with the project’s approach to installing the pipeline across the MoD estate and as such Section D of the project is considered to address the requirements of section 5.4 of NPS EN-1.

Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation

11.8.84 In accordance with section 5.6 of NPS EN-1, ES Chapter 13 People and Communities provides a detailed air quality assessment of the project, during both construction and operation.

11.8.85 Paragraphs 7.4.71 to 7.4.93 of Chapter 7 Planning Assessment: Project-wide provide an overview of any dust or artificial light impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. As paragraph 7.4.72 of Chapter 7 Planning Assessment: Project-wide states, there will be no odour, smoke, steam or insect infestation issues resulting from the project. The specific impacts arising from dust and artificial light emissions within Section D are considered below.

Dust

11.8.86 In respect to dust emissions, the possible receptors in Section D which may be affected are assessed as human receptors residing or working within 350m of the construction site and ecological receptors within 50m. Human receptors within 350m of the Order Limits in Section D include several community and recreation/amenity facilities including Peter Driver Sports Ground, Tweseldown Infant School, Church Crookham Junior School, Busy Bee’s Nursery, Church Crookham Community Centre, Ewshot Village Hall and a number of recreation grounds, playing fields and PRoWs.

11.8.87 Ecological receptors within 20m of the Order Limits of Section D include Thames Basin Heaths SPA, Eelmoor Marsh SSSI, Bourley and Long Valley SSSI and Basingstoke Canal SSSI.

Table 11.7: Human and Ecological Receptors in Proximity to Section D

	Human Receptors						Ecological Receptors
	Demolition, Earthworks and Construction (Distance to construction boundary)				Trackout (Distance from roads up to 200m from the site entrance)		Dust Soiling (Distance to construction boundary)
	<20m	<50m	<100m	<350m	<20m	<50m	<20m
Section D	45	165	353	1694	10-100	10-100	High
Hartland Park (logistics hub)	0	0	0	0	0	0	Low

11.8.88 In respect to potential dust emissions, the magnitude of dust emissions in Section D is presented in Table 1.7 of ES Appendix 13.2 Air Quality Technical Note, whilst an assessment of the sensitivity of the areas around Section D (including the



logistics hub) for human and ecological receptors is presented in Table 1.8 and Table 1.9 respectively of ES Appendix 13.2 Air Quality Technical Note.

- 11.8.89 The ES Appendix 13.2 Air Quality Technical Note, Table 1.10, has assessed the risk to human health and ecological receptors from dust emissions arising at each of the three construction activities (earthworks, construction and trackout) in Section D as being either negligible or low. The risk of dust soiling during the construction stages is low risk for all three phases.
- 11.8.90 The dust risk arising from the logistics hub in Section D is assessed as negligible to both human health and ecological receptors.
- 11.8.91 Despite the dust emission risk being judged as being negligible to low, good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6) will be incorporated in order to control all effects of dust, not just medium to high risks, as set out in paragraphs 7.4.73 to 7.4.83 of Chapter 7 Planning Assessment: Project-wide.

Artificial Light

- 11.8.92 Temporary artificial lighting will be provided during the construction phase in the working area, construction compounds and logistics hub in Section D.
- 11.8.93 Measures to control lighting effects are included within the REAC. All lighting will be set up to avoid nuisance as far as is practicable so will be low-level and directional to avoid glare into residential properties. The construction compound and logistic hub lighting will be of the lowest luminosity necessary for safe delivery of each task. It will be designed, positioned and directed to reduce the intrusion into adjacent properties and habitats. The implementation of the good practice measures in the REAC are secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

Summary

- 11.8.94 Through the good practice measures set out in the REAC and secured through the DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section D of the project will keep the impacts from dust and artificial light to a minimum and therefore complies with the requirements of section 5.6 of NPS EN-1 in relation to dust and artificial light.

Flood Risk

- 11.8.95 In accordance with section 5.7 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the flood impacts of the project, including a Flood Risk Assessment (FRA) for the project (**application document 7.3**).
- 11.8.96 Paragraphs 7.4.94 to 7.4.125 of Planning Statement Chapter 7 Project-wide provide an overview of any impacts that the project is likely to have on flood risk, together with identifying the mitigation that will be implemented to manage these impacts.

Fluvial Flooding

- 11.8.97 In Section D, the FRA watercourse crossing schedule (Flood Risk Assessment Appendix B – **application document 7.3**) identifies 19 locations where the pipeline crosses a surface watercourse within this section – one main river (Gelvert Stream), one canal (Basingstoke Canal) and 17 unnamed ordinary watercourses.
- 11.8.98 The crossings of Gelvert Stream and unnamed watercourses 31 and 32 are within fluvial Flood Zones 2 and 3, however trenchless crossings are planned for each of these locations and although access roads are proposed, therefore there will be a low or very low risk of fluvial flooding from these watercourses. Trenchless crossings are also proposed for both the Basingstoke Canal and unnamed watercourse 24, both without access roads, and as a result no mitigation is proposed.
- 11.8.99 For the remaining 14 watercourse crossings in Section D, open cut crossings are proposed, some of which have been assessed to have a medium or high risk of flooding without mitigation in place. Watercourse crossing reports have therefore been developed for these locations in order to provide a full assessment of risk and these are included in Appendix C of the FRA (**application document 7.3**).
- 11.8.100 None of the eight construction compound locations in Section D are within designated fluvial flood zones.
- 11.8.101 A range of good practice measures will, therefore, be implemented to ensure that the project does not exacerbate flood risk in the locations which are identified as medium or high risk. These include specific mitigation measures which are listed in Table 13.2 in the FRA (**application document 7.3**). The implementation of these measures will reduce the overall risk to and from the project at those crossings with a medium or high risk down to a low risk. The good practice measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).
- 11.8.102 In respect of the operational stage, the only above ground infrastructure in Section D will be small elements including valves, cathodic protection transducer cabinets, pipeline markers and flight marker posts. Therefore, the risk to and from the project in the operational phase is considered to be very low and no specific mitigation measures are proposed, thereby not increasing flood risk in accordance with section 5.7 of NPS EN-1.

Surface Water

- 11.8.103 There are three locations in Section D which are within identified surface water flow routes assessed as being high risk by the Environment Agency (in excess of 1 in 30 (3.33%) annual probability of flooding):
- Within open agricultural land, south of Oak Park Golf Course, Crondall;
 - Within open agricultural land, adjacent to Oak Park Golf Course, Crondall; and
 - At Peter Driver Sports Ground, Church Crookham.



11.8.104 These locations are identified as having a medium risk of surface water flooding, which construction works have the potential to exacerbate the risk to third parties. Construction compounds 4W and 4AA are also assessed as being at high risk from surface water flooding.

11.8.105 As a result a range of water good practice construction measures are set out in the REAC and secured through DCO requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), which will reduce the impact from surface water flooding to and from the project.

Reservoir

11.8.106 There are two locations in Section D which are identified as being at risk from reservoir flooding:

- Church Crookham – Unidentified source; and
- Northeast of Church Crookham - Lake west of Brakesbury Hill

11.8.107 The overall risk to the project from reservoir flooding has been assessed as low, due to the very low likelihood of occurrence. Notwithstanding the low risk, a range of water good practice measures are set out in the REAC, and secured through DCO requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), to further reduce the overall risk to and from the project.

Canal

11.8.108 The Basingstoke Canal is crossed in Section D. This crossing will be by trenchless technique and therefore the flood risk from the canal is assessed to be very low. No mitigation measures are therefore required aside from water good practice measures set out in the REAC, and secured through DCO requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6).

Groundwater

11.8.109 There are no areas along Section D where there is the potential for construction of the pipeline to impact on or be impacted by groundwater flooding.

Summary

11.8.110 Through the good practice measures set out in the REAC and specific mitigation identified in the FRA, secured DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section D of the project complies with the requirements of section 5.7 of NPS EN-1 and section 2.22 of NPS EN-4 in relation to flood risk.

Historic Environment

11.8.111 In accordance with section 5.8 of NPS EN-1, ES Chapter 9 Historic Environment provides a detailed description of the significance of the heritage assets affected by the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.126 to 7.4.129) provides a project-wide overview of any impacts that the project is likely to have upon the historic environment, together with good



practice measures that will be implemented to manage these impacts. Those related to Section D are identified below.

11.8.112 The route in Section D has been selected to reduce the impact on the historic environment by avoiding, where practicable, designated heritage assets in accordance with paragraph 5.8.12 of NPS EN-1. Some impacts on the historic environment may still occur as a result of construction activity, including upon as yet unidentified archaeological assets.

11.8.113 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.1) identifies those heritage assets where major or moderate adverse effects have been identified to result from construction of the project, prior to the application of good practice measures. Assets in Section D where major or moderate effects are identified (without good practice measures) within the ES are set out in Table 11.8.

Table 11.8: Heritage Assets Along Section D of Pipeline

Asset Number	Asset Name	Within Order Limits	Value	Significance of Effect of Project on Heritage Asset (without good practice measures)	Significance of Effect of Project on Heritage Asset (with good practice measures)
648	Pyestock/ Basingstoke Canal Boundary Marker	Yes	Low	Moderate Adverse	Negligible

11.8.114 As Table 11.8 identifies, ES Chapter 9 Historic Environment concludes that there will be no significant (major or moderate) residual effects on heritage assets in Section D, following the application of good practice measures. Good practice measures relating to archaeological protections are set out in the REAC and secured through DCO Requirement 11 which requires for an Archaeological Mitigation Strategy (AMS), to be prepared and approved by each relevant planning authority.

11.8.115 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.2) identifies additional heritage assets where significant effects are not identified, but where there may be minor adverse or negligible residual effects upon a heritage asset. There is one asset located within the Order Limits where the ES assessment identifies a possible minor adverse effect, following the application of good practice measures, as follows:

- Basingstoke Canal – this asset is crossed by the order limits east of Fleet. The Basingstoke Canal will not be physically affected during construction and will be crossed by a HDD trenchless crossing. This area of the Basingstoke Canal is located within the immediate vicinity of a major roundabout junction and any potential noise or visual intrusion is unlikely to be a significant change to the current setting.

11.8.116 Although some residual effects are therefore identified to occur, these are assessed to be either negligible or short-term minor adverse effects upon the setting of heritage assets, or at worst minor adverse effects from physical impacts on the heritage assets themselves. With regard to paragraph 5.8.15 of NPS EN-1,



as the residual effects are, at worst, minor adverse, there will be no substantial harm to any heritage assets, nor will there will be any total loss of any heritage assets as a result of Section D or any other sections of the project. Any residual minor on heritage assets are outweighed by the public benefit of the project, as set out in detail in Chapter 2 Need.

Summary

11.8.117 Through the good practice measures set out in the REAC such as the requirement for an AMS (secured through DCO Requirement 11), Section D of the project complies with section 5.8 of NPS EN-1 in relation to heritage assets.

Landscape and Visual

11.8.118 In accordance with section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 10 Landscape and Visual accompanying the application for Development Consent provides a detailed assessment of the landscape and visual impacts of the project. Furthermore, paragraphs 7.4.150 to 7.4.196 of Chapter 7 Planning Assessment: Project-wide provides an overview of any landscape or visual impacts that the project is likely to have, together with identifying the design measures that have sought to avoid or reduce potential impacts both through the alignment of the pipeline corridor and the use of the design measures outlined in Table 10.13 of ES Chapter 10 Landscape and Visual.

11.8.119 Landscape or visual impacts arising from construction and operation of the project in Section D are identified below.

Construction Impacts

Landscape Character

11.8.120 Potential impacts on national landscape character areas identified in ES Chapter 10 in Section D are summarised in Table 11.9. Impacts during construction and post construction in years 1 and 15 are identified.

Table 11.9: Summary of Potential Impacts on Landscape Character – Section D

National Character Area	Construction	Year 1	Year 15
	Significance of Effect	Significance of Effect	Significance of Effect
129: Thames Basin Heaths	Moderate	Moderate	Minor

11.8.121 The ES Chapter 10 Landscape and Visual concludes that in year 1 post construction, the line of the route will be evident from the contrast in colour between the existing and recently seeded grass across reinstated areas of pasture and grassland within all character areas, caused by disturbance during construction and establishment of re-seeded areas. However, this will be short term and not significant. Impacts will be localised and will not affect the overall landscape character.

Landscape Designations



11.8.122 Potential impacts on landscape designations identified in the ES Chapter 10 Landscape and Visual in Section D are summarised below.

Ancient Woodland and Tree Preservation Orders (TPOs)

11.8.123 There is no classified Ancient Woodland within the Order Limits of Section D.

11.8.124 Potential Ancient Woodland (undesigned) has been identified within the Order Limits in the following locations:

- West of Crondall, south of Heath Lane (AW14 and AW14a) – Potential Ancient Woodland (undesigned) very slightly encroaches within Order Limits. The ES Chapter 10 Landscape and Visual concludes that there will be negligible effects on Potential Ancient Woodland (undesigned) through the measures secured through the CEMP (DCO Requirement 6); and
- West of Ewshot Wood (AW15a) – A 5m gap will be used where an existing ditch has been culverted will be used and therefore the Potential Ancient Woodland (undesigned) will largely be avoided as the pipeline will be installed in previously excavated land.

11.8.125 There are a number of TPOs within the Order limits of Section D in the following locations:

- Oak Park Golf Course, Crondall – a group TPO covers various sections of woodland copses and linear belts across Oak Park Golf Course. A commitment to a reduced working width (NW7) applies here and will reduce loss of TPO trees;
- South of Heath Lane, Crondall – a group TPO covers a linear belt of woodland extending into Oak Park Golf Course. The Order Limits are narrow where they coincide with trees south of Heath Lane, so that loss of TPO trees will be localised;
- Ewshot Nursery, east of A287 Ewshot Hill – numerous individual TPOs are located around the edge of the nursery site. Trenchless crossing techniques will be used (TC010) to avoid disruption to the A287 and therefore the TPOs will largely be avoided as vegetation will be retained except where emergency access is required to trenchless equipment or ecological works have been proposed;
- Combe Wood and Skains Copse, east of A287 Ewshot Hill – a group TPO covers the wood land and Ancient Woodland to the east. An existing access road through the woodland has been included within the Order Limits to facilitate access to the construction corridor. With the measures included in the REAC the TPO trees will not be affected by the project;
- Queen Elizabeth Barracks, Church Crookham – a group TPO south of Church Crookham. Whilst this is a large group TPO, tree coverage is varied and the Order Limits cover some open fields where there are fewer trees. There will be loss of trees throughout the area, although this will be reduced where there are commitments for reduced working width at Naishes Lane and south of Sandy Lane; and



- Pyestock North, Hartland Park, Ively Road, Farnborough – a group TPO which extends across parts of a proposed residential led redevelopment of the area. The Order Limits in this area are to provide a logistics hub for construction activities. With the measures included in the REAC the TPO trees will not be affected by the project.

11.8.126 Powers will be secured under Schedule 1 to the DCO to construct the pipeline within the Limits of Deviation, including trenchless crossings or narrow working as required. Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the LEMP (DCO Requirement 12).

Visual Effects

11.8.127 The potential visual effects from the representative viewpoints along Section D are set out in ES Chapter 10 Landscape and Visual Appendix 10.3 and summarised in paragraphs 10.5.110 to 10.5.117 in ES Chapter 10 Landscape and Visual.

11.8.128 The ES Chapter 10 Landscape and Visual concludes that for 2 out of 4 of the representative viewpoints in Section D the significance of the effect during construction will be moderate, in post construction year 1 the significance of the effect will be minor and in year 15 the significance of the effect will remain minor. This is due to vegetation and new trees not being as mature as those retained.

11.8.129 For the two other viewpoints the significance of the effect will be negligible in post construction year 15.

Operational Impacts

11.8.130 The ES Chapter 10 Landscape and Visual concludes that landscape and visual effects arising from pipeline operation in year 15 will be localised and not significant when reinstatement planting outlined in Table 10.13 of ES Chapter 10 Landscape and Visual will be established. This is because the pipeline will be underground and above ground features including the proposed valves will be small in scale. The details of planting will be secured through the LEMP, the implementation of which is secured by DCO Requirement 12.

Summary

11.8.131 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and LEMP (DCO Requirement 12), Section D of the project complies with the requirements of section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4 in relation to landscape and visual.

Land Use Including Open Spaces, Green Infrastructure and Green Belt

11.8.132 In accordance with section 5.10 of NPS EN-1, ES Chapter 12 Land Use provides an assessment of the land use impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide provides an overview of any land use impacts



that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

11.8.133 The majority of the route in Section D passes close to urban landscapes and large residential areas such as Church Crookham and Southwood. It also passes through the Cody Technology Park and is less than 500m from Farnborough Airport. The small areas of Section D which are agricultural land are classified as Grade 3 and Grade 4.

11.8.134 The pipeline will only have a temporary impact upon agricultural use. Following reinstatement, there will be no impact on the use of land for agricultural purposes, except for the limited permanent land take associated with Valves 8 and 9.

11.8.135 Section D of the project passes through the following designated public open spaces and recreation areas, where an assessment has been made of the impact of construction on these sites:

- Peter Driver Sports Ground (including Fleet & Crookham Athletics Club, and football pitches and street snooker) – Order Limits cross part of both football pitches. There may therefore be a temporary (2 months) impact on the use of these pitches. Local Authority's open space assessment indicates that there is spare capacity locally for football, therefore, the football teams could be temporarily relocated to alternative venues during construction. The local authority's open space assessment also indicates that the drainage on this sports ground is sub-standard, therefore, there is potential for an improvement to the quality of the facility as a result of the project by installing new drainage for these pitches.
- Southwood Sports Pitches and Cove Cricket Club - The football pitches marked out in the winter at Southwood are not impacted by the proposed Order Limits, nor is the cricket pitch marked out in the summer. The proposed Order Limits will impact on access to Cove Cricket Club as this access is proposed to be utilised during construction (the access passes behind the existing cricket nets). However the Order Limits and Limits of Deviation for the pipeline itself do not impact on the cricket club. On this basis there will be no impact on the use or function of Cove Cricket Club or Southwood sports pitches.
- Oak Park Golf Course – the Order Limits cross directly through the golf course (holes 2, 3 and 17). There is a commitment to narrow working and although users of the course will likely be affected during construction works, this will be temporary.
- Southwood SANG – construction only passes through part of the proposed SANG (which is currently under construction), leaving the majority of the area unaffected and available for use, therefore the impact to users will likely be minor.
- Quetta Park – a construction compound will be in the park for 12 months, however this will impact only a small proportion of the park, which is not well used for informal recreation. The remaining area of the park may experience visual (and intermittent noise) effects, however impacts will likely be minor.



- Crookham Park SANG – construction only passes through part of the SANG, leaving the majority of the area unaffected and available for use. Therefore, users are unlikely to be significantly impacted.
- Velmead, Tweseldown Woods and Forest of Eversley natural or semi-natural urban greenspaces – construction only passes through part of this area, leaving the majority of the area unaffected and available for use. Therefore, users are unlikely to be significantly impacted.

11.8.136 In all cases, the preferred construction technique is open cut trenching which is the quickest construction technique. The working area will be fenced during construction, topsoil stripped and stored alongside the working area, the trench will be excavated, and the material stored within the working area, the pile will be laid out and welded alongside the trench and tested, before being lifted into place and the ground reinstated. Access to the unaffected open space will be maintained at all times.

11.8.137 For the sites where a potential wider impact has been identified; Peter Driver Sports Ground and Quetta Park, a further assessment of the impact is provided in Chapter 16 Open Space.

11.8.138 The project in Section D will cross three PRowS and two cycleways. The level of disturbance to users will be kept to a minimum and all PRowS and cycleways will be fully reinstated at the end of the construction period. Proposed PRow closures and temporary diversions are identified in DCO Schedule 5 and DCO Article 12 provides powers for their implementation, in agreement with the relevant highway authorities.

11.8.139 There are areas classed as Special Category Land that are within the Order Limits of Section D. The impacts on Special Category Land are set out in Chapter 17 Special Category Land.

Summary

11.8.140 Overall, there will be an impact on land use in Section D, particularly designated open space, however this will not be permanent in nature and impacts will be mitigated as set out in Planning Statement Chapter 16 Open Space.

11.8.141 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section D of the project complies with the requirements of section 5.10 of NPS EN-1 in relation to Land use.

Noise and Vibration

11.8.142 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.274 to 7.4.289) provides a project-wide assessment of any noise and/or vibration impacts that the implementation of the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. This reflects the assessment undertaken in ES Appendix 13.3 Noise and Vibration Technical Note.

Summary



11.8.143 The commitment to agreeing a Noise and Vibration Management Plan with the relevant planning authority (as part of the CEMP secured as DCO Requirement 6) will ensure that appropriate noise and vibration mitigation will be implemented during the works, in accordance with section 5.11 of NPS EN-1 and section 2.20 of NPS EN-4 in relation to noise and vibration.

Socio-economics

11.8.144 In accordance with the requirements of NPS EN-1 section 5.12, ES Chapter 13 People and Communities provides an assessment of the socio-economic impacts of the project.

Community

11.8.145 Section D of the route passes close to urban landscapes and large residential areas such as Church Crookham and Southwood. It also passes through the Cody Technology Park and is less than 500m from Farnborough Airport. The community and recreation/amenity receptors within the study area or Order Limits are listed in Table 11.10.

Table 11.10: Community and Recreation/Amenity Receptors in Section D

Type	Receptor Name	Order Limits or Study Area
Community receptor	Ewshot Village Hall and Recreation Ground	Outside the Order Limits but within Study area
	Church Crookham Community Centre	Outside the Order Limits but within Study area
	Peter Driver Sports Ground (including Fleet & Crookham Athletics Club and football pitches)	Within Order Limits
	Busy Bee's Nursery	Outside the Order Limits but within Study area
	Church Crookham Junior School	Outside the Order Limits but within Study area
	Tweseldown Infant School	Outside the Order Limits but within Study area
	Oak Park Golf Course	Within Order Limits
Recreation/amenity receptor	Southwood Playing Fields	Within Order Limits
	Quetta Park	Within Order Limits
	Eelmoor Marsh	Outside the Order Limits but within Study area
	Haig Lines (Azalea Gardens) Play Area	Outside the Order Limits but within Study area
	Three PRowWs and two cycleways	Within Order Limits

11.8.146 Given that Section D of the route is located in an area that is more urban in nature, construction activity could potentially bring about traffic, moderate visual and intermittent significant noise effects. The PRowWs that are located within the Order Limits may experience temporary noise, vibration and visual impacts.



11.8.147 Short term disruption and severance impacts have been identified at the designated areas of open space and recreation.

- Peter Driver Sports Ground (including Fleet & Crookham Athletics Club, football pitches and street snooker) – expected to lose two full size football pitches for a number of weeks.
- Southwood Sports Pitches and Cove Cricket Club - The football pitches marked out in the winter at Southwood are not impacted by the proposed Order Limits, nor is the cricket pitch marked out in the summer. The proposed Order Limits will impact on access to Cove Cricket Club as this access is proposed to be utilised during construction (the access passes behind the existing cricket nets). However the Order Limits and Limits of Deviation for the pipeline itself do not impact on the cricket club. On this basis there will be no impact on the use or function of Cove Cricket Club or Southwood sports pitches.
- Oak Park Golf Course – the Order Limits cross directly through the golf course resulting in users of the course being affected for the duration of construction.
- Quetta Park – a construction compound will be in the park for 12 months; however this will impact only a small proportion of the park, which is not well used for informal recreation. The remaining area of the park may experience moderate visual and intermittent noise effects. However, any noise effects will be short term in nature, with receptors having periods of respite between successive installation activities. Good practice measures to reduce noise impacts will be secured through the DCO Requirements.

11.8.148 Installation of the pipeline in urban areas will be undertaken using a ‘piecemeal’ approach, only affecting a small area at a time. Considering the limited area subject to construction activity at any one time, the short length and duration of the proposed traffic diversion and the mobile and temporary nature of works, the magnitude of change is assessed as small.

11.8.149 Measures that manage noise, vibration and visual impacts and ensure that there are temporary diversions for PRoWs are set out in the REAC (ES Chapter 16 Environmental Management and Mitigation) and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

11.8.150 Overall, the significance of effect of disruption to communities and people within Section D is minor.

Tourism

11.8.151 There are four tourism receptors within the Section D study area: Tweseldown Race Course, Broadmead Place (Accommodation), Premier Inn Farnborough (Accommodation) and The Farnborough Airshow.

11.8.152 The majority of these tourism receptors lie outside of the Order Limits, although Tweseldown Race Course is within the Order Limits and is expected to be directly affected by construction. However, the racecourse is used twice a month for the training of thoroughbreds and only hosts a small number of events, so it is envisaged that construction activities will only marginally disrupt such operations.



11.8.153 The Farnborough Airshow takes place on the Farnborough Airport airfield located 400m from the Order Limits once every 2 years. It has however now been announced that this will not be open to the public in the future and will be a trade-only show. In any case, the use of trenchless crossing techniques on the A327 means that the Farnborough Airshow is not anticipated to be significantly affected should works take place at the same time as the event.

11.8.154 PRoW crossings will be managed by the measures set out in the REAC (ES Chapter 16 Environmental Management and Mitigation) and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

11.8.155 The overall significance of effects from disruption is therefore, classed as negligible.

Summary

11.8.156 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section D of the project complies with the requirements of section 5.12 of NPS EN-1 in relation to socio-economics.

Soils and Geology

11.8.157 In accordance with section 2.23 of NPS EN-4, ES Chapter 11 Soils and Geology provides a detailed assessment of the soils and geology impacts of the project. Furthermore, paragraphs 7.4.330 to 7.4.351 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any soils and geology impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

11.8.158 The design of the project has been iterative, and the design refinements have resulted in avoiding sensitive features as set out in section 11.4 of ES Chapter 11 Soils and Geology.

Impacts on Soils

11.8.159 The soil associations within Section D, from Crondall to Farnborough, are mainly Holidays Hill, indicating very acid sandy and loamy soils with variable soil-water regimes. Seasonally waterlogged loamy and clayey soils such as Wickham 4 are also common in Section D. From Crondall to West Bedfont (Sections C to H), the Palaeogene aged strata are present again for a large extent with the Bracklesham Group outcrop comprising the Camberley Formation, Windlesham Formation and the Bagshot Formation (Wittering Formation is absent), observed between Church Crookham and Shepperton (Sections D to H).

11.8.160 There are no mineral safeguarding sites which have been identified within the study area.

11.8.161 A number of Minerals Consultation Areas are present in Section D comprising:



- Brick clay, based on the Palaeogene Lambeth Group (clay, silt and sand) east of Crondall (approximately 10% of Section D); and
- Superficial soft sand and gravel southeast to northeast of Fleet (approximately 28% of Section D).

11.8.162 The majority of Section D mostly consists of non-agricultural and urban land, though pockets of Grades 3 and 4 can be found along the route.

11.8.163 In respect of land contamination, there are six sites in Section D which may potentially be affected by contamination from historical and/or current uses:

- Oak Park Golf Club – Historical land use (former tileries) within the study area;
- Redlands/Wildlands House Area 2 – Historic landfill within the study area;
- Ewshot Hill – Historical land use (brick yard) within the study area;
- Former Queen Elizabeth II Barracks – Historical land use (military barracks) within the Order Limits;
- Pyestock Hill – Historical landfill within the study area; and
- Southwood – Historical land use (military training ground) within the Order Limits.

11.8.164 ES Chapter 11 Soils and Geology considers that all soils identified within the Order Limits will be affected, such that Agricultural Land Classification grades/subgrades 3a (medium value), 3b (medium value) and 4 (low value) will be affected.

11.8.165 Good practice measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

11.8.166 ES Chapter 11 Soils and Geology concludes that a minor adverse impact will occur across the range of soil receptors in Section D. This is considered to be a temporary impact because the quality of the soils will recover over the short term, following adherence to the good practice measures as set out in the REAC in ES Chapter 16 Environmental Management and Mitigation. As a result, no additional mitigation measures have been identified and there will be no significant residual impacts on soils during construction or operation.

Land Contamination

11.8.167 The Order Limits in Section D include a number of historic landfill sites which have the potential to give rise to gas/vapour which could pose a risk to construction workers and adjacent land users if not managed appropriately.

11.8.168 ES Chapter 11 Soils and Geology concludes that with good practice measures in place, as set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), no additional mitigation measures in respect of land contamination have been identified and there will be no significant residual impacts from land contamination during construction or operation.



Impacts on Geology (Including Minerals)

- 11.8.169 The impacts on geology, including minerals safeguarding, are addressed on a project-wide basis in paragraphs 7.4.218 to 7.4.225 in Chapter 7 Planning Assessment: Project-wide.

Summary

- 11.8.170 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section D of the project complies with the requirements of section 2.23 of NPS EN-4 with respect to soils and geology.

Traffic and Transport

- 11.8.171 In accordance with section 5.13 of NPS EN-1, the project has assessed the traffic and transport Implications of the proposals. ES Appendix 13.1 Traffic and Transport Technical Note sets out the potential traffic and transport impacts of the project and residual effects. The ES has been informed by a separate Transport Assessment submitted as part of the application for development consent. Furthermore, paragraphs 7.4.300 to 7.4.311 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any traffic and transport impacts that the project is likely to have, together with identifying the management that will be implemented to manage these impacts.
- 11.8.172 While there will inevitably be some disruption during construction, good practice measures have been put place to reduce and mitigate this during construction of the project.
- 11.8.173 Good practice measures include using trenchless techniques for the following road crossings within Section D:
- A287 Ewshot Hill;
 - A323 Fleet Road; and
 - A327 Ively Road.
- 11.8.174 In order to avoid disruption, a trenchless technique will be used to cross the A278 Ewshot Hill, which is a major route into Farnham. A trenchless technique will also be used to avoid disruption of the A323 between Fleet and Aldershot. In addition, a trenchless crossing will be used to avoid the A327 Ively Road, which is a major route into Farnborough, thus helping to avoid disruption to local residents.
- 11.8.175 All other road crossings within Section D will be undertaken using open cut methods, maintaining access where possible and using diversions where necessary to enable construction works to be completed. All diversion routes have been discussed and agreed with HCC Highways Authority. The detailed implementation of these measures is secured by Articles in Part 3 of the draft DCO and the Construction Travel Management Plan (CTMP), the implementation of which is secured by DCO Requirement 7.



- 11.8.176 Logistics hubs and construction compounds will also be used to manage construction traffic and delivery of materials and resources. These facilities will allow works to progress smoothly without reliance on peak time deliveries of staff and materials.
- 11.8.177 Due to the short duration of construction affecting rural roads, significant effects are not anticipated in rural areas, and therefore impacts on traffic flows, changes in journey times and collisions and safety in rural areas were scoped out of the impact assessment within the Transport Assessment.
- 11.8.178 Based on the indicative work schedule and proposed method of working, Naishes Lane is the only location identified in Section D where there is the potential for significant traffic and transport effects.
- 11.8.179 The assessment indicates that potential significant effects have been identified on traffic flows and journey time for bus users at Naishes Lane.
- 11.8.180 No other significant effects have been identified from traffic and diversions/traffic management associated with Section D on traffic flows, journey times or collisions and safety.
- 11.8.181 For walking, cycling and equestrians, this will be managed by ensuring that pedestrian access to and from residential, commercial, community and agricultural land uses would be maintained throughout the construction period, including retention of vehicular access to be maintained where practicable which will be secured through Requirement 7 of the DCO.
- 11.8.182 As noted previously in this chapter, the pipeline construction work will cross three PRoWs and two cycleways within Section D. The level of disturbance to users will be kept to a minimum and all PRoWs and cycleways will be fully reinstated at the end of the construction period. Measures to manage any diversions to cycleways, including those around Old Ively Road, will be as set out in the CEMP (DCO Requirement 6).

Summary

- 11.8.183 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and Construction Traffic Management Plan (DCO Requirement 7), Section D of the project complies with the requirements of section 5.13 of NPS EN-1 with respect to traffic and transport.

Waste Management

- 11.8.184 In accordance with NPS EN-1 section 5.14, the REAC sets out the requirement for a Site Waste Management Plan to be produced prior to construction, as set out in paragraphs 7.4.312 to 7.4.316 of Chapter 7 Planning Assessment: Project-wide. The SWMP will be secured through the DCO requirement for a CEMP (DCO Requirement 6).



11.8.185 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section D of the project complies with the requirements of section 5.14 of NPS EN-1 with respect to waste management.

Water Quality and Resources

11.8.186 In accordance with section 5.15 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the water quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.317 to 7.4.329) provide a project-wide overview of any water quality impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

11.8.187 This section sets out any specific impacts that have been identified for the project in Section D on:

- existing quality of waters;
- existing water resources;
- existing physical characteristics of the water environment; and
- any impacts on water bodies or protected areas under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) around potable groundwater abstractions.

Water Quality

Groundwater

11.8.188 The groundwater environment in Section D is defined as the following:

- Chalk Principal aquifer for a very small part of Section D (Groundwater Study Area B (GWSA-B)); and
- Secondary A aquifers (Bracklesham Group) for most of Section D (Groundwater Study Area C (GWSA-C)).

11.8.189 The groundwater environment in GWSA-B – the chalk aquifer – is assessed as high value, as it provides a major source of drinking water in the region. In GWSA-C, the secondary aquifers are assessed as predominantly medium value.

11.8.190 A number of possible effects on groundwater quality in Section D are identified in ES Appendix 8.5 Potential Effects on Groundwater. Minor or negligible groundwater quality impacts have been identified for the following receptors:

- Chalk principal aquifer;
- Secondary A aquifers;
- Ashley Head Spring;
- Ewshot Meadows;
- Bourley and Long Valley SSSI; and

- Eelmoor Marsh SSSI

- 11.8.191 Potential impacts have been identified as potentially arising from the dewatering of surface water drainage or intercepted groundwater in open-trenches, the discharge of abstracted groundwater from trenchless crossings or from leaks and spills from plant fuels and oils during the construction phase. It is recognised that a number of the receptors are of high value and as such, adherence to the measures set out in the REAC and secured through the DCO Requirements, such as the CoCP (DCO Requirement 5), will ensure that the impact on groundwater receptors is negligible. These measures are set out in Table 8.12 of ES Chapter 8 Water.
- 11.8.192 As set out in ES Chapter 3 Project Description, the pipeline design provides operational integrity through a range of measures (e.g. corrosion protection), and as such, the pollution risks arising from the operation of the pipeline are considered to be negligible. The specific impacts on groundwater quality are set out in ES Appendix 8.5 Potential Effects on Groundwater.

Surface Water

- 11.8.193 Two of the most important considerations in relation to surface water quality are potential impacts on aquatic ecology and any downstream surface water abstractions. ES Appendix 8.5 provides a summary of watercourse sensitivity from an aquatic ecology perspective.
- 11.8.194 In Section D, all surface watercourses are assessed as being of low sensitivity.
- 11.8.195 There are no licensed surface water abstractions located downstream (within 5km) of proposed watercourse crossings in Section D.
- 11.8.196 Where watercourses in Section D are to be crossed by open cut trenching technique, there is the potential for a moderate impact on surface water, through the escape of groundwater containing elevated contaminants. However, given the good practice measures contained within the REAC together with the low sensitivity of these watercourses, no significant effects are forecast. The implementation of the good practice measures in the REAC are secured through DCO Requirements such as the CoCP (DCO Requirement 5).
- 11.8.197 The assessment has identified that the operational impacts of the project are unlikely to have a significant effect on surface water quality receptors in Section D.

Water Resources

- 11.8.198 There are no public water supplies in Section D. However, there is one licensed groundwater abstraction (high value) in the Crondall area.
- 11.8.199 Taking account of the water good practice measures identified in the REAC the likelihood of occurrence of pollution incidents during construction is considered to be very low. With the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) the impact on licenced groundwater abstractions in Section D is identified as negligible.



Physical Characteristics of the Water Environment

- 11.8.200 In respect of groundwater levels, these are anticipated to be shallowest in the watercourse valleys, particularly for the River Blackwater where the groundwater flood susceptibility map shows there is the potential for groundwater flooding to below ground property outside of Section D.
- 11.8.201 Potential impacts to groundwater flow due to the presence of the pipeline in Section D are largely considered to be negligible as sub-surface flows are not expected to be altered, due to the design of stanks (or water stops) at right angles to the pipeline. Stanks are part of the design to prevent the movement of groundwater through the pipe trench and ensuring it to continue to reach flora which rely on groundwater.
- 11.8.202 The project is assessed as having an impact upon the following Groundwater Dependent Terrestrial Ecosystems in Section D:
- Bourley and Long Valley SSSI (wet woodland) – moderate;
 - Ewshot Meadows – minor; and
 - Bourley and Long Valley SSSI - negligible
- 11.8.203 Where a moderate impact is identified, this will be mitigated by positioning the pipeline stanks are sufficiently close to one another to prevent the movement of groundwater through the pipe trench. Stanks are part of the embedded design, with the purposes of preventing the movement of groundwater through the pipe trench and ensuring that it continues to reach flora which rely on groundwater.

Water Bodies or Protected Areas Under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) Around Potable Groundwater Abstractions

- 11.8.204 There are two WFD surface water bodies present in Section D:
- Hart (Crondall to Elvetham) – poor status; and
 - Fleet Brook – moderate potential.
- 11.8.205 Impacts of the project components will be localised and likely to be negligible or low for both WFD bodies. As a result, it is unlikely that the current status of the WFD water bodies will be compromised by the project. The project will also not compromise the ability of the WFD water body to achieve Good Overall Potential in the future. As such, the project is assessed as not having any effects on WFD water bodies.
- 11.8.206 There are no SPZs in Section D.

Summary

- 11.8.207 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section D of the project complies with the requirements of section 5.15 of NPS EN-1 and section 2.22 of NPS EN-4 with respect to water quality and resources.



11.9 Conclusions on Planning Assessment of Section D

- 11.9.1 The proposed pipeline route between Crondall and Farnborough has been the subject of a detailed optioneering and design iteration process to arrive at a proposal which seeks to avoid and then reduce potential temporary and permanent impacts.
- 11.9.2 Section D passes through a number of nature designations including the Thames Basin Heaths SPA, Bourley and Long Valley SSSI, Basingstoke Canal SSSI and a number of SINCs. Good practice measures secured through the DCO Requirements as well as significant stretches where trenchless techniques are to be used will reduce impacts on these designated areas to minor.
- 11.9.3 The Section D order limits also include areas of designated open space at Peter Driver Sports Ground, Quetta Park and Southwood Playing Fields, as well as Southwood and Crookham SANGs. The impact on the majority of these areas will be minimal, however where wider impacts are identified at Peter Driver Sports Ground and Quetta Park, a further assessment of the impact together with the identification of specific mitigation commitments is provided in Planning Statement Chapter 16 Open Space.
- 11.9.4 The route seeks in Section D largely avoids residential areas, however it does pass close to a number of residential properties at Church Crookham, where construction works could give rise to short-term noise impacts. Specific good practice measures set out in the REAC to reduce noise impacts will be secured through the DCO, in order to reduce impacts on residents and local businesses.
- 11.9.5 Overall, there will be impacts from the construction of the pipeline in Section D. However, the construction impacts will be temporary and will not be significant. Where impacts are more harmful, such as on open space, specific mitigation is identified and will be secured through the DCO Requirements. Once in place and when operational, there will be no impacts from the pipeline on the local residents and no permanent effects on the wider environment that will outweigh the benefit of the provision of this nationally significant fuel pipeline.

12 Planning Assessment – Section E – Farnborough to Bisley and Pirbright Ranges (Hampshire and Surrey)

Key points:

- Urban character with more restricted working areas;
- Engineering challenges to cross railways and the Blackwater Valley; and
- Potential impacts on Schools and sports grounds .

12.1 Introduction

- 12.1.1 The route is divided into geographical sections in the application. This chapter provides a planning assessment for Section E of the route, from Farnborough (A327 crossing) in Hampshire to Bisley and Pirbright Ranges (B3015 crossing) in Surrey. Sections A to D of the route are covered in Chapter 8 to 11 and Sections F to H of the route are covered in Chapters 13 to 15 respectively.
- 12.1.2 It considers the acceptability of the project against the policies set out in Chapter 6 Planning Policy Context and identifies where matters relevant to specific National Policy Statement (NPS) EN-1 and NPS EN-4 policy headings arise and sets out the measures required to mitigate the identified impacts.
- 12.1.3 This chapter provides further consideration of the NPS policy headings for Section E of the route and is designed to be read as a standalone assessment. Key points from Chapter 7 Planning Assessment: Project-wide may, therefore, be repeated within this section where relevant.
- 12.1.4 The chapter sets out the following for route Section E:
- Section 12.2: Overview of the route section, development proposed and its method of construction;
 - Section 12.3: Overview of Section E refinement;
 - Section 12.4: Identification of relevant Planning Authorities;
 - Section 12.5: Identification of key environmental and planning designations within Order Limits;
 - Section 12.6: Relevant planning history;
 - Section 12.7: Overview of Section E against EN-1 Assessment Principles (using the relevant subject headings from EN-1);
 - Section 12.8: Generic Impacts in Section E (NPS EN-1 and NPS EN-4 where stated); and
 - Section 12.9: Conclusions on Planning Assessment of Section E.



12.2 Overview of this Section

Route Description

- 12.2.1 Section E (Planning Statement Figure 4.1, Sheets 9 - 10) runs through both rural and urban areas. It spans Rushmoor Borough Council and Surrey Heath Borough Council administrative areas.
- 12.2.2 Section E is approximately 9km (5 miles) long and starts just after the A327 crossing. It runs north through the western section of the former Southwood golf course, which is to be turned into Suitable Alternative Natural Greenspace (SANG), and then through open land to the west of Cove Brook. It then runs along Cove Road (B3014) for a short distance and then along Nash Close before crossing the South Western main railway line. After the railway crossing the section runs east alongside the railway line to Stake Lane and then along the southern boundary of the allotments located off Prospect Road. Due to the restricted space alongside the railway line trenchless techniques will be required for much of this length.
- 12.2.3 Section E then continues east through Queen Elizabeth Park, followed by a crossing of the A325. The section then crosses the grounds of Farnborough Hill School and then follows Ship Lane and Ringwood Road to Farnborough Gate Recreation Ground. From here it crosses the North Downs railway line, A331, River Blackwater, Frimley Hatches and the Ascot to Guildford railway line.
- 12.2.4 The Section then runs along the southeastern boundary of SC Johnson Ltd land before crossing Frimley Green Road (B3411) near the roundabout with Balmoral Drive. From the B3411 the route follows Balmoral Drive to Frith Hill, where it follows the existing pipeline across Pine Ridge Golf Course. This section finishes immediately after the B3015 at the junction of Old Bisley Road, The Maultway and Deepcut Bridge Road.

Use of Trenchless Installation Techniques

- 12.2.5 Trenchless installation techniques are proposed to be used for the following crossings:
- TC 015 – South Western Main railway line – A trenchless crossing of the South Western Main railway line will reduce impacts on rail travel;
 - TC 016 – Cove Brook – A trenchless crossing will be used along the northern side of the South Western Main railway line to avoid the Cove Brook watercourse;
 - TC 017 & 018 – Two consecutive trenchless crossings are proposed on the north side of the South Western Main railway line, parallel to West Heath Road and adjacent to the railway embankment. The first crossing will reduce disruption to back gardens and the second crossing will reduce disruption on Stake Lane and avoid disruption on Prospect Road;
 - TC 019 – A325 Farnborough Road – A trenchless crossing will be used to avoid the A325, which is a major route through Farnborough; and



- TC 020 – Blackwater Valley – A trenchless crossing will be used to go under the North Downs railway line, the A331, River Blackwater, and Ascot to Guildford railway line. This will reduce impacts on travel for local people and minimise disturbance to the wildlife in the River Blackwater. The crossing of the remaining elements of the Blackwater Valley may be trenchless or open cut. This is still to be determined.

Above Ground Infrastructure

- 12.2.6 Above Ground Infrastructure (AGI) in Section E comprises one valve, as set out under the following heading, together with three cathodic protection cabinets, pipeline markers and flight marker posts as set out in Chapter 4 Project Description.

Valves

- 12.2.7 There is one valve within Section E located as follows:

- Valve 10: Frimley Green Road, Frimley Green.

- 12.2.8 Further details on the valves are set out in Chapter 4 Project Description.

Construction

- 12.2.9 Details of the construction method, construction schedule and reinstatement are set out in Chapter 4 Project Description.

Crossings

- 12.2.10 The following river and watercourse crossings are required:

- Iweley Brook (WCX 047) – open cut construction;
- Cove Brook (WCX 048c) – trenchless construction;
- Unnamed watercourse (WCX117/TC017) – trenchless construction;
- Unnamed watercourse 38 (WCX 049) – open cut construction;
- River Blackwater (WCX 051) – trenchless construction;
- The Hatches (WCX 055) – trenchless construction;
- Unnamed watercourse 44 (Adjacent to railway) (WCX 058a) – trenchless construction;
- Unnamed watercourse 44 (177m northeast of railway) (WCX 058b) – open cut construction;
- Unnamed watercourse 44 (WCX 058c) – open cut construction; and
- Unnamed watercourse 44 (WCX 058d) – open cut construction.

- 12.2.11 The following road crossings are required in this section:

- Cove Road – B3014 (RDX 059) – open cut construction;
- Prospect Road (RDX 059b) – using trenchless techniques;



- Farnborough Road – A325 (RDX 060) – using trenchless techniques;
- A331 (RDX 061) – using trenchless techniques;
- Frimley Green Road (RDX 061a) – open cut construction;
- St Catherines Road (RDX 061b) – open cut construction;
- Rhododendron Road (RDX 070) – open cut construction; and
- Deepcut Bridge Road – B3015 (RDX 071) – open cut construction.

12.2.12 Street works, temporary construction access and Public Rights of Way (PRoW) diversions for Section E are shown on Access and Rights of Way Plan sheets 33 to 37 (**application document 2.5**).

12.2.13 There are three railway crossings in Section E as follows:

- South Western Main railway line at Nash Close;
- North Downs railway line, west of the A331; and
- Ascot to Guildford railway line, east of the A331.

Construction Compounds

12.2.14 There are six construction compounds along Section E of the pipeline route located at:

- Cove Brook (compound no. 4AC);
- Cove Brook Path (compound no. 4AD);
- Queen Elizabeth Park (compound no. 4AE);
- Frimley Green Road (compound no. 5A);
- Balmoral Drive (compound no. 5B); and
- St Catherines Road (compound no. 5C).

Logistics Hubs

12.2.15 There is one logistics hub in this section on Ministry of Defence (MoD) land at Deepcut Bridge Road, Frimley Green.

12.2.16 The logistics hub will include a pipe laydown area, secure plant storage area, bunded fuel storage, single-storey offices, staff welfare facilities and a vehicle parking area.

12.2.17 Further details regarding the logistics hubs are set out in Chapter 4 Project Description.

Narrow Working

12.2.18 There are five areas of narrow working in Section E. This will reduce the width of the open cut trench construction through Southwood (NW16), Queen Elizabeth Park (NW17), Farnborough Hill School (NW18), through SC Johnson (NW19), and

through Frith Hill and Pine Ridge Golf Course (NW20). This approach involves the contractor(s) using less space than standard working width due to localised constraints, such as working in roads or sensitive areas.

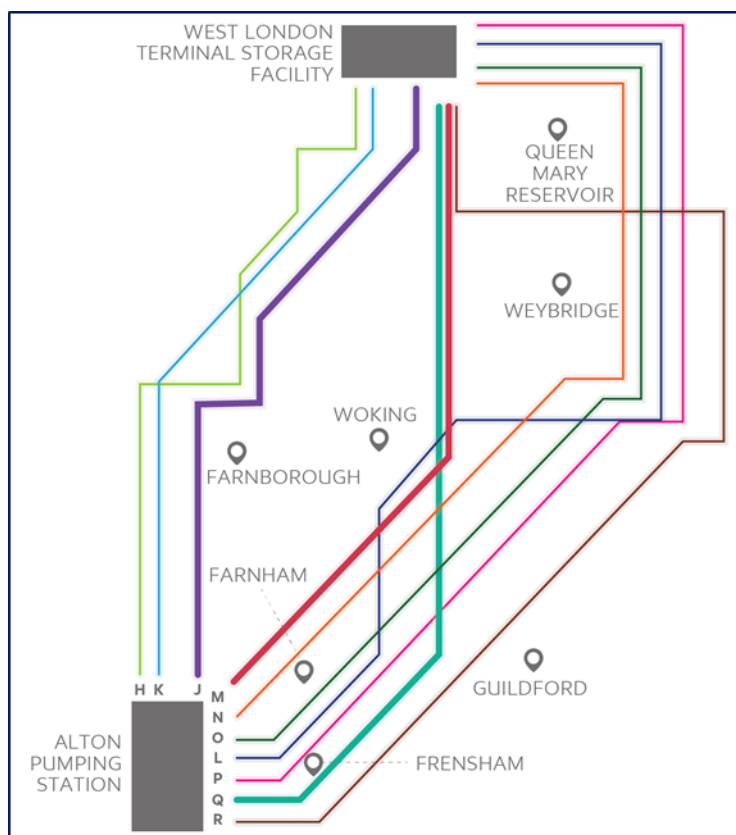
12.3 Overview of Section Refinement

12.3.1 The overall approach to design development and route refinement is set out in Chapter 3 Scheme Development, and in further detail in ES Chapter 4 Design Evolution. The following sub-heading outlines key considerations relating to sub-option selection and specific design refinements which have influenced the design development of Section E of the route.

Corridor Selection

12.3.2 Chapter 3 of this Planning Statement outlines the evolution of the project, a long list of corridor options for the route of the replacement pipeline were identified and considered. A sifting process was carried out based on environmental, planning and engineering factors. Illustration 12.1 shows the corridor options North of Alton. These corridor options were the subject of non-statutory consultation, supported by the document 'Replacement Pipeline Corridor Consultation: Securing aviation fuel supplies in South East England'.

Illustration 12.1: Longlist of Corridor Options – North of Alton



12.3.3 Through the design development of the project, a number of corridor options were reduced to a single preferred corridor, within which a route for the replacement pipeline has been identified in Section G.



- 12.3.4 Given the international significance of the Thames Basin Heaths Special Protection Area (SPA) along the routes for Sections D, E and F, and NPS EN-1 relating to its protection (NPS EN-1 5.3.7 to 5.3.8), Corridors N, O, L, P, Q and R as shown in Illustration 12.1, which avoided the SPAs, were considered. However, these corridors were not taken forward because they would result in extensive sections requiring the laying of the pipe in roads, which would be complex and time-consuming to install, would result in a longer pipeline route and would result in greater disruption for local communities. In addition, some of these corridors would not have met key project objectives, such as taking the shortest route and avoiding the floodplain and mineral extraction areas. Corridors H and K did not avoid the Thames Basin Heaths SPA but were not taken forward. For Corridor H the environmental constraints were no less than for other routes, therefore there was no benefit in taking this longer route. For corridor K the route passes along a significant length of road (Stonehill Road and Longcross Road) and would impact significantly on local people and businesses as construction in the road would be slow and more disruptive. In addition, as these corridors were away from the existing pipeline, to construct along Corridors H and K would require additional above ground infrastructure, new landowners and would not reduce the complexities for construction or reduce environmental impacts.
- 12.3.5 Of the corridors considered in the north, Corridors J, M and Q were shortlisted, and Corridor J was selected following the preferred corridor consultation. Corridor J passes through the Thames Basin Heaths SPA but was favoured over the other two corridors because it avoided passing through the historic town of Farnham, it had less impact on commercial activity and would not lead to significant disruption to residential communities, Additionally, Corridor J would have less interaction with the floodplain and unlike Corridor Q does not re-enter the South Downs National Park (SDNP) and the Surrey Hill Area of Outstanding Natural Beauty.
- 12.3.6 The consideration of these corridor options against national policy for the protection of the SPA is set out in Chapter 7 Planning Assessment: Project-wide (7.4.34 to 7.4.46). Following the Corridor Options consultation, Corridor J which goes through the SPA was selected as the preferred corridor. This informed the selection of the preferred route. Details of all consultations undertaken are presented in the Consultation Report (**application document 5.1**).

Sub-option Selection and Design Refinement

- 12.3.7 Sub-options for the preferred route were considered at five locations in Section E as summarised in Table 12.1:

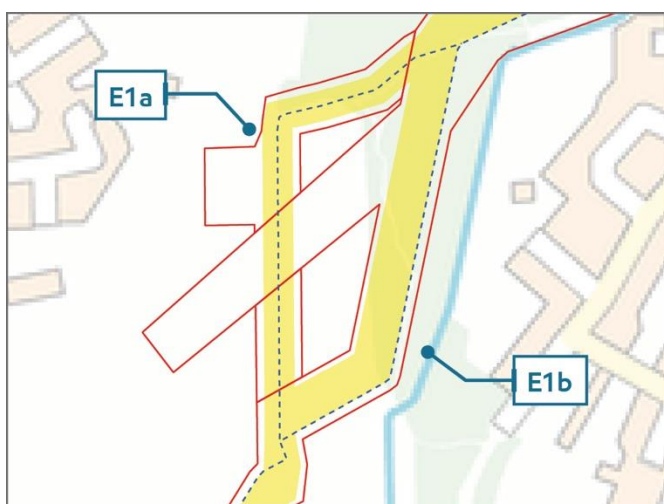
Table 12.1: Sub-Options selected for Section E

Sub-Option	Main Reasons for Sub-Option Selection
E1a and E1b Cove Brook Park	E1a was selected as it will have less of an effect on environmentally sensitive areas including wetland habitats.
E2a and E2b Cove Road	Neither sub-option is to be progressed due to technical difficulties with the proximity to the railway and disruption to communities. The route now uses Cove Road and Nash Close.
E3a, E3b and E3c Cabrol Road	E3a was selected, as it follows the existing pipeline more closely than sub-options E3b or E3c. It will reduce the potential impacts on access to residential properties and also reduces the impact on Stake Lane and the

Sub-Option	Main Reasons for Sub-Option Selection
E4a and E4b Farnborough North	allotments. E4a was selected, but with some refinements. This sub-option reduces the direct impacts on Henry Tyndale School and Farnborough North Station. Whilst a trenchless crossing remains the first choice in this area, open-cut trench techniques may be used due to the unpredictable ground conditions. Both techniques have been assessed within the ES.
E5a and E5b Pine Ridge Golf Course	E5a was selected as it will reduce potential disruption to traffic along Deepcut Bridge Road.

12.3.8 Two sub-options were considered in the Cove Brook Park area in order to identify a route which reduced potential impacts to the recreation area around Cove Brook in Farnborough.

Illustration 12.2: E1 Sub-options – Cove Brook Park

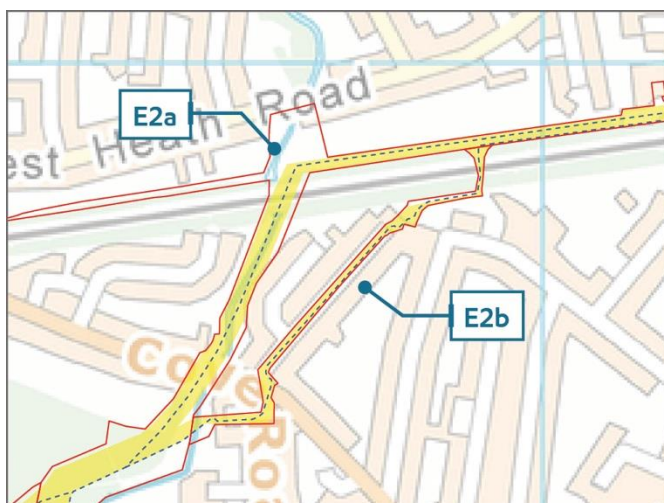


12.3.9 E1a follows the recreation area to the west, while alternatively, E1b is closer to Cove Brook. While reducing the impact on recreation space, it was considered that E1b may introduce potential impacts to wetland habitats.

12.3.10 Taking into account statutory consultation responses and following careful consideration by the project team, E1a was selected due to planning, environmental and engineering concerns with E1b. In particular, E1a avoids environmentally sensitive areas including wetland habitats.

12.3.11 Sub-options E2a and E2b were considered in the Cove Road area, as shown in Illustration 12.3.

Illustration 12.3: E2 Sub-options – Cove Road



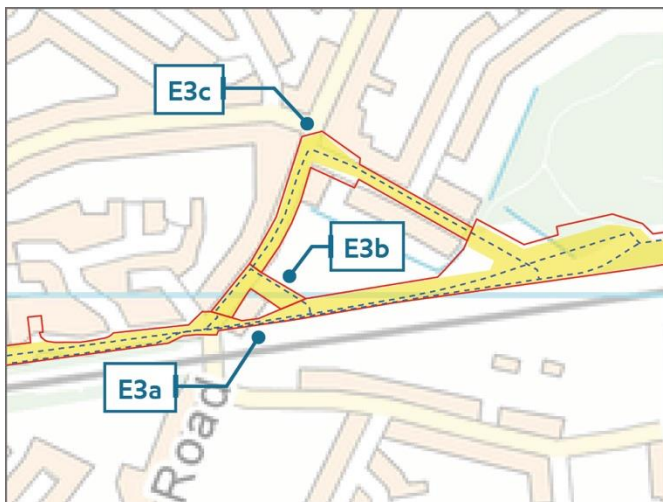
- 12.3.12 E2a would use a trenchless crossing to avoid impacts on the local road network but would be dependent on suitable ground conditions. E2b follows Highfield Path and would introduce more street works. Both options cross the South Western main railway line.
- 12.3.13 Following consultation feedback and further technical work, it was decided that neither sub-option would be progressed, and an alternative considered instead. E2a was deselected due to further technical work indicating that the length and location of the trenchless crossing from Cove Brook Park to the north of the railway would not be technically possible to install. This would have meant significant delays to the installation of the pipeline and continued disruption to communities.
- 12.3.14 E2b was deselected due to narrow roads and would have involved the removal of garages. Cranes would have been required to move equipment to the working area between homes and the railway. The local footpath alongside the railway embankment and under the railway at Highfield Path would also have been closed for a long period of time.
- 12.3.15 As such, further assessment and engagement was undertaken and an alternative sub-option was proposed, as shown in Illustration 12.4, and this was included as part of the Design Refinements consultation in early 2019 (see Consultation Report for further details – **application document 5.1**).

Illustration 12.4: Cove Road Design Refinement



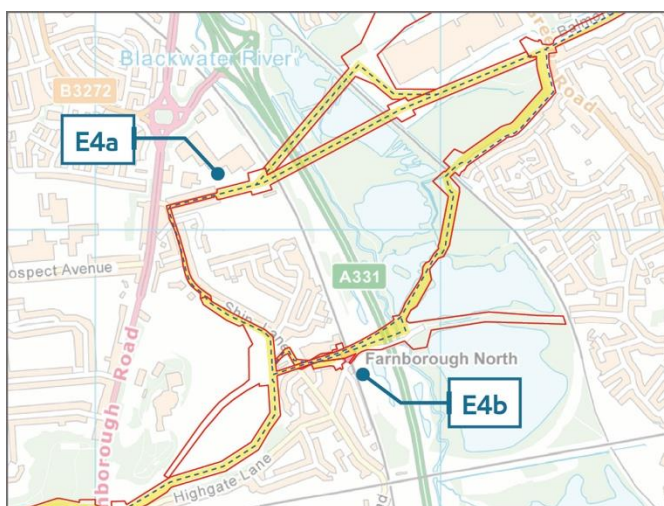
- 12.3.16 The Cove Road design refinement was considered to be technically feasible and would have less impact on nearby homes and residents when compared with E2b. Furthermore, when compared with E2b, this route option is less technically challenging and would, therefore, take less time to install. The Cove Road design refinement was selected following further assessment work and taking into account feedback from the Design Refinements consultation in early 2019. An option through the car park of a local doctor's surgery was also considered, however this would have disrupted access to the surgery so was not taken forward.
- 12.3.17 Three sub-options in the area around Cabrol Road were also assessed and consulted on. These sub-options were assessed taking into consideration potential impacts on residents, allotments and park land.

Illustration 12.5: E3 Sub-options – Cabrol Road



- 12.3.18 E3a would follow the existing pipeline; E3b includes a diversion and open cut trench to avoid Stake Lane but would impact allotments, and E3c would avoid allotments but introduce further street works at Cabrol Road.
- 12.3.19 E3a was selected as it follows the existing pipeline more closely than options E3b or E3c. It would reduce the potential impacts on access to residential properties and street works during installation. It would also reduce the impact on Stake Lane and the allotments near Prospect Road, as trenchless techniques would be used to navigate installation through the narrow area.
- 12.3.20 Two sub options were considered in the Farnborough North area to cross the two rail way lines, the A331 and the River Blackwater and Fisheries, and minimise potential impacts.

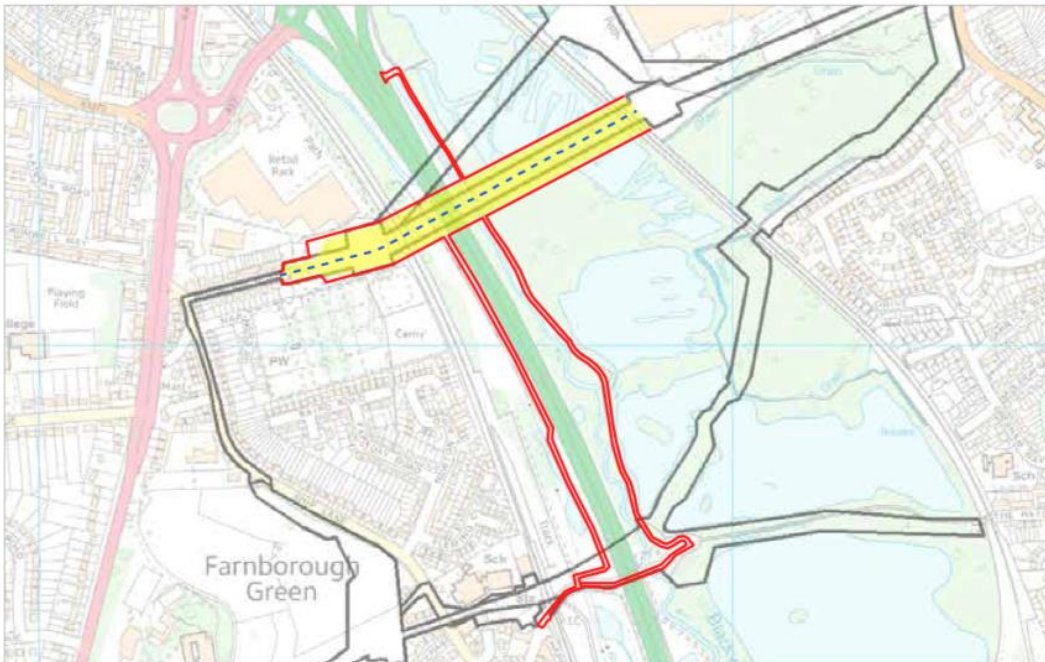
Illustration 12.6: E4 Sub-options – Farnborough North



- 12.3.21 E4a follows Ship Lane/Ringwood Road to cross the railway lines and the A331 using trenchless technology. E4b crosses further south close to Henry Tyndale School (for children with complex learning difficulties) and Farnborough North station.
- 12.3.22 Sub-option E4a was selected, which itself had two further options within it, with the southern of these options progressed.
- 12.3.23 During statutory consultation, concerns were raised regarding impacts to Farnborough North station and Hendry Tyndale School during installation. Sub-option E4a was preferred by many local landowners and reduces the direct impacts on Henry Tyndale School and Farnborough North Station.
- 12.3.24 The southern option within E4a was selected as the angle at which it crosses the Reading to Redhill and Ascot to Guildford railway lines is preferable from an engineering perspective. There were other concerns around the environmental features in the area.
- 12.3.25 While a trenchless crossing is the preferred construction method for the E4a sub-option through Frimley Hatches, following further engineering and survey work it was identified that an open-cut trench technique may be required, due to uncertain

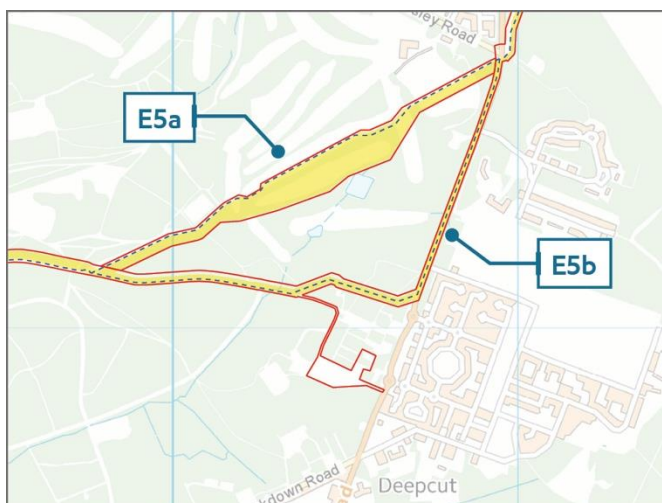
ground conditions in the area. There is a need to access this area for the works and therefore additional access routes using tracks/footpaths within Frimley Hatches have been included within the Order Limits. A change to the Order Limits, as shown in Illustration 12.7, was consulted on in the Design Refinements consultation in early 2019. Following a response received as part of the Design Refinements consultation, the alignment of the westernmost proposed access route was further amended to follow an existing track/footpath.

Illustration 12.7: Blackwater River Valley Design Refinement



12.3.26 Finally, two sub-options were considered in the area in and around Pine Ridge Golf Course, taking into account potential impacts on local businesses and environmental considerations close to the golf course.

Illustration 12.8: E5 Sub-options – Pine Ridge Golf Course



- 12.3.27 E5a follows the existing pipeline across the golf course, and E5b which follows an existing track along the edge of Deepcut Bridge Road.
- 12.3.28 Sub-option E5a, which most closely follows the existing pipeline, was selected as it would reduce potential disruption to traffic along Deepcut Bridge Road. While the potential impacts on the golf course were recognised, strong feedback from the consultation and ongoing engagement regarding potential disruption to traffic along Deepcut Bridge Road was also taken into consideration. It is proposed that a small section of E5b was retained off Deepcut Bridge Road to be used as a temporary logistics hub.
- 12.3.29 There have been a number of other refinements throughout the design development of Section E of the route.
- 12.3.30 Engagement with Rushmoor Borough Council has been undertaken and is ongoing with regard to the former Southwood Golf Course, located at the start of Section E between Southwood and Farnborough. The former golf course has closed and is proposed by the Council as Suitable Alternative Natural Greenspace (SANG). The route partly follows that of the existing pipeline in this area but avoids the built up area to the west of the A327 Ively Road.
- 12.3.31 The design of the route in Farnborough has sought to avoid and reduce impacts on Farnborough Hill School located at Farnborough Green where practicable, including on the school playing fields and the artificial turf sports pitch (see section 12.6 for planning application details). Engagement has been undertaken with the School through the development of the project. A proposal to include a temporary access route and a temporary compound within the school grounds was included in the Design Refinements consultation. However, following further engagement with the School, this proposal was removed from the design.
- 12.3.32 The proposed retirement community to the north of Farnborough Hill School (see section 12.6 for planning application details) was also taken into account in the development of the design of the route in Section E, and engagement has been undertaken with the developer.



- 12.3.33 The proposal for a new railway bridge at Farnborough North station in the Blackwater valley was also taken into account. However, as the E4b sub-option has not been progressed, the project would be likely to avoid potential impacts on any proposed development at the station.
- 12.3.34 Following further engineering and environmental work after Statutory Consultation, additional underground services were identified within the grass verge where the pipeline would be installed alongside Balmoral Drive in Frimley. Furthermore, the route would have passed close to residential properties in the area.
- 12.3.35 Due to limited space within the verge and further information from environmental surveys, it was identified that the installation would need to take place within Balmoral Road to avoid these engineering and environmental constraints. As such, the Order Limits were refined so that the route goes along the length of Balmoral Drive before joining St Catherines Road east of Frimley, before continuing north.

12.4 Relevant Planning Authorities

- 12.4.1 The relevant planning authorities for Section E are:
- Rushmoor Borough Council;
 - Surrey Heath Borough Council;
 - Hampshire County Council (minerals and waste planning authority and highways planning authority within Hampshire); and
 - Surrey County Council (minerals and waste authority and highways planning authority within Surrey).
- 12.4.2 Details of the relevant Planning Authorities' adopted and emerging plans together with a list of the policies relevant to the consideration of the project can be found in Chapter 6 Planning Policy Context and will form part of the Statements of Common Ground (SoCG) with the relevant planning authorities.

12.5 Key Environmental and Planning Designations Within the Order Limits

- 12.5.1 The relevant adopted Local Plans for Section E are:
- Rushmoor Local Plan (2019);
 - Surrey Heath Core Strategy and Development Management Policies Development Plan Document (DPD) (2012) – to be replaced by emerging Surrey Heath Draft Local Plan 2016-2032;
 - Hampshire Minerals and Waste Plan (2013); and
 - Surrey County Council Minerals and Waste Development Framework (incorporating Surrey Waste Plan 2008, Surrey Minerals Plan Core Strategy DPD 2011, Surrey Minerals Plan Primary Aggregates DPD 2011 and Aggregates Recycling Joint DPD 2013).



Rushmoor Borough Council

- 12.5.2 Section E starts in Rushmoor Borough immediately east of the A327 in an area designated as countryside (Rushmoor Local Plan policy NE5), before passing into the Farnborough urban area after the former Southwood Golf Course for the remainder of Rushmoor Borough.
- 12.5.3 In respect to open space, within Rushmoor Borough the Order Limits of Section E pass through the edge of the designated open space at Southwood Sports Pitches (Rushmoor Local Plan policy DE7) and are significantly located within the former Southwood Golf Course (policy DE6), West Heath Road open space (DE6), Prospect Road allotments (DE6), Queen Elizabeth Park (DE6) and Farnborough Gate Sports Ground (DE7), whilst Cove Road Cricket Ground (DE7) is immediately adjacent to the Order Limits. Land to the east of the former Southwood Golf Course and Playing Fields is designated as green infrastructure (NE2). The Order Limits also cross a Green Corridor, located west of the boundary with Surrey Heath which is designated as green infrastructure (NE2).
- 12.5.4 There are a number of flooding constraints to the northeast of the former Southwood Golf Course and adjacent to the Surrey Heath boundary including flood zones, flood defences and a flood storage area (Rushmoor Local Plan policy NE6).
- 12.5.5 The Order Limits of section E also pass within part of the following Sites of Importance for Nature Conservation (SINCs) in Rushmoor: Cove Brook Grassland; Cove Valley, Southern Grassland; and Blackwater Valley, Frimley Bridge (Rushmoor Local Plan policy NE4). Where the Order Limits pass through Farnborough Green, they are within the Farnborough Hill conservation area (Rushmoor Local Plan policy HE3).

Surrey Heath Borough Council

- 12.5.6 Within Surrey Heath, the Order Limits cross a narrow swathe of land designated as countryside (under policy CP1 in the Surrey Heath Core Strategy and Development Management Policies DPD), before passing through the Frimley urban area and then back into the countryside until the end of Section E.
- 12.5.7 Within Surrey Heath, the Order Limits pass through designated open space areas at SC Johnson, Balmoral Drive West and South of Balmoral Drive (Policy DM15 in the Surrey Heath Core Strategy and Development Management Policies DPD) and Frimley Hatches, Frith Hill and Frimley Fuel Allotments Sites of Nature Conservation Importance (SNCIs) (Policy CP14A).

Hampshire County Council

- 12.5.8 The Section E Order Limits do not pass through any Hampshire Minerals and Waste consultation areas.

Surrey County Council

12.5.9 The Section E Order Limits do not pass through any Surrey Minerals and Waste consultation areas.

12.6 Relevant Planning History Within the Order Limits

12.6.1 Table 12.2 identifies the relevant planning history for planning permissions within the Section E Order Limits.

Table 12.2: Relevant Planning History within Section E Order Limits

Local Planning Authority	Key Developments
Rushmoor	<u>62 West Heath Road, Farnborough</u> Erection of a single storey front and rear extension (09/00280/FUL) – approved: The southern part of the application site is within the Order Limits. However, the development is located in the northern half of the site.
Rushmoor	<u>64 West Heath Road, Farnborough</u> Erection of a single storey rear extension following the demolition of conservatory and partial demolition of garage (12/00747/FUL) – approved: The southern part of the application site is within the Order Limits. However, the development is located in the northern half of the site.
Rushmoor	<u>66 West Heath Road, Farnborough</u> Erection of a single storey side and rear extension (16/00615/FULPP) – approved: The southern part of the application site is within the Order Limits. However, the development is located in the northern half of the site.
Rushmoor	<u>76 West Heath Road, Farnborough</u> Erection of a carport, single storey side and rear extension and conversion of garage to habitable room (16/00613/FULPP) – approved: The southern part of the application site is within the Order Limits. However, the development is located in the northern half of the site.
Rushmoor	<u>86 West Heath Road, Farnborough</u> Erection of a first-floor side extension and single storey rear extension (14/00121/FULPP) – approved: The southern part of the application site is within the Order Limits. However, the development is located in the northern half of the site.
Rushmoor	<u>92 West Heath Road, Farnborough</u> Erection of a first-floor front extension (12/00495/FUL) – approved: The southern part of the application site is within the Order Limits. However, the development is located in the northern half of the site.
Rushmoor	<u>100 West Heath Road, Farnborough</u> Erection of first floor front extension (17/00227/FULPP) – approved: The southern part of the application site is within the Order Limits. However, the development is located in the northern half of the site.
Rushmoor	<u>104 West Heath Road, Farnborough</u> Erection of an additional conservatory to side and rear (09/00561/FUL) – approved: The southern part of the application site is within the Order Limits. However, the development is located in the northern half of the site.



Rushmoor	<u>108 West Heath Road, Farnborough</u> Erection of single storey front extension (16/00248/FULPP) – approved: The southern part of the application site is within the Order Limits. However, the development is located in the northern half of the site.
Rushmoor	<u>Farnborough Hill School, 312 Farnborough Road, Farnborough</u> Construction of an artificial turf sports pitch with floodlighting and associated fencing (14/00118/FULPP) – approved: The application area is within Order Limits. However, the actual development is adjacent to the Order Limits. The planning permission has been implemented.
Rushmoor	<u>North of Farnborough Hill School, Farnborough</u> Application for a lawful development certificate of existing use to use the building as a 17-bedroom residential care home falling within Use Class C2 as defined by the Town and Country Planning (Use Classes) Order 1987 (as amended) with associated amenity space, car parking and vehicular access from Ship Lane (16/00578/EDCPP) – Decided (Development is lawful): Part of application area to the east is within the Order Limits. Application for lawful development certificate for existing use of building as a detached dwelling within Use Class C3 as defined by the Town and Country Planning (Use Classes) Order 1987 as amended with associated garden, parking and vehicular access from Ship Lane (16/00579/EDCPP) - Decided (Development is lawful): The access road lies within the Order Limits. Dwelling located away from Order Limits.
Surrey Heath	<u>Land South West of Frith Hill Road and Deepcut Bridge Road, Camberley</u> Change of use of use of land/hardstanding for film-making, including construction of sets and use of land for filming, stationing of support services, associated storage and parking for a temporary period (18/1061) – approved. The eastern part of the application area is within the order limits.

12.6.2 Table 12.3 identifies the relevant planning history for withdrawn applications within the Section E Order Limits.

Table 12.3: Relevant Withdrawn Applications within Section E Order Limits

Local Planning Authority	Withdrawn Applications
Rushmoor	<u>North of Farnborough Hill School, Farnborough</u> Demolition of former care home and dwelling and formation of extra care retirement community of older people (Class C2), comprising 87 units (70 bedroom and 17 one bedroom) and ancillary facilities to be provided in seven one-, two- and three-storey buildings together with alterations to existing vehicular and pedestrian access and provision of car parking (17/00616/FULPP) – withdrawn: Part of application area to the east is within the Order Limits.
Surrey Heath	<u>Clewborough House School, St Catherines Road, Frimley</u> Outline Application for 64 dwellings comprising 30 houses and 34 flats with associated parking and landscaping and equipped children's play area following demolition of existing school buildings, together with change of use from school playing field to public open space. Access, appearance, layout and scale (Landscaping to be a reserved matter). (Amended plans received 19/01/09) (08/1014) – withdrawn. Part of application area to the east is within the Order Limits.



12.7 Assessment Principles (NPS EN-1 Part 4)

- 12.7.1 This part of the assessment considers the acceptability of Section E of the project against the assessment principles from Part 4 of NPS EN-1 as set out in section 7.3 of Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise relating to Section E that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with the project.
- 12.7.2 Table 12.4 sets out the Assessment Principles that are addressed in Chapter 7 Planning Assessment: Project-wide. Other Assessment Principles are assessed in the subsequent section identifying where the assessment is in this chapter.

Table 12.4 Assessment Principles addressed in Chapter 7 Planning Assessment: Project-wide

Assessment Principles NPS (EN-1 Part 4)	Chapter 7 Planning Assessment: Project-wide Relevant Paragraphs
<u>Alternatives</u> Section 4.4 requires alternatives to the project to be assessed.	7.3.9 to 7.3.13
<u>Climate Change Adaptation</u> Section 4.8 requires climate change adaptation to be assessed.	7.3.19 to 7.3.24
<u>Pollution Control and Other Environmental Regimes</u> Section 4.10 requires discharges or emissions which affect air quality, water quality, land quality and the marine environment, or which give rise to noise and/or vibration to be assessed.	7.3.25 to 7.3.27
<u>Safety</u> Section 4.11 requires safety of the pipeline to be assessed.	7.3.28 to 7.3.31
<u>Hazardous Substances</u> Section 4.12 requires the management of hazardous substances to be assessed.	7.3.32
<u>Health</u> Section 4.13 requires the possible health and well-being impacts to be assessed.	7.3.33 to 7.3.38
<u>Common Law Nuisance and Statutory Nuisance</u> Section 4.14 requires any common law or statutory nuisances to be mitigated.	7.4.39 to 7.4.40
<u>Security Considerations</u> Section 4.15 requires security considerations to be mitigated.	7.4.41 to 7.4.43

Environmental Statement

- 12.7.3 The requirements set out in paragraphs 4.2.1 to 4.2.11 of NPS EN-1 are met as a comprehensive Environmental Statement (ES) (**application document 6.1-6.4**) covering the entire route (Sections A – H inclusive) accompanies the application for development consent.
- 12.7.4 Section 12.8 of this chapter considers how Section E of the route is in compliance with each of the generic topics in NPS EN-1 (which also broadly aligns with the technical chapters of the ES).



Habitats and Species Regulations

- 12.7.5 Section E of the project transects the Thames Basin Heaths SPA and the Thursley Ash, Pirbright and Chobham Special Area of Conservation (SAC). Chapter 7 Planning Assessment (paragraphs 7.4.26 to 7.4.46) includes the assessment of compliance with the NPSs in relation to the impact of the project on European Designated (Natura 2000) sites. In order for the pipeline to reach the West London Terminal Storage facility it is necessary to cross both the TBH SPA and TAP&C SAC in this section of the project.
- 12.7.6 A Habitats Regulations Assessment (HRA) (**application document 6.5**) has considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in combination effects.
- 12.7.7 Based on the information presented within the HRA Report it is considered that there will be no adverse effects on the integrity of either designated site and as such an assessment beyond Stage 2 Appropriate Assessment has not been carried out.

Good Design

- 12.7.8 In accordance with NPS EN-1 section 4.5, the design of the pipeline in Section E will be in line with paragraphs 7.3.14 to 7.3.18 of Chapter 7 Planning Assessment: Project-wide.
- 12.7.9 The vast majority of the project within Section E will be below ground once complete, apart from above ground infrastructure, comprising one valve compound, three cathodic protection cabinets, pipeline markers and flight marker posts.
- 12.7.10 The design development for the proposed valve location followed the iterative design development process. Areas of high environmental and social sensitivity were avoided where practicable, and the design development also sought to reduce effects on receptors.

12.8 Generic Impacts (NPS EN-1 Part 5 and NPS EN-4 Gas and Oil Pipelines)

- 12.8.1 This part of the assessment considers the acceptability of Section E of the project against the generic impacts from Part 5 of NPS EN-1 and the specific impacts from gas and oil pipelines specified in NPS EN-4 as set out in section 7.4 in Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise in relation to Section E of the project that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with Section E of the project.



Air Quality and Emissions

- 12.8.2 In accordance with section 5.2 of NPS EN-1, the ES Chapter 13 People and Communities and ES Appendix 13.2 Air Quality Technical Note provides a detailed assessment of the significance of the air quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide paragraphs 7.4.3 to 7.4.8 provide a project-wide overview of any impacts that the project is likely to have on air quality, together with identifying the good practice measures to manage these impacts which are set out in the Register of Environmental Actions and Commitments (REAC) and secured through DCO Requirements such as the Code of Construction Practice (CoCP) (DCO Requirement 5) and the Construction Environment Management Plan (CEMP) (DCO Requirement 6).
- 12.8.3 The Section E Order Limits do not pass through or close to any Air Quality Management Areas, whilst the maximum annual mean concentrations for nitrogen oxides (NO_x), nitrogen dioxides (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) for the grid squares within 400m of the proposed route in Section E are all below the respective national Air Quality Objectives.
- 12.8.4 On the basis of the proposed maximum number of daily heavy duty vehicles and light duty vehicles associated with construction traffic controlled by good practice measures, the air quality effects from construction traffic, including diversions, on human and ecological receptors in rural and urban areas are unlikely to have significant effects on the environment. Therefore, the proposals will not lead to a deterioration in air quality in Section E.

Summary

- 12.8.5 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section E of the project complies with the requirements of section 5.2 of NPS EN-1 in relation to air quality and emissions

Biodiversity and Geological Conservation

- 12.8.6 In accordance with section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 7 Biodiversity sets out the effects of the project, during both construction and operation, on international, national and locally designated sites, protected species and habitats, and other species identified as being of principal importance for the conservation of biodiversity.
- 12.8.7 Paragraphs 7.4.9 to 7.4.63 of Chapter 7 Planning Assessment: Project-wide provide an overview of the identified biodiversity and geology impacts of the project as a whole against the biodiversity and geology NPS policy tests identified in Chapter 6 Planning Policy Context.
- 12.8.8 This section specifically considers the biodiversity and geology impacts of the project within Section E of the project.

International and National Designated Sites



- 12.8.9 Section E of the project transects the internationally designated sites of Thames Basin Heaths SPA and the Thursley, Ash, Pirbright and Chobham SAC. Chapter 7 Planning Assessment includes the assessment of compliance with the NPSs in relation to the impact of the project on European Designated (Natura 2000) sites. In order for the pipeline to reach the West London Terminal Storage facility it is necessary to cross both the TBH SPA and TAP&C SAC in this section of the project.
- 12.8.10 An HRA has considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in combination effects.
- 12.8.11 Based on the information presented within the HRA Report it is considered that there will be no adverse effects on the integrity of either designated site and as such an assessment beyond Stage 2 Appropriate Assessment has not been carried out.
- 12.8.12 As highlighted in paragraph 7.4.14 of Chapter 7 Planning Assessment: Project-wide, the project has been designed to avoid and reduce impacts on all designated sites as far as practicable. Table 12.5 identifies the internationally and nationally designated sites within 1km of the Order Limits of Section E, which have been assessed in the ES as all being of high value/sensitivity.

Table 12.5: International and Nationally Designated Sites – Section E

Statutory Designated Site		Qualifying Feature	Approx. Distance and Location Relative to Section E
SAC	Thursley, Ash, Pirbright and Chobham	<p><u>Annex I habitats:</u></p> <ul style="list-style-type: none"> • 4010 Northern Atlantic wet heaths with <i>Erica tetralix</i>; • 4030 European dry heaths; and • 7150 Depressions on peat substrates of the <i>Rhynchosporion</i> 	Within Order Limits
Special Protection Area (SPA)	Thames Basin Heaths	<p><u>Supporting populations of European importance during the breeding season:</u></p> <ul style="list-style-type: none"> • Dartford warbler (<i>Sylvia undata</i>); • nightjar (<i>Caprimulgus europaeus</i>); and • woodlark (<i>Lullula arborea</i>). 	Within Order Limits
SSSI	Colony Bog and Bagshot Heath	Complex of mire, wet and dry heath and neutral grassland. Folly Bog is a component of the SSSI which supports bog and wet heathland habitats. A component SSSI of the Thames Basin Heaths SPA and Thursley, Ash, Pirbright and Chobham SAC. Notified features of the SSSI also comprise heathland bird species and vascular plants.	Within Order Limits

- 12.8.13 As potential impacts on these internationally and nationally designated sites predominantly relate to Sections D and F of the Order Limits and the project as whole, they are therefore considered in the chapters of the Planning Statement



relating to these sections, along with the Chapter 7 Planning Assessment: Project-wide.

Thames Basin Heaths Special Protection Area (TBH SPA) and Thursley, Ash, Pirbright and Chobham Special Area of Conservation (TAP&C SAC)

- 12.8.14 Section E of the project transects the Thames Basin Heaths SPA and the Thursley, Ash, Pirbright and Chobham SAC. Chapter 7 Planning Assessment: Project-wide includes the assessment of compliance with the NPSs in relation to the impact of the project on European Designated (Natura 2000) sites. In order for the pipeline to reach the West London Terminal Storage facility the assessments and consultation undertaken have identified that crossing the TBH SPA and the TAP&C SAC is the most appropriate solution.
- 12.8.15 An HRA has considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in combination effects.
- 12.8.16 Based on the information presented within the HRA report it is considered that there will be no adverse effects on the integrity of either designated site and as such an assessment beyond Stage 2 Appropriate Assessment has not been carried out.

Locally Designated Sites

- 12.8.17 Table 12.6 identifies the locally designated sites within 1km of the Order Limits of Section E, which have been assessed by the ES as being of medium value/sensitivity.

Table 12.6 Locally Designated Sites in Section E

Designation Type	Local Authority	Within Order Limits	Within 100m	Within 1km
SINC	Rushmoor	3	1	2
SNCI	Surrey Heath	3	0	4

- 12.8.18 As identified in Table 12.6, there are six SINC and SNCI sites that are located within the Order Limits:
 - Cove Brook Grassland SINC;
 - Cove Valley, Southern Grassland SINC;
 - Blackwater Valley, Frimley Bridge SINC;
 - Frimley Hatches SNCI;
 - Frith Hill SNCI; and
 - Frimley Fuel Allotments SNCI.
- 12.8.19 The ES identifies the potential for habitat loss/gain, fragmentation or modification to arise at locally designated sites intersected by the Order Limits. In terms of direct impacts, with the relevant design, embedded and good practice measures



outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects have been identified on the locally designated sites within the Section E Order Limits during construction or operation of the project.

- 12.8.20 For these sites, the ES identifies that there is potential for invasive non-native species (INNS) to be introduced or spread via contaminated machinery or soil. There is also a risk of transferral from pedestrian movement and vehicles. Working within watercourses will also be required, with the potential to cause introduction or spread of INNS within the aquatic environment. However, it is considered that the potential spread of INNS will be adequately controlled through good practice measures, as set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5). Furthermore, a Site Waste Management Plan will identify and manage the appropriate disposal of any contaminated material and will be a requirement of the CEMP (DCO Requirement 6).
- 12.8.21 In terms of air quality, changes could occur through fugitive dust caused by construction plant activities. Retained terrestrial and freshwater habitat receptors within the locally designated sites intersected by the Section E Order Limits may be affected through changes in air quality as the vegetation present may theoretically experience reduced photosynthesis, respiration and transpiration caused by dust. ES Appendix 13.2 Air Quality Technical Note shows that, taking into account the good practice measures, there are no potentially significant effects in relation to air quality and there is no requirement for additional mitigation.
- 12.8.22 Hydrological links have been identified between the Order Limits of Section E and a number of watercourses which are components of Cove Brook Grassland SINC; Cove Valley, Southern Grassland SINC; Blackwater Valley, Frimley Bridge SINC; Frimley Hatches SNCI; and Frith Hill SNCI. With the implementation of the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 6), potential effects of surface water contamination on these sites are highly unlikely.
- 12.8.23 Habitats that are dependent on groundwater levels, flows or quality have been identified within Cove Brook Grassland SINC; Cove Valley, Southern Grassland SINC; Blackwater Valley, Frimley Bridge SINC; and Frimley Hatches SNCI. Groundwater dependent habitats at these sites could potentially be affected by changes to groundwater levels or flow direction caused by temporary dewatering and/or changes to groundwater quality from chemical or pollutant leaks and spills.
- 12.8.24 With regard to Cove Brook Grassland SINC and Cove Valley, Southern Grassland SINC, dewatering of any excavated trench could be required. However, the ES concludes that, due to the temporary duration and localised nature of the works, and the groundwater dependency and condition of the habitats, the potential effect due to dewatering during construction is of negligible significance.
- 12.8.25 For Blackwater Valley, Frimley Bridge SINC and Frimley Hatches SNCI, dewatering could be required if the crossing method is by open cut trenching or using a trenchless method (TC020). However, the temporary duration and the nature of the habitats potentially affected, along with the proposed good practice measures will limit any impact. The potential effect of habitat loss, fragmentation or



modification due to dewatering during construction will therefore be of negligible significance.

- 12.8.26 Good practice and pollution prevention measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 6) will be implemented to reduce the risk of potential effects to groundwater quality in the unlikely event of chemical or pollutant leaks during installation. These measures will be detailed by the contractor in their CEMP, secured by DCO Requirement 6. The potential effects of changes to groundwater quality from chemical or pollutant leaks and spills on the groundwater dependent habitats will be of negligible significance.
- 12.8.27 The ES also identifies the potential for groundwater flow interception and changes to groundwater quality from operation of the pipeline on Cove Brook Grassland SINC; Cove Valley, Southern Grassland SINC; Blackwater Valley, Frimley Bridge SINC; and Frimley Hatches SNCI.
- 12.8.28 In areas of Cove Brook Grassland SINC and Cove Valley, Southern Grassland SINC where the pipeline and/or trench are below the water table, where required, water stops (or “stanks”) will be installed at intervals through the pipe bedding and side fill to reduce flow interception.
- 12.8.29 If the pipeline were constructed across the Blackwater Valley by open cut trench, the back-filled trench and pipeline will likely be below the water table in many areas, particularly the former gravel pits. However, due to the nature of the groundwater levels at the Blackwater Valley, Frimley Bridge SINC and Frimley Hatches SNCI sites, the potential effect due to groundwater flow interception will be of negligible significance.
- 12.8.30 The pipeline will be subject to comprehensive testing during installation, and the design provides operational integrity through a range of measures, including a pipeline wall thickness greater than British Standard PD8010 standards to provide additional long term protection from deterioration or damage, and a cathodic protection system to protect against corrosion.
- 12.8.31 The ES also identifies that there is the potential for species disturbance to wintering birds at Frimley Hatches SNCI. If Frimley Hatches SNCI is crossed using trenchless construction techniques (TC020), there will be no pathway for an effect. However, if open cut construction techniques were chosen in this location, the route will bisect the site and disturbance will likely occur during construction works. Given the large size of the site, the temporary nature of the works and the proposed good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) any effect of disturbance will be of minor significance.
- 12.8.32 Overall, no significant effects have been identified on the locally designated sites within Section E during construction or operation of the project.

Protected Species



12.8.33 As set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), Landscape and Ecological Management Plan (LEMP) (DCO Requirement 12) and protected species (DCO Requirement 13), the contractor(s) will comply with relevant protected species legislation including with regards to badgers, bats, dormice, otters, water voles, sand lizards, great crested newts and Schedule 1 birds. Appropriate licences will be obtained where necessary from Natural England for all works affecting protected species as identified by the ES and through pre-construction surveys. All applicable works will be undertaken in accordance with the relevant good practice measures set out in the REAC and conditions set out in those licences. DCO Requirement 13 specifically protects against situations where unexpected protected species may be identified and encountered as part of the implementation of the project.

Badgers

12.8.34 The effects on badgers are not considered in the ES following the Planning Inspectorate's Scoping Opinion response. Effects on badgers were scoped out on the basis of their conservation status and the population in the local area. As such, construction works likely to impact badgers or a sett in current use will be subject to mitigation and secured under a licence granted by Natural England.

12.8.35 The results of the badger surveys have nonetheless directly influenced the alignment of the Order Limits, with several route changes being implemented to avoid direct impacts to main setts.

Bats

12.8.36 A desk study was undertaken as part of the ES in order to value habitat potentially used by commuting and foraging bats. The study did not identify any 'bat hotspots' in Section E.

12.8.37 The ES determines that due to the species composition of bats recorded within the study area and the potential for roosts to be present within the Order Limits, all bats are valued as high. Where possible, the alignment of the Order Limits and limits of deviation have been selected to reduce the loss of trees with bat roost potential and wherever possible to maintain good practice distances between construction areas and trees. Within Section E, reduced working widths are proposed to reduce impacts on trees with moderate bat roost potential within Queen Elizabeth Park and to reduce impact on trees with moderate and high bat roost potential within Frith Hill.

12.8.38 The ES concludes that with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section E have been identified on bats. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).



Birds

- 12.8.39 There are two statutory sites which contain notable or protected bird species as a qualifying feature within 1km of the Order Limits of Section E:
- Thames Basin Heaths SPA – within Order Limits; and
 - Colony Bog and Bagshot Heath SSSI – within Order Limits.
- 12.8.40 There is one non-statutory site which contains notable or protected bird species as a qualifying feature within 1km of the Order Limits of Section E:
- Frimley Hatches SNCI – within Order Limits.
- 12.8.41 Overall, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section E have been identified on breeding birds, either within or outside statutory designated sites. These measures are included within the CoCP, the implementation of which is secured by DCO requirement 5, and will be detailed in the contractor's CEMP, the implementation of which is secured by DCO Requirement 6. The implementation of a LEMP is also secured by Requirement 12.

Dormouse

- 12.8.42 Records and evidence of dormouse within or near to Section E have been identified as set out in ES Appendix 7.9 Dormouse Factual Report. The ES determines that, due to the regional abundance of dormice within suitable habitats, its value is medium.
- 12.8.43 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section E have been identified on dormouse. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Fish

- 12.8.44 Of the watercourses crossed by the Order Limits in Section E, the following crossings were identified as having high sensitivity for fish species during habitat walkover surveys:
- WCX 047 – Ively Brook;
 - WCX 048 – Cove Brook; and
 - WCX 051 – River Blackwater.
- 12.8.45 The ES has determined fish communities with migratory life stages (within the Order Limits) to be of medium value. Fish communities comprising non-migratory species are typically ubiquitous to watercourses surveyed across the Order Limits, and are assessed as being of low value.



- 12.8.46 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section E have been identified on fish. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Great Crested Newt

- 12.8.47 Desk study and field results have not identified the presence of great crested newt (GCN) within 250m of the Section E Order Limits.
- 12.8.48 Although there are no identified GCN in Section E, GCN have been recorded in most 10km squares in Hampshire and Surrey. As such, GCN are afforded a medium value. Appropriate licences will be obtained where necessary from Natural England for all works affecting GCN as identified by the ES and through pre-construction surveys. All relevant works will be undertaken in accordance with the relevant mitigation requirements and conditions set out in those licences.
- 12.8.49 The ES concludes that, with the measures secured through the European Protected Species (EPS) licences, no significant effects from construction or operation of the project within Section E have been identified on GCN.

Otter and Water Vole

- 12.8.50 Otters have the potential to use any watercourse. Records of otters have been identified at the River Blackwater, near Farnborough (outside of the Order Limits). Otter spraints and feeding remains were found in Cove Brook, near Farnborough during field surveys. No records of water voles have been identified in the Order Limits of Section E from the desk study.
- 12.8.51 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section E have been identified on otters or water voles. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Habitats of Principal Importance for Biodiversity Conservation

- 12.8.52 The ES has gathered baseline information on the habitats within the Order Limits from both desk study and field survey. This section of the route is predominantly urban, with the Order Limits crossing areas of semi-natural habitat at Cove Brook, Queen Elizabeth Park, the valley of the River Blackwater at Frimley Green, and through Frith Hill (ES Figure 7.4).
- 12.8.53 Outside of designated sites, Priority Habitats, including hedgerows and watercourses, are considered to be of medium value, apart from the following area in Section E which has been revised to low value:
- Lowland Mixed Deciduous Woodland at Frimley Green.



- 12.8.54 All habitat not considered as Priority Habitat is assessed as negligible value and is not discussed further in the ES assessment. Notable plant species recorded within the Section E Order Limits but outside of designated sites are valued as low.
- 12.8.55 In summary, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project within Section E have been identified on Priority Habitats and notable plant species outside of designated sites. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Ancient Woodland and Veteran Trees

- 12.8.56 There are no Ancient Woodland Inventory sites (i.e. areas of ancient woodland of at least 2ha) sites within the Order Limits of Section E, nor are there any within 50m of the Order Limits of Section E. There are two areas of Potential Ancient Woodland sites less than 2ha within 50m of the Order Limits (AW18 and AW20 – see ES Figure 7.3 and ES Appendix 7.3 Ancient Woodland Factual Report).
- 12.8.57 No significant effects relating to habitat loss/gain, fragmentation or modification are predicted on Ancient Woodland near to Section E. With the implementation of good practice measures, no significant effects on ancient woodland are predicted from the introduction/spread of INNS or dust deposition from air quality changes.
- 12.8.58 Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the LEMP (DCO Requirement 12).
- 12.8.59 Overall, with the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project have been identified on ancient woodland near the Order Limits of Section E. The measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Hedgerows

- 12.8.60 There will be a number of locations along Section E where there will be construction impacts on hedgerows. As a result of embedded mitigation and proposed good practice measures, including those relating to working widths and reinstatement of vegetation, the impacts to hedgerows will be localised and reversible in nature. There is a high degree of confidence in the successful reinstatement of hedgerow habitat in the medium to long term and no permanent loss of hedgerow habitat is anticipated.
- 12.8.61 With the relevant embedded and good practice measures outlined in section 7.4 and section 7.5 of ES Chapter 7 Biodiversity, no significant effects from construction or operation of the project have been identified on hedgerows within the Order Limits of Section E. The measures are set out in the REAC and secured



through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12).

Summary

- 12.8.62 Through the route design and embedded mitigation, and the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5), the CEMP (DCO Requirement 6) and the LEMP (DCO Requirement 12), Section E of the project avoids significant harm to biodiversity and geological conservation and therefore complies with the requirements of section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4.

Civil and Military Aviation and Defence Interests

- 12.8.63 There are no civil aviation interests within the Order Limits along Section E of the project.
- 12.8.64 Section E does pass through land owned by the MoD at the following point:
- Land at Frith Hill (east of Frimley) (SY805177).
- 12.8.65 As set out in the Chapter 7 Planning Assessment: Project-wide (paragraph 7.4.66), the MoD has indicated that it is content with the project's approach to installing the pipeline across the MoD estate.
- 12.8.66 Overall, Section E of the project is considered not to have any unacceptable impacts on civil or military aviation or other defence assets.

Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation

- 12.8.67 In accordance with section 5.6 of NPS EN-1, ES Chapter 13 People and Communities provides a detailed air quality assessment of the project, during both construction and operation.
- 12.8.68 Paragraphs 7.4.71 to 7.4.93 of Chapter 7 Planning Assessment: Project-wide provide an overview of any dust or artificial light impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. As paragraph 7.4.72 of Chapter 7 Planning Assessment: Project-wide states, there will be no odour, smoke, steam or insect infestation issues resulting from the project. The specific impacts arising from dust and artificial light emissions within Section E are considered below.

Dust

- 12.8.69 In respect of dust emissions, the possible receptors in Section E which may be affected are assessed as human receptors residing or working within 350m of the construction site and ecological receptors within 50m with the distances identified in Table 12.7 of this Chapter. Human receptors in Section E include several community and recreation/amenity facilities, including schools, children centres and nursery schools, care homes, allotments, churches as well as recreation grounds, playing fields, play areas, sports clubs and PROWs.



12.8.70 Ecological receptors within 20m of the Order Limits of Section E comprise Thames Basin Heaths SPA; Thursley, Ash, Pirbright & Chobham SAC; and Colony Bog and Bagshot Heath SSSI.

Table 12.7: Human and Ecological Receptors in Proximity to Section E

	Human Receptors						Ecological Receptors
	Demolition, Earthworks and Construction (Distance to construction boundary)				Trackout (Distance from roads up to 200m from the site entrance)		Dust Soiling (Distance to construction boundary)
	<20m	<50m	<100m	<350m	<20m	<50m	<20m
Section E	258	730	1,748	8,022	10-100	10-100	High
MoD Deepcut (logistics hub)	0	0	27	373	1-10	1-10	Low

12.8.71 In respect to potential dust emissions, the magnitude of dust emissions in Section E is presented in Table 1.7 of ES Appendix 13.2 Air Quality Technical Note, whilst an assessment of the sensitivity of the areas around Section E (including the logistics hub) for human and ecological receptors is presented in Table 1.8 and Table 1.9 respectively of ES Appendix 13.2 Air Quality Technical Note.

12.8.72 The ES Appendix 13.2, Table 1.10, has assessed the risk to human health and ecological receptors from dust emissions arising at each of the three construction activities (earthworks, construction and trackout) in Section E as being either negligible or low. The risk of dust soiling during the construction stages is low risk for all three phases.

12.8.73 Despite the dust emission risk being judged as being negligible to low, good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6) will be incorporated in order to control all effects of dust, not just medium to high risks, as set out in paragraphs 7.4.73 to 7.4.83 of Chapter 7 Planning Assessment: Project-wide.

Artificial Light

12.8.74 Temporary artificial lighting will be provided during the construction phase in the working area, construction compounds and logistics hub in Section E.

12.8.75 Measures to control lighting effects are included within the REAC. All lighting will be set up to avoid nuisance as far as is practicable so will be low-level and directional to avoid glare into residential properties. The construction compound and logistic hub lighting will be of the lowest luminosity necessary for safe delivery of each task. It will be designed, positioned and directed to reduce the intrusion into adjacent properties and habitats. The implementation of the good practice measures in the REAC are secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

Summary



- 12.8.76 Through the good practice measures set out in the REAC and secured through the DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section E of the project will keep the impacts from dust and artificial light to a minimum and therefore complies with the requirements of section 5.6 of NPS EN-1 in relation to dust and artificial light.

Flood Risk

- 12.8.77 In accordance with section 5.7 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the flood impacts of the project, including a Flood Risk Assessment (FRA) for the project (**application document 7.3**).
- 12.8.78 Paragraphs 7.4.94 to 7.4.125 of Chapter 7 Planning Assessment: Project-wide provide an overview of any impacts that the project is likely to have on flood risk and water infrastructure, together with identifying the mitigation that will be implemented to manage these impacts.
- 12.8.79 In respect of Section E, there are no flood risks from or to the project related to canals or groundwater.

Fluvial Flooding

- 12.8.80 In Section E, the FRA watercourse crossing schedule identifies 11 locations where the pipeline crosses a surface watercourse within this section: seven main rivers (Iveley Brook, Cove Brook (twice) River Blackwater and three unnamed watercourses), one lake (The Hatches) and three unnamed ordinary watercourses.
- 12.8.81 The crossings of Cove Brook, the River Blackwater, unnamed watercourse 44 (adjacent to railway) and The Hatches are all within fluvial Flood Zone 3 and are to be crossed using trenchless technique.
- 12.8.82 For the remaining seven watercourse crossings in Section E, open cut crossings are proposed, some of which have been assessed to have a high risk of flooding without mitigation in place. Watercourse crossing reports have therefore been developed for these locations in order to provide a full assessment of risk and these are included in Appendix C of the FRA (**application document 7.3**).
- 12.8.83 Three of the construction compound locations in Section E (compounds 4AD, 5A and 5B) are within designated fluvial Flood Zones 2 or 3 and have been assessed as having a medium or high risk without mitigation in place.
- 12.8.84 A range of good practice measures will therefore be implemented to ensure that the project does not exacerbate flood risk in the locations which are identified as medium or high risk. These include specific mitigation measures which are listed in Table 13.2 in the FRA (**application document 7.3**). The implementation of these measures will reduce the overall risk to and from the project at those crossings with a medium or high risk down to a low risk. The good practice measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).



12.8.85 In respect of the operational stage, the only above ground infrastructure in Section E will be small elements including valves, three cathodic protection cabinets, pipeline makers and flight marker posts. Therefore, the risk to and from the project in the operational phase is considered to be very low and no specific mitigation measures are proposed, thereby not increasing flood risk in accordance with NPS EN-1 paragraph 5.7.21.

Surface Water

12.8.86 There are seven locations in Section E which are within identified surface water flow routes assessed as being in excess of 1 in 30 probability of flooding:

- Cove Road;
- Nash Close;
- to the west of the A325;
- to the west of Ship Lane;
- junction of Ship Lane and Ringwood Road;
- Woodland south of SC Johnson; and
- Balmoral Drive.

12.8.87 These locations are identified as having a medium risk of surface water flooding, which construction works have the potential to exacerbate the risk to third parties. The Deepcut Bridge Road logistics hub is assessed as being at high risk from surface water flooding. As a result of medium to high risks being assessed, a range of water good practice construction measures are set out in Table 13.2 in the FRA (**application document 7.3**) and included within the CoCP, will mitigate the impact from surface water flooding on the projecting and also of the project increasing the risk to other parties.

Reservoir

12.8.88 There are two locations in Section E which are identified as being at risk from reservoir flooding:

- Farnborough – Unidentified source
- Farnborough Green – Unidentified source

12.8.89 The overall risk to the project from reservoir flooding has been assessed as low, due to the very low likelihood of occurrence. Notwithstanding the low risk, a range of water good practice measures are set out in the REAC to further reduce the overall risk to and from the project.

Summary

12.8.90 Through the good practice measures set out in the REAC and specific mitigation identified in the FRA, secured through DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section E of the project complies with the requirements of section 5.7 of NPS EN-1 and section 2.22 of NPS EN-4 in relation to flood risk.



Historic Environment

- 12.8.91 In accordance with section 5.8 of NPS EN-1, ES Chapter 9 Historic Environment provides a detailed description of the significance of the heritage assets affected by the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.126 to 7.4.149) provides a project-wide overview of any impacts that the project is likely to have on the historic environment, together with good practice measures that will be implemented to manage these impacts. Those related to Section E are identified below.
- 12.8.92 The route in Section E has been selected to reduce the impact on the historic environment by avoiding, where practicable, designated heritage assets in accordance with paragraph 5.8.12 of NPS EN-1. Some impacts on the historic environment may still occur as a result of construction activity, including on as yet unidentified archaeological assets.
- 12.8.93 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.1) identifies those heritage assets where major or moderate adverse effects have been identified to result from construction of the project, prior to the application of good practice measures. Assets in Section E where major or moderate effects are identified (without good practice measures) within the ES are set out in Table 12.8.

Table 12.8: Heritage Assets Along Section E of Pipeline

Asset Number	Asset Name	Within Order Limits	Value	Significance of Effect of Project on Heritage Asset (without good practice measures)	Significance of Effect of Project on Heritage Asset (with good practice measures)
770	World War Two Aircraft Crash: Deepcut	No	Low	Moderate Adverse	Negligible

- 12.8.94 As Table 12.8 identifies, ES Chapter 9 Historic Environment concludes that there will be no significant (major or moderate) residual effects on heritage assets in Section E, following the application of good practice measures.
- 12.8.95 The Order Limits do pass through the Farnborough Hill Conservation Area, roughly following the boundary of Farnborough Hill School and therefore there is potential for construction to be visible and/or audible from this location, though REAC commitments will reduce the level of this impact. The setting of this building also includes historic landscape elements within the grounds of this heritage asset; however, the Order Limit has been designed to avoid the majority of the trees on the grounds and their roots, including a reduced working width within this area.
- 12.8.96 Good practice measures relating to archaeological protections are set out in the REAC and secured through DCO Requirement 11 which requires for an Archaeological Mitigation Strategy (AMS), to be prepared and approved by each relevant planning authority.



- 12.8.97 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.2) identifies heritage assets where although significant effects are not identified, there may be minor adverse or negligible residual effects upon heritage assets.
- 12.8.98 Although some residual effects are therefore identified to occur, these are assessed to be either negligible or short-term minor adverse effects upon the setting of heritage assets, or at worst minor adverse effects from physical impacts on the heritage assets themselves. With regard to paragraph 5.8.15 of NPS EN-1, as the residual effects are, at worst, minor adverse, there will be no substantial harm to any heritage assets, nor will there will be any total loss of any heritage assets as a result of Section E or any other Sections of the project. Any identified residual minor adverse effects on heritage assets are outweighed by the public benefit of the project, as set out in detail in Chapter 2 Statement of Need.

Summary

- 12.8.99 Through the good practice measures set out in the REAC such as the requirement for an AMS (secured through DCO Requirement 11), there is no loss or harmful impact on the significance of any designated heritage assets in Section E of the project and therefore the project complies with section 5.8 of NPS EN-1 in relation to heritage assets.

Landscape and Visual

- 12.8.100 In accordance with section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 10 Landscape and Visual accompanying the application for development consent provides a detailed assessment of the landscape and visual impacts of the project. Furthermore, paragraphs 7.4.150 to 7.4.196 of Chapter 7 Planning Assessment: Project-wide provides an overview of any landscape or visual impacts that the project is likely to have, together with identifying the design measures that have sought to avoid or reduce potential impacts both through the alignment of the pipeline corridor and the use of the design measures outlined in Table 10.13 of ES Chapter 10 Landscape and Visual.
- 12.8.101 Landscape or visual impacts arising from construction and operation of the project in Section E are identified below.

Construction Impacts

Landscape Character

- 12.8.102 Potential impacts on national landscape character areas identified in ES Chapter 10 in Section E are summarised in Table 8.10. Impacts during construction and post construction in years 1 and 15 are identified.

Table 12.10: Summary of Potential Impacts on Landscape Character – Section E

National Character Area	Construction	Year 1	Year 15
	Significance of Effect	Significance of Effect	Significance of Effect
129: Thames Basin Heaths	Moderate	Moderate	Minor



Landscape Designations

12.8.103 Potential impacts landscape designations identified in the ES Chapter 10 Landscape and Visual in Section E are summarised below.

Ancient Woodland and Tree Preservation Orders (TPOs)

12.8.104 There is no classified Ancient Woodland or Potential Ancient Woodland (undesigned) within the Order Limits of Section E.

12.8.105 There are a number of TPOs within the Order limits of Section E in the following locations:

- Balmoral Drive, Paddock Hill Estate, Frimley – a group TPO covering a residential estate. The Order Limits follow Balmoral Drive and the adjacent open spaces so that loss of TPO trees will be reasonably localised. With the measures to retain vegetation included in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and LEMP (DCO Requirement 12), the TPO trees will not be affected by the project.
- Frith Hill, Frimley Fuel Allotments and Pine Ridge Golf Course – a group TPO that covers both the golf course fairways and linear tree belts, some of which will be affected. A commitment to a reduced working width (NW20) applies here along with the measures to retain vegetation included in the REAC and secured through DCO Requirements in order to reduce the loss of TPO trees.
- Brompton Hospital, The Maultway, Frimley – a group TPO covering a residential estate. The Order Limits encroach very slightly on the group TPO, however, with the measures to retain vegetation included in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and LEMP (DCO Requirement 12), the TPO trees will not be affected by the project.

12.8.106 Powers will be secured under Schedule 1 to the DCO to construct the pipeline within the Limits of Deviation, including trenchless crossings or narrow working as required. Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the LEMP (DCO Requirement 12).

Visual Effects

12.8.107 The potential visual effects from the representative viewpoints along Section E are set out in ES Chapter 10 Landscape and Visual Appendix 10.3 and summarised in paragraphs 10.5.129 to 10.5.132 in ES Chapter 10 Landscape and Visual. The ES Chapter 10 Landscape and Visual identifies 9 representative viewpoints in Section E.

12.8.108 The ES Chapter 10 Landscape and Visual concludes that there will be significant effects for users of Queen Elizabeth Park within the southern part of the park at Representative Viewpoints 41 and 41a. From Representative Viewpoint 41, there will be close views of temporary construction activity and substantial tree loss. From Representative Viewpoint 41a, loss of trees will change the character of the park and reveal more prominent views of the railway line and emphasise views of the residential development at Queen Victoria Court. During construction, the



potential magnitude of impact will be large, and the significance of effect will be major from both viewpoints. In year 1 post construction, substantial tree loss will change the woodland character of this part of the park. The potential magnitude of impact will be medium, and the significance of effect will be moderate.

- 12.8.109 The ES Chapter 10 Landscape and Visual also concludes that from Representative Viewpoint 42 (Church Path public footpath, Farnborough), close views of construction activity within Farnborough Hill Conservation Area will be available, exacerbated by loss of vegetation along the western side of the footpath. Temporary fencing and movement of construction vehicles will be adjacent to the footpath, immediately dominating the view. Loss of boundary trees north of the football field will open up views of residential buildings along Ship Lane. During construction, the potential magnitude of impact will be large, and the significance of effect will be major. Year 1 post construction, loss of trees along the eastern boundary of Farnborough Hill Conservation Area will change the character of the view from the footpath, revealing views of residential buildings and traffic along Ship Lane to the north. The potential magnitude of impact will be medium, and the significance of effect will be moderate.
- 12.8.110 The ES Chapter 10 Landscape and Visual also concludes that there are two other representative viewpoints where the significance of the effect during construction will be moderate. This effect reduces in post construction year 1 to be minor remaining as such until post construction year 15 as new trees will not be as mature as those retained.
- 12.8.111 The ES Chapter 10 Landscape and Visual also concludes that at one other representative viewpoint the significance of the effect during construction will be minor. This effect reduces in post construction year 1 to be minor and remaining as such until post construction year 15 as new trees will not be as mature as those retained.
- 12.8.112 At the other locations the ES Chapter 10 Landscape and Visual concludes that the significant of the effect in post construction year 15 will be negligible.

Operational Impacts

- 12.8.113 The ES Chapter 10 Landscape and Visual concludes that landscape and visual effects arising from pipeline operation in year 15 will be localised and not significant when reinstatement planting outlined in Table 7.1 of Chapter 7 Planning Assessment: Project-wide will be established. This is because the pipeline will be underground and above ground features including the proposed valves will be small in scale. The details of planting will be secured through the LEMP, the implementation of which is secured by DCO Requirement 12.

Summary

- 12.8.114 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and LEMP (DCO Requirement 12) and the assessment of compliance with the NPSs in relation to major development within the SDNP in Chapter 7 Planning Assessment: Project-



wide, Section E of the project complies with the requirements of section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4 in relation to landscape and visual.

Land Use Including Open Spaces, Green Infrastructure and Green Belt

- 12.8.115 In accordance with section 5.10 of NPS EN-1, ES Chapter 12 Land Use provides an assessment of the land use impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide provides an overview of any land use impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.
- 12.8.116 The majority of the route in Section E runs through large urban areas. It passes through the towns of Farnborough and Frimley. These towns have large residential areas as well as several commercial and community facilities. Section E of the route does not pass through any areas in active agricultural use, although there are two small areas which are classified as Grade 4 agricultural land.
- 12.8.117 Construction of the project in urban areas will be undertaken using a 'piecemeal' approach, only affecting a small area at a time. Therefore, while a 1km stretch of pipeline will be installed and covered within 11 weeks within an urban section, it is not anticipated that the whole 1km will be subject to construction activity at any one time. Instead, smaller areas will be affected for shorter durations. Following reinstatement, there will be no impact upon the use of land, except for the limited permanent land take associated with Valve 10.
- 12.8.118 Section E passes through the following designated public open spaces and recreation areas, where an assessment has been made of the impact of construction on these sites:
- Southwood Sports Pitches – Order Limits impact on current markings for football pitch and close to the boundary of the cricket ground.
 - Cove Cricket Club – The proposed Order Limits will impact on access to Cove Cricket Club as this access is proposed to be utilised during construction, The access passes behind the existing cricket nets. The Order Limits and Limits of Deviation for the pipeline itself do not impact on the cricket club.
 - Cabrol Road Allotments – Order Limits pass through allotments. However trenchless technique is proposed to ensure that people are not prevented from using the allotments;
 - Queen Elizabeth Park – Order limits impact on an equipped children's play area, car parking area and runs through the southern part of the park.
 - Farnborough Hill School – Order Limits run within the boundary of the school grounds from the south of the school, around the eastern boundary to the north onto Ship Lane. Project commitment to narrow working (NW18).
 - Farnborough Gate Recreation Ground – Whole pitch within the Order Limits, needed for trenchless crossing.
 - Pine Ridge Golf Course – Temporary impact on 4 holes (holes 1, 4, 5 and 6 plus the Driving Range. Project commitment to narrow working (NW20).



- West Heath Road Open Space – Construction compound proposed in linear park with circular footpath.
- South of Balmoral Drive Amenity green space - Order Limits run partially along roadside green space.
- Balmoral Drive West Amenity green space - Order Limits run partially along roadside green space.
- SC Johnson Urban Green Space - Private sports ground to be used for a construction compound/replacement car park.

12.8.119 In all cases, the preferred construction technique is open cut trenching which is the quickest construction technique. The working area will be fenced during construction, topsoil stripped and stored alongside the working area, the trench will be excavated, and the material stored within the working area, the pile will be laid out and welded alongside the trench and tested, before being lifted into place and the ground reinstated. Access to the unaffected open space will be maintained at all times.

12.8.120 For the sites where a significant impact has been identified; Southwood Sports Pitches, West Heath Road Open Space, Queen Elizabeth Park, Farnborough Gate Sports Ground, South of Balmoral Drive, Balmoral Drive West and SC Johnson a further assessment of the impact is provided in Planning Statement Chapter 16 Open Space.

12.8.121 The project construction work will cross seven PRowS and four cycleways in Section E. The level of disturbance to users will be kept to a minimum and all PRowS and cycleways will be fully reinstated at the end of the construction period. Proposed PRowS closures and temporary diversions are identified in DCO Schedule 5 and DCO Article 12 provides powers for their implementation, in agreement with the relevant highway authorities.

12.8.122 There are areas classed as Special Category Land within the Order Limits of Section E. The impacts on Special Category Land are set out in Chapter 17 Special Category Land.

12.8.123 Overall, there will be an impact on land use in Section E, however this will not be permanent in nature and impacts will be mitigated as set out in Chapter 16 Open Space.

Summary

12.8.124 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section E of the project complies with the requirements of section 5.10 of NPS EN-1 in relation to Land use.

Noise and Vibration

12.8.125 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.274 to 7.4.289) provides a project-wide assessment of any noise and/or vibration impacts that the implementation of the project is likely to have, together with identifying the



mitigation that will be implemented to manage these impacts. This reflects the assessment undertaken in ES Appendix 13.3 Noise and Vibration Technical Note.

Summary

12.8.126 The commitment to agreeing a Noise and Vibration Management Plan with the relevant planning authority (as part of the CEMP secured as DCO Requirement 6) will ensure that appropriate noise and vibration mitigation will be implemented during the works, in accordance with section 5.11 of NPS EN-1 and section 2.20 of NPS EN-4 in relation to noise and vibration.

Socio-economics

12.8.127 In accordance with the requirements of NPS EN-1 section 5.12, ES Chapter 13 People and Communities provides an assessment of the socio-economic impacts of the project.

Community

12.8.128 This section of the route passes through the towns of Farnborough and Frimley, both of which have large residential areas as well as several commercial and community facilities. The community and recreation/amenity receptors within the study area or Order Limits are listed in Table 12.12.

Table 12.12: Community and Recreation/Amenity Receptors in Section E

Type	Receptor Name	Order Limits or Study Area
Community receptor	Multiple places of worship (including Frimley Baptist Church)	Outside the Order Limits but within Study area
	Pine Ridge Golf Course	Within Order Limits
	Deepcut Village Centre	Outside the Order Limits but within Study area
	Frimley Children’s Centre	Outside the Order Limits but within Study area
	Camberley Manor Care Home	Outside the Order Limits but within Study area
	Cove Cricket Club	Within Order Limits
	Heatherside Church	Outside the Order Limits but within Study area
	Tower Hill Primary School	Outside the Order Limits but within Study area
	Cove Junior School	Outside the Order Limits but within Study area
	Farnborough Hill School	Within Order Limits
	North Farnborough Infant School	Outside the Order Limits but within Study area
	Henry Tyndale School	Outside the Order Limits but within Study area
	Frimley Church of England School	Outside the Order Limits but within Study area
	Cross Farm Infant School	Outside the Order Limits but within Study area
	Sandringham School	Outside the Order Limits but within Study area
	Lakeside Primary School	Outside the Order Limits but within Study area
	Tomlinscote School	Outside the Order Limits but within Study area
	St Bernadette’s Catholic Primary School	Outside the Order Limits but within Study area
The Sixth Form College Farnborough	Outside the Order Limits but within Study area	

Type	Receptor Name	Order Limits or Study Area
	Treasure Montessori Nursery and Preschool	Outside the Order Limits but within Study area
	Heather Ridge Infant School	Outside the Order Limits but within Study area
	Birchett Road Allotments	Outside the Order Limits but within Study area
	Cove Green Allotments	Outside the Order Limits but within Study area
	Jubilee Allotment Gardens	Outside the Order Limits but within Study area
	Parsonage Way Allotments	Outside the Order Limits but within Study area
Recreation/amenity receptor	Farnborough Lawn Tennis Club	Outside the Order Limits but within Study area
	Alma Dettingen Playing Fields	Outside the Order Limits but within Study area
	Frimley Green Recreation Ground	Outside the Order Limits but within Study area
	Farnborough Gate Recreation Ground	Within Order Limits
	Rectory Road Recreation Ground	Outside the Order Limits but within Study area
	Blunden Road Play Area	Outside the Order Limits but within Study area
	Cove Green Recreation Ground	Outside the Order Limits but within Study area
	Priory Road Play Area (Local area for play)	Outside the Order Limits but within Study area
	Ship Lane Play Area (Local area for play)	Outside the Order Limits but within Study area
	Fairfax Road Play Area (Local area for play)	Outside the Order Limits but within Study area
	Blackdown Road Recreation ground	Outside the Order Limits but within Study area
	Tomlins Pond and recreation ground	Outside the Order Limits but within Study area
	Queen Elizabeth Park	Within Order Limits
	West Heath Road	Within Order Limits
Seven PRoWs and four cycleways	Within Order Limits	

12.8.129 Given that Section E of the route is located in an area that is more urban in nature, construction activity could potentially bring about traffic, visual and noise effects.

12.8.130 There is the potential for significant disruption to a number of community and recreation/amenity receptors located within the Order Limits. The receptors impacted are identified below, whilst such impacts are also considered in further detail within Chapter 16 Open Space Assessment.

- Pine Ridge Golf Course – Temporary impact on 4 holes (holes 1, 4, 5 and 6 plus the Driving Range. Project commitment to narrow working (NW20);
- Cove Cricket Club – The proposed Order Limits will impact on access to Cove Cricket Club as this access is proposed to be utilised during construction, The access passes behind the existing cricket nets. The Order Limits and Limits of Deviation for the pipeline itself do not impact on the cricket club;
- Farnborough Hill School – Order Limits run within the boundary of the school grounds from the south of the school, around the eastern boundary to the north onto Ship Lane. Project commitment to narrow working (NW18);



- Farnborough Gate Recreation Ground – Whole pitch within the Order Limits, needed for trenchless crossing;
- Queen Elizabeth Park – Order limits impact on an equipped children’s play area, car parking area and runs through the southern part of the park;
- Cabrol Road Allotments – Order Limits pass through allotments. However trenchless technique is proposed to ensure that people are not prevented from using the allotments; and
- West Heath Road Open Space – Construction compound proposed in linear park with circular footpath.

12.8.131 There are two long term traffic diversions proposed in Section E: Balmoral Drive and St Catherine’s Road. These diversions are considered to be localised and are not anticipated to contribute to wider disruption within the study area.

12.8.132 Installation of the project in urban areas will be undertaken using a ‘piecemeal’ approach, only affecting a small area at a time. Considering the limited area subject to construction activity at any one time, the short length and duration of the proposed traffic diversion and the mobile and temporary nature of works, the magnitude of change is assessed as small.

12.8.133 Measures that manage noise, vibration and visual impacts and ensure that there are temporary diversions for PRoWs are set out in the REAC (ES Chapter 16 Environmental Management and Mitigation) and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).

12.8.134 Overall, the significance of effect of disruption to communities and people within Section E is minor.

Tourism

12.8.135 There are seven tourism receptors within the Section E study area: Farnborough Travelodge, Premier Inn Farnborough, House of Fisher Equinox Place (Accommodation), The Serviced Apartment Company (SACO) Aparthotel Farnborough, The Ship Inn (Accommodation), The Royal Logistic Corps Museum and Deepcut Lodge Bed and Breakfast.

12.8.136 All of these tourism receptors lie outside of the Order Limits, with most located on the other side of the rail line (through Farnborough) from the Order Limits and therefore are unlikely to experience any visual or traffic effects. The Premier Inn Farnborough and The Ship Inn may potentially be impacted by noise and visual effects as they are close to construction activity. However, the duration of installation works will be short and limited and are not expected to adversely impact visitor numbers.

12.8.137 PRoW crossings will be managed by the measures set out in the REAC (ES Chapter 16 Environmental Management and Mitigation) and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6).



12.8.138 The overall significance of effects from disruption is therefore classed as negligible.

Summary

12.8.139 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section E of the project complies with the requirements of section 5.12 of NPS EN-1 in relation to socio-economics.

Soils and Geology

12.8.140 In accordance with section 2.23 of NPS EN-4, ES Chapter 11 Soils and Geology provides a detailed assessment of the soils and geology impacts of the project. Furthermore, paragraphs 7.4.330 to 7.4.351 of Chapter 7 Planning Assessment: Project-wide provide an overview of any soils and geology impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

12.8.141 The design of the project has been iterative, and the design refinements have resulted in avoiding sensitive features as set out in section 11.4 of ES Chapter 11 Soils and Geology.

Impacts on Soils

12.8.142 The soil associations within Section E, from Farnborough to Bisley and Pirbright Ranges, are mainly acid sandy and loamy soils of variable soil-water regimes, namely SOUTHAMPTON and Holidays Hill. From Crondall to West Bedfont (Sections C to H), the Palaeogene aged strata are present again for a large extent with the Bracklesham Group outcrop comprising the Camberley Formation, Windlesham Formation and the Bagshot Formation (Wittering Formation is absent), observed between Church Crookham and Shepperton (Sections D to H). North of Shepperton (Section H) the bedrock geology comprises Thames Group including the Claygate Member and the London Clay.

12.8.143 There are no minerals sites designated in Section E.

12.8.144 The majority of Section E consists of subgrades 3a (good quality agricultural land) and 3b (moderate quality agricultural land), though there are some small areas of grade 2 land.

12.8.145 In respect of land contamination, there are nine sites in Section E which may potentially be affected by contamination from historical and/or current uses:

- Farnborough (Main) Station – Historical land use (railway sidings) within the Order Limits;
- Farnborough (Main) Station – Historical land use (gas works) within the study area;
- Farnborough (Main) Station – Former Control of Major Accident Hazards (COMAH site within the study area;



- Farnborough (North) Station – Historical land use (gas works) within the study area;
- Farnborough (North) Station – Historical land use (railway sidings) within the Order Limits;
- South of Frimley Station – Historical landfill within the Order Limits;
- Frimley Station – Historical land use (railways sidings) within the study area;
- Johnson Wax Ltd, Frimley – Former COMAH site within the study area; and
- Princess Royal Barracks – Historical land use (military land) within the Order Limits.

12.8.146 ES Chapter 11 Soils and Geology considers that all soils identified within the Order Limits will be affected, such that Agricultural Land Classification grades/subgrades 2 (high value), 3a (medium value), 3b (medium value) and 4 (low value) will be affected.

12.8.147 Good practice measures are set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6). The assessment in ES Chapter 11 Soils and Geology is based on these measures being in place.

12.8.148 ES Chapter 11 Soils and Geology concludes that a minor adverse impact will occur across the range of soil receptors in Section E. This is considered to be a temporary impact because the quality of the soils will recover over the short term, following adherence to the good practice measures as set out in the REAC. As a result, no additional mitigation measures have been identified and there will be no significant residual impacts on soils during construction or operation.

Land Contamination

12.8.149 The potential exists for gas/vapour to pose a risk to construction workers and adjacent land users if not managed appropriately.

12.8.150 ES Chapter 11 Soils and Geology concludes that with good practice measures in place, as set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6) no additional mitigation measures in respect of land contamination have been identified and there will be no significant residual impacts from land contamination during construction or operation.

Impacts on Geology (Including Minerals)

12.8.151 The impacts on geology, including minerals safeguarding, are addressed on a project-wide basis in paragraphs 7.4.218 to 7.4.225 in Chapter 7 Planning Assessment: Project-wide.

Summary

12.8.152 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP



(DCO Requirement 6), Section E of the project complies with the requirements of section 5.3 of NPS EN-1 section 2.23 of NPS EN-4 with respect to soils and geology.

Traffic and Transport

- 12.8.153 In accordance with section 5.13 of NPS EN-1, the project has assessed the traffic and transport Implications of the proposals. ES Appendix 13.1 Traffic and Transport Technical Note sets out the potential traffic and transport impacts of the project and residual effects. The ES has been informed by a separate Transport Assessment submitted as part of the application for development consent (**application document 7.4**). Furthermore, paragraphs 7.4.300 to 7.4.311 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any traffic and transport impacts that the project is likely to have, together with identifying the management that will be implemented to manage these impacts.
- 12.8.154 While there will inevitably be some disruption during construction, good practice measures have been put place to reduce and manage this during construction of the pipeline.
- 12.8.155 Good practice measures include using trenchless techniques for the following road crossings within Section E:
- A325 Farnborough Road; and
 - A331.
- 12.8.156 A trenchless crossing will be used to avoid the A325, which is a major route through Farnborough. A trenchless crossing will also be used to go under the A331, along with the River Blackwater and the Ascot to Guildford and North Downs railway lines. This will reduce impacts on travel for local people.
- 12.8.157 Furthermore, the proposed trenchless crossing parallel to West Heath Road and adjacent to the railway embankment in Farnborough will reduce disruption on Stake Lane and avoid disruption on Prospect Road.
- 12.8.158 All other road crossings within Section E will be undertaken using open cut methods, maintaining access where possible and using diversions where necessary to enable construction works to be completed. All diversion routes have been discussed and agreed with either Hampshire County Council Highways Authority or Surrey County Council Highways Authority. The detailed implementation of good practice measures is secured by Articles in Part 3 of the draft DCO and the Construction Travel Management Plan (CTMP), the implementation of which is secured by DCO Requirement 7.
- 12.8.159 Logistics hubs and construction compounds will also be used to manage construction traffic and delivery of materials and resources. These facilities will allow works to progress smoothly without reliance on peak time deliveries of staff and materials.



- 12.8.160 Based on the indicative work schedule and proposed method of working, the Balmoral Drive diversion route is the only location identified in Section E where there is the potential for significant traffic and transport effects.
- 12.8.161 Because there will be no road users on Balmoral Drive, no-one will benefit from the decrease in traffic flows. To reflect this, for both total traffic and HDVs, the reduction in traffic flows along Balmoral Drive will result in a beneficial impact of negligible significance for five weeks.
- 12.8.162 The increase in traffic flows along the Balmoral Drive diversion route, represents medium magnitude of change on what is a low sensitivity route, and will result in an impact of minor significance for five weeks.
- 12.8.163 No significant effects have been identified from traffic and diversions/traffic management associated with Section E on traffic flows, journey times or collisions and safety.
- 12.8.164 For walking, cycling and equestrians, this will be managed by ensuring that pedestrian access to and from residential, commercial, community and agricultural land uses would be maintained throughout the construction period, including retention of vehicular access to be maintained where practicable which will be secured through DCO Requirement 7.
- 12.8.165 As noted previously in this chapter, the project construction work will cross seven PRoWs and four cycleways within Section E. The level of disturbance to users will be kept to a minimum and all PRoWs and cycleways will be fully reinstated at the end of the construction period. Measures to manage any diversions to cycleways will be as set out in the CEMP (DCO Requirement 6).

Summary

- 12.8.166 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and Construction Traffic Management Plan (DCO Requirement 7), Section E of the project complies with the requirements of section 5.13 of NPS EN-1 with respect to traffic and transport.

Waste Management

- 12.8.167 In accordance with NPS EN-1 section 5.14, the REAC sets out the requirement for a Site Waste Management Plan (SWMP) to be produced prior to construction, as set out in paragraphs 7.4.312 to 7.4.317 of Chapter 7 Planning Assessment: Project-wide. The SWMP will be secured through the DCO requirement for a CEMP (DCO Requirement 6).
- 12.8.168 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section E of the project complies with the requirements of section 5.14 of NPS EN-1 with respect to waste management.

Water Quality and Resources

- 12.8.169 In accordance with section 5.15 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the water quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.318 to 7.4.330) provide a project-wide overview of any water quality impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.
- 12.8.170 This section sets out any specific impacts that have been identified for the project in Section E on:
- existing quality of waters;
 - existing water resources;
 - existing physical characteristics of the water environment; and
 - any impacts on water bodies or protected areas under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) around potable groundwater abstractions.

Water Quality

Groundwater

- 12.8.171 The groundwater environment in Section E is defined as the following:
- Secondary A aquifers (Bracklesham Group) for all of Section E (Groundwater Study Area C (GWSA-C)).
- 12.8.172 The groundwater environment in GWSA-C – the secondary aquifers – is assessed as predominantly medium value.
- 12.8.173 A number of potential effects on groundwater quality in Section E are identified in ES Appendix 8.5 Potential Effects on Groundwater. Minor or negligible groundwater quality impacts have been identified for the following receptors:
- Secondary A aquifers;
 - Cove Brook and Ively Road – Flood Storage Area sub-site;
 - Cove Brook and Ively Road – Golf Course sub-site; and
 - Blackwater Valley Frimley Hatches.
- 12.8.174 Potential impacts have been identified as potentially arising from the dewatering of surface water drainage or intercepted groundwater in open-trenches, the discharge of abstracted groundwater from trenchless crossings or from leaks and spills from plant fuels and oils during the construction phase. It is recognised that a number of the receptors are of medium value and as such, adherence to the measures set out in the REAC and secured through the DCO Requirements, such as the CoCP (DCO Requirement 5) will ensure that the impact on groundwater receptors is negligible. These measures are set out in Table 8.12 of ES Chapter 8 Water.



12.8.175 As set out in ES Chapter 3 Project Description, the pipeline design provides operational integrity through a range of measures (e.g. corrosion protection), and as such, the pollution risks arising from the operation of the pipeline are considered to be negligible. The specific impacts on groundwater quality are set out in ES Appendix 8.5 Potential Effects on Groundwater.

Surface Water

12.8.176 Two of the most important considerations in relation to surface water quality are potential impacts on aquatic ecology and any downstream surface water abstractions. ES Appendix 8.5 provides a summary of watercourse sensitivity from an aquatic ecology perspective.

12.8.177 In Section E, the following surface water courses as identified as medium sensitivity:

- Cove Brook; and
- River Blackwater

12.8.178 Both these surface water courses are proposed to be crossed by trenchless crossing. All other surface watercourses are assessed as being of low sensitivity.

12.8.179 There are no licensed surface water abstractions located downstream (within 5km) of proposed watercourse crossings in Section E.

12.8.180 Where watercourses in Section E are to be crossed by open cut trenching technique, there is the potential for a moderate impact on surface water, through the escape of groundwater containing elevated contaminants. However, given the good practice measures contained within the REAC together with the low sensitivity of these watercourses, no significant effects are forecast. The implementation of the good practice measures in the REAC are secured through DCO Requirements such as the CoCP (DCO Requirement 5).

12.8.181 The assessment has identified that the operational impacts of the project are unlikely to have a significant effect on surface water quality receptors in Section E.

Water Resources

12.8.182 There are no public water supplies in Section E. There are two licensed groundwater abstractions (high value) have been identified within Section E at Camberley Heath Golf Club.

12.8.183 There are no unlicensed Private Water Supplies within GWSA-C.

Physical Characteristics of the Water Environment

12.8.184 In respect of groundwater levels, these are anticipated to be shallowest in the watercourse valleys, particularly for the River Blackwater where the groundwater flood susceptibility map shows there is the potential for groundwater flooding to below ground property in Section E.



12.8.185 The project is assessed as having an impact upon the following Groundwater Dependent Terrestrial Ecosystems in Section E due to changes to groundwater flow direction due to the below ground pipeline:

- Cove Brook and Ively Road (Flood Storage Area sub-site) – minor; and
- Blackwater Valley Frimley Green - negligible

12.8.186 Potential impacts to groundwater flow due to the presence of the pipeline in Section E are largely considered to be negligible as sub-surface flows are not expected to be altered, due to the design of stanks (or 'water stops') at right angles to the pipeline. Stanks are part of the design to prevent the movement of groundwater through the pipe trench and enabling it to continue to reach flora which rely on groundwater in the Section E Groundwater Dependent Terrestrial Ecosystems.

Water Bodies or Protected Areas Under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) Around Potable Groundwater Abstractions

12.8.187 There are two WFD surface water bodies present in Section E:

- Cove Brook – bad status; and
- Blackwater (Aldershot to Cove Brook confluence) – poor status.

12.8.188 Impacts of the project components will be localised and likely to be negligible or low for both WFD water bodies in Section E. As a result, it will be unlikely that the current overall status of each WFD water body will be compromised by the project. The project will also be unlikely to compromise the ability of the WFD water body to achieve Good Overall Potential in the future. As such, the project is assessed as being compliant with the WFD by not having any effects on the two WFD water bodies.

12.8.189 There are no SPZs in Section E.

Summary

12.8.190 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section E of the project complies with the requirements of section 5.15 of NPS EN-1 and section 2.22 of NPS EN-4 with respect to water quality and resources.

12.9 Conclusions on Planning Assessment of Section E

12.9.1 The proposed pipeline route between Farnborough and Bisley and Pirbright Ranges has been the subject of a detailed optioneering and design iteration process to arrive at a proposal which seeks to avoid and then reduce potential temporary and permanent impacts.

12.9.2 Section E passes through a number of nature designations including the Thames Basin Heaths SPA, Thursley, Ash, Pirbright and Chobham SAC, Colony Bog and Bagshot Heath SSSI, and six SINCs. Good practice measures set out in the REAC



and secured through the DCO Requirements as well as stretches where trenchless techniques are to be used will ensure impacts on these designated areas are minor.

- 12.9.3 Section E will however have an impact on the designated area of open space at Queen Elizabeth Country Park in Farnborough, due to the temporary loss of both the children's play area and car park during construction of the project. Construction through the Country Park will also cause visual effects, due mostly to the loss of trees in the park which reduces to a moderate significance of effect in year 1 post construction and a minor significance of effect in year 15 post construction, as the trees mature to provide improved screening.
- 12.9.4 Section E of the route will also result in the temporary impact to areas of open space and recreation, causing an impact to 4 holes at Pine Ridge Golf Course, a minor impact to access (not the playing area) at Cove Cricket Club, the loss of a football pitch at Farnborough Gate Recreation Ground and a small impact to West Heath Road Open Space through the placing of a construction compound in the park. A comprehensive assessment of the impact on the areas of open space together with the identification of specific mitigation commitments is provided in Planning Statement Chapter 16 Open Space.
- 12.9.5 Visual impacts during construction are also identified for users of Church Path public footpath / Farnborough Hill Conservation Area, reducing to moderate significance of effect in year 1 post construction (due to loss of trees revealing views of residential buildings and traffic along Ship Lane), and reducing to minor in year 15 post construction as the trees mature to provide improved screening.
- 12.9.6 Despite the urban location, the Balmoral Drive diversion route is the only location identified in Section E where there is the potential for significant traffic and transport effects on what is a low sensitivity route, but which will result in an impact of minor significance for approximately five weeks.
- 12.9.7 Overall, there will be impacts from the construction of the pipeline in Section E. However, the construction impacts will be temporary and where appropriate, such as for open space and through noise impacts, specific measures are set out in the REAC and will be secured through the DCO Requirements. Once in place and when operational, there will be no impacts from the pipeline on the local residents and open space will be returned to its existing condition. As such, there will be no permanent effects on the wider environment that will outweigh the benefit of the provision of this nationally significant fuel pipeline.



13 Planning Assessment – Section F – Bisley and Pirbright Ranges to M25 motorway

Key points:

- Pipeline route influenced by environmental designations and major existing infrastructure;
- Trenchless construction to cross wetland heath;
- Impact of pipeline and logistics hub on Metropolitan Green Belt;
- Street works impacting on local road network kept to a minimum; and,
- Trenchless techniques used to reduce impact on existing infrastructure and the environment.

13.1 Introduction

- 13.1.1 The route is divided into geographical sections in the application. This chapter provides a planning assessment for Section F of the route, from Bisley and Pirbright Ranges on the A3015 to the M25 adjoining Salesian School, both in Surrey. Sections A to E of the route are covered in Chapters 8 to 12 and Sections G and H of the route are covered in Chapters 14 and 15 respectively.
- 13.1.2 It considers the acceptability of the project against the policies set out in Chapter 6 Planning Policy Context and identifies where matters relevant to specific National Policy Statements (NPS) EN-1 and NPS EN-4 policy headings arise and sets out the measures required to mitigate the identified impacts.
- 13.1.3 This chapter provides further consideration of the NPS policy headings for Section F of the route and is designed to be read as a standalone assessment. Key points from Chapter 7 Planning Assessment: Project-wide may, therefore, be repeated within this section where relevant.
- 13.1.4 This chapter sets out the following for route Section F:
- Section 13.2: Overview of the route section, development proposed and its method of construction;
 - Section 13.3: Overview of Section F refinement;
 - Section 13.4: Identification of relevant Planning Authorities;
 - Section 13.5: Identification of key environmental and planning designations within the Order Limits;
 - Section 13.6: Relevant planning history;



- Section 13.7: Overview of Section F against NPS EN-1 Assessment Principles (using the relevant subject headings from EN-1);
- Section 13.8: Generic Impacts of Section F (NPS EN-1 and NPS EN-4 where stated); and
- Section 13.9: Conclusions on Planning Assessment of Section F.

13.2 Overview of this Section

Route Description

- 13.2.1 Section F (Planning Statement Figure 4.1 Sheets 10-12) crosses both urban and rural areas. It spans Surrey Heath Borough Council and Runnymede Borough Council administrative areas.
- 13.2.2 Section F is approximately 17km (11 miles) long and starts immediately after the B3015, where it enters Ministry of Defence (MoD) land associated with the Bisley and Pirbright Ranges, Colony Bog and Bagshot Heath SSSI. The application route continues north running adjacent to The Maultway (B3015) before turning east to follow Red Road (B311) and across open ground before running alongside Guildford Road for a short distance.
- 13.2.3 The section then crosses Guildford Road, followed by a crossing of the A322 Lightwater Bypass, continuing through Windlemere Suitable Alternative Natural Green Space (SANG). The application route then crosses the Halebourne and then Halebourne Lane.
- 13.2.4 The Section then continues generally northeast, crossing Windlesham Road, before passing through Chobham Common Site of Special Scientific Interest (SSSI) and Foxhills Country Club and Resort to the B386. The section then crosses Longcross Road (B386) and continues north of St Peter's Hospital. It passes under the Guildford Road (A320), through the grounds of Salesian School and under the M25 motorway.

Use of Trenchless Installation Techniques

- 13.2.5 Trenchless installation techniques are proposed to be used for the following crossings:
- TC 021 – A322 Lightwater Bypass: A trenchless crossing will be used to avoid the A322 Lightwater Bypass and reduce impacts on travel in the local area;
 - TC 022 – Halebourne: A trenchless crossing will be used to minimise impacts on the ecology of the watercourse;
 - TC 023 – Windlesham Road: Although this is a minor road, the information relating to buried services which is currently available suggests that crossing the road using open cut techniques may lead to a lengthy road closure. Until trial trenches have been excavated across the road and the identification of the precise pipeline route within the Limits of Deviation is confirmed, the option to cross the road using trenchless techniques has been allowed for in the design of the Order Limits;



- TC 024, 025 & 026 – Chobham Common SSSI: Three trenchless crossings are proposed in Chobham Common to cross areas of wetland;
- TC 027 – Accommodation Road: A trenchless crossing will be used to minimise disruption on this busy road;
- TC 028 – Holloway Hill woods: Trenchless techniques will be used when passing through Holloway Hill woods to reduce the need to cut down mature trees or damage roots. This trenchless crossing will also traverse under the strip of possible ancient woodland along the south verge of Longcross Road (B386) in Foxhills Country Club and Resort;
- TC 029 – Hardwick Lane: A trenchless crossing will be used to minimise disruption on this road as well as crossing under trees which are subject to Tree Preservation Orders; and
- TC 030 – A320 Guildford Road, Salesian School grounds and M25: A single trenchless crossing will be used. This will avoid impacts on the A320, which is a major road into Chertsey and the school. A trenchless crossing of the M25 will ensure that one of the UK's busiest motorways can remain open throughout installation.

Above Ground Infrastructure

- 13.2.6 Above Ground Infrastructure (AGI) in Section F comprises valves as set out under the following heading, together with pipeline makers and flight marker posts as set out in Chapter 4 Project Description.

Valves

- 13.2.7 There are two valves located within Section F:

- Valve 11: Guildford Road (Lightwater); and
- Valve 12: Steep Hill.

- 13.2.8 Further details on the valves are set out in Chapter 4 Project Description.

Construction

- 13.2.9 Details of the construction method, construction schedule and reinstatement are set out in Chapter 4 Project Description.

Crossings

- 13.2.10 The following river and watercourse crossings (WCX) are required:

- Unnamed watercourse 49 (WCX 063) – open cut construction;
- Unnamed watercourse 50 (WCX 064) - open cut construction;
- Unnamed watercourse 51 (WCX 065) - open cut construction;
- Crossing the Halebourne watercourse (WCX 066/TC 022) – trenchless construction;
- Unnamed watercourse 52 (WCX 067) - open cut construction;



- Unnamed watercourse 53 (WCX 068) - open cut construction;
- Unnamed watercourse (WCX 068a) - open cut construction;
- Clappers Brook (WCX 070) - open cut construction;
- Unnamed watercourse 88 (WCX 112) - open cut construction;
- Crossing the headwaters of the Chobham Park Brook by Glovers Pond (WCX 073/ TC 024) - trenchless construction;
- Unnamed watercourse 59 (WCX 076/ TC 026) – trenchless construction;
- Unnamed watercourse 60 (WCX 077/ TC 027) – trenchless construction;
- Unnamed watercourse 62 (WCX 079) - open cut construction;
- Unnamed watercourse (WCX 079a) - open cut construction;
- Unnamed watercourse (WCX 079b) - open cut construction;
- Unnamed watercourse (WCX 115) - open cut construction;
- Unnamed watercourse 63 (WCX 080) - open cut construction;
- Unnamed watercourse 64 (WCX 081) - open cut construction;
- Unnamed watercourse (WCX 081a) - open cut construction;
- Unnamed watercourse 65 (WCX 082) - open cut construction;
- Unnamed watercourse 66 (WCX 083) - open cut construction;
- Unnamed watercourse (WCX 116/ TC 029) – trenchless construction;
- Unnamed watercourse 68 (WCX 085/ TC 029) – trenchless construction; and
- Unnamed Watercourse 69 (WCX 086/ TC 030) – trenchless construction.

13.2.11 The following road crossings and type of construction technique that are required in this section are set out below:

- B3015 The Maultway / Deepcut Bridge Road– open cut construction (RDX 071);
- B311 Red Road – open cut construction (RDX 071a);
- Guildford Road – open cut construction (RDX 071b);
- A322 Lightwater Bypass – trenchless crossing (TC 021/RDX 072);
- Blackstroud Lane East – open cut construction (RDX 072a);
- Blind Lane – open cut construction (RDX 072b);
- Halebourne Lane – open cut construction (RDX 072c);
- Windlesham Road – trenchless crossing (TC 023/RDX 072d));
- Steep Hill – open cut construction (RDX 072e);
- Windsor Road – open cut construction (RDX 072f);
- Longcross estate road – open cut construction (RDX 072g);
- Accommodation Road – trenchless crossing (TC27/RDX 072j);



- Longcross Road – trenchless crossing (TC28/RDX 072h);
- Hardwick Lane – Trenchless crossing (TC 029/RDX 072i); and
- Guildford Road (A320) and M25 – trenchless crossing (TC 029/RDX 073 and MWX 001).

13.2.12 Street works, temporary construction access and Public Rights of Way (PRoW) diversions for Section F are shown on Access and Rights of Way Plan sheets 38 to 47 and Sheets 57, 58, 114 and 115 (**application document 2.5**). The following works are within roads:

- The Maultway (B3015);
- Red Road (B311); and
- Guildford Road.

13.2.13 There are no railway crossings in this section.

Construction Compounds

13.2.14 There are 9 construction compounds along Section F of the pipeline route located at:

- The Maultway (Compound no. 5D);
- Guildford Road (Compound no. 5E);
- Halebourne Lane (Compound no. 5F);
- Windsor Road (Compound no. 5G);
- Four compounds by trenchless crossing points on Chobham Common (Compound nos 5H and 5I);
- Accommodation Road (Compound no. 5J);
- Longcross Road (Compound no. 5K); and
- Guildford Road (A320) (Compound no. 5L).

Logistic Hubs

13.2.15 The logistic hubs will be used as points for accepting deliveries and storage of pipe. From the logistics hubs pipe sections will be transported by HGV directly to the pipe storage areas within the various temporary construction compounds. Each of the hubs will include a pipe laydown area, secure plant storage area, bunded fuel storage, single-storey offices, staff welfare facilities and a vehicle parking area. There is a logistics hub at New Road, Windlesham, on land previously used as a compound for the construction of the M3 Smart Motorway scheme. The land has been restored by the previous occupier to form an agricultural field. The project will reinstate the compound by re-creating the access onto New Road, laying out a new hardstanding area for the storage of the pipe prior to construction, welfare facilities and office accommodation.



13.2.16 Further details regarding the logistic hubs are set out in Chapter 4 Project Description.

Narrow working

13.2.17 There are six areas of narrow working in Section F. This will reduce the width of the open cut trench construction along The Maultway (NW21), Turf Hill (NW22), Chobham common (NW23 and NW24), Longcross Estate (NW25) and Foxhills Country Club and Resort (NW26). This approach involves the contractor(s) using less space than standard working width due to localised constraints, such as working in roads or ecologically sensitive areas.

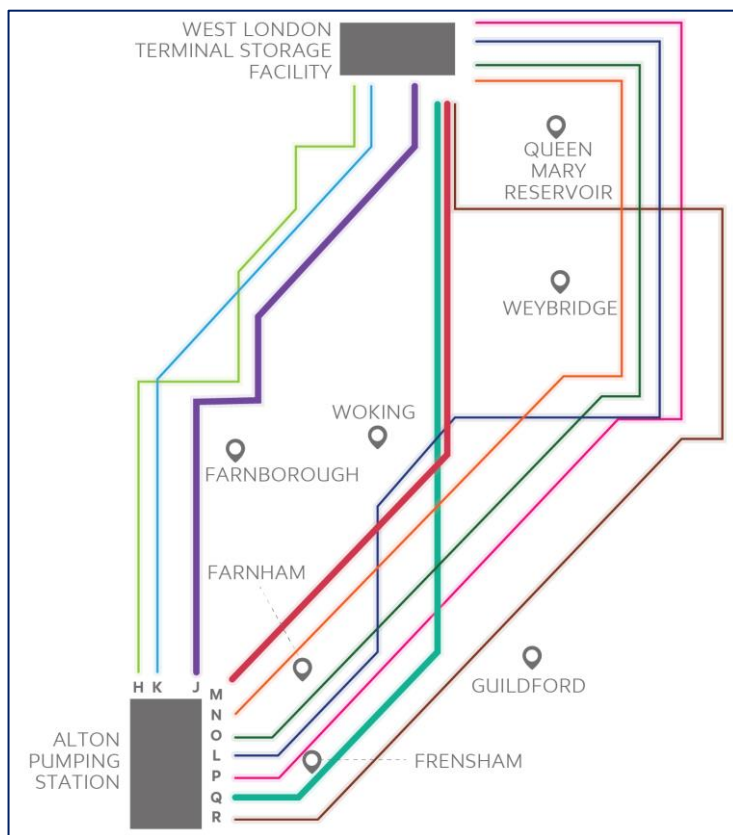
13.3 Overview of Section Refinement

13.3.1 The overall approach to design development and route refinement is set out in Chapter 3 Scheme Development, and in further details in ES Chapter 4 Design Evolution. The following sub-headings outline key considerations relating to corridor selection, sub-option selection and specific design refinements which have influenced the design development of Section F of the route.

Corridor Selection

13.3.2 Chapter 3 of this Planning Statement outlines the evolution of the project. A long list of corridor options for the route of the replacement pipeline were identified and considered. A sifting process was carried out based on environmental, planning and engineering factors. Illustration 13.1 shows the corridor options North of Alton. These corridor options were the subject of non-statutory consultation, supported by the document 'Replacement Pipeline Corridor Consultation: Securing aviation fuel supplies in South East England'.

Illustration 13.1: Longlist Corridor Options – North of Alton



- 13.3.3 Through the design development of the project, a number of corridor options were reduced to a single preferred corridor, within which a route for the replacement pipeline has been identified in Section F.
- 13.3.4 Given the international significance of the Thames Basin Heaths Special Protection Area (TBH SPA) along the routes for Sections D, E and F, and NPS EN-1 relating to its protection (NPS EN-1 5.3.7 to 5.3.8), Corridors N, O, L, P, Q and R as shown in Illustration 13.1, which avoided the SPAs, were considered. However, these corridors were not taken forward because they would result in extensive sections requiring the laying of the pipe in roads, which would be complex and time-consuming to install, would result in a longer pipeline route and would result in greater disruption for local communities. In addition, some of these corridors would not have met key project objectives, such as taking the shortest route and avoiding the floodplain and mineral extraction areas. Corridors H and K did not avoid the TBH SPA but were not taken forward. For Corridor H the environmental constraints were no less than for other routes, therefore there was no benefit in taking this longer route. For corridor K the route passes along a significant length of road (Stonehill Road and Longcross Road) and would impact significantly on local people and businesses as construction in the road would be slow and more disruptive. In addition, as these corridors were away from the existing pipeline, to construct along Corridors H and K would require additional above ground infrastructure, new landowners and would not reduce the complexities for construction or reduce environmental impacts.



- 13.3.5 Of the corridors considered in the north, Corridors J, M and Q were shortlisted, and Corridor J was selected following the preferred corridor consultation. Corridor J passes through the TBH SPA but was favoured over the other two corridors because it avoided passing through the historic town of Farnham, it had less impact on commercial activity and would not lead to significant disruption to residential communities, Additionally, Corridor J would have less interaction with the floodplain and unlike Corridor Q does not re-enter the South Downs National Park and the Surrey Hill Area of Outstanding Natural Beauty.
- 13.3.6 The consideration of these corridor options against national policy for the protection of the SPA is set out in Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.26 to 7.4.45). Following the Corridor Options consultation, Corridor J which goes through the SPA was selected as the preferred corridor. This informed the selection of the preferred route. Details of all consultations undertaken are presented in the Consultation Report (**application document 5.1**).

Sub-option Selection and Design Refinement

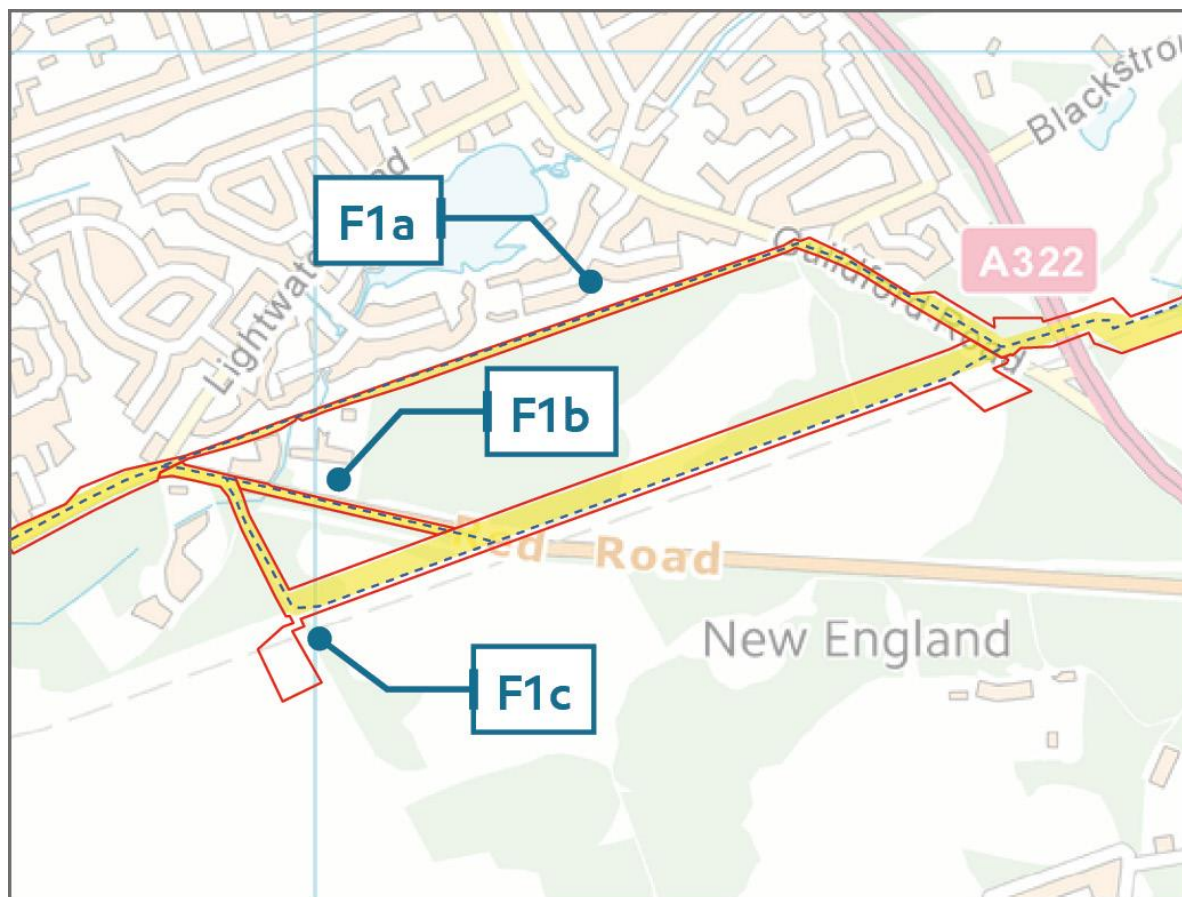
- 13.3.7 Following the announcement of the preferred corridor, the project released an initial working route within that preferred corridor. This formed the basis for the development of the Statutory Consultation in specific locations where the constraints either environmental or engineering challenges identified some sub options. As part of statutory consultation on the preferred route, Sub-Options were considered at four locations in Section F as identified in Table 13.1.

Table 13.1: Sub-options Selected for Section F

Sub-option	Main Reasons for Sub-option Selection
F1a, F1b and F1c Red Road	F1a was combined with F1b following consultation feedback about constraints and duration of the works and to reduce the potential impact on environmental features. F1c was deselected due to environmental and engineering constraints.
F2a and F2b Chobham Common	F2a was selected following consultation feedback which strongly favoured this sub-option crossing through Chobham Common. F1b was deselected due to the need for street works and potential traffic disruption, along with it was not favoured in consultation feedback.
F3a and F3b Silverlands	F3a was selected as it was favoured within consultation responses and site visits with landowners. F3b was deselected because of the potentially significant impacts it could have on local businesses.
F4a and F4b Guildford Road (A320) and M25	F4a was deselected due to engineering constraints of crossing the M25 and therefore F4b was selected with some minor refinements around Guildford Road.

- 13.3.8 Section F is routed through open land where possible, however, in this part of Surrey, the open land is designated for its biodiversity or open space value. The selection of the route has taken account of these designations and sought to balance the competing issues raised. Engagement with landowners and statutory stakeholders, statutory consultation and the development of the environmental assessment work has shaped the routing of the proposed pipeline.
- 13.3.9 Sub-options F1a, F1b and F1c at Red Road are shown in Illustration 13.2. These sub-options were considered in order to identify a route in the area surrounding Red Road.

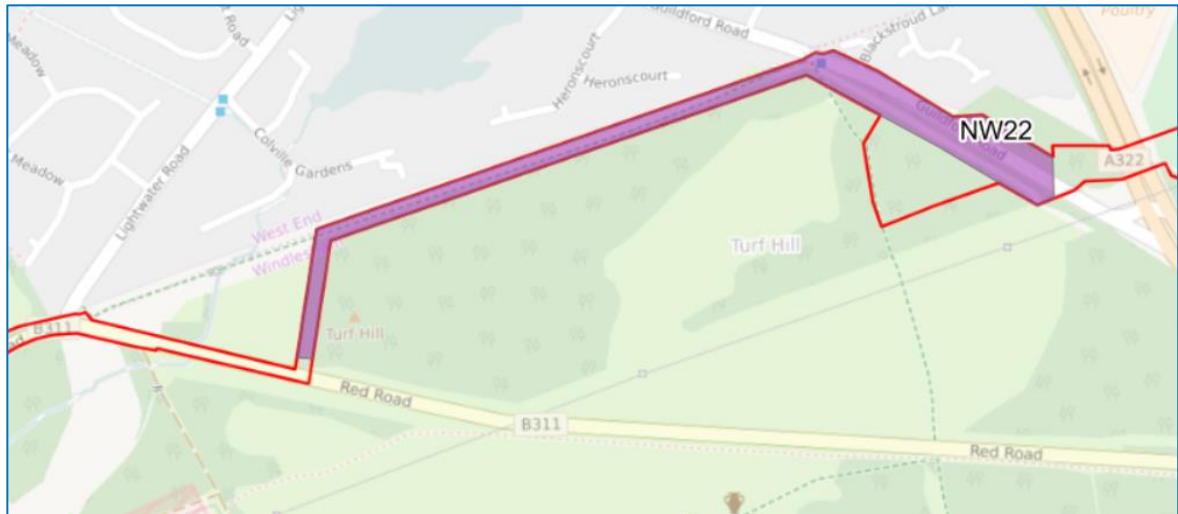
Illustration 13.2: Sub-options F1a, F1b and F1c



th the Ministry of Defence (MoD) at the Pirbright Ranges, it has been agreed to route the proposed pipeline alongside the existing pipeline utilising the track, where possible, that lies adjoining the security fencing for the firing ranges. Sub-option F1a and F1b follows this track alongside The Maultway and Red Road, the route diverts away from the existing pipeline along the northern edge of the ranges because of the presence of wetland heath conditions and sensitive designated biodiversity. At this point, the proposed pipeline will be constructed in Red Road with traffic management in place to allow the road to remain open to traffic during construction.

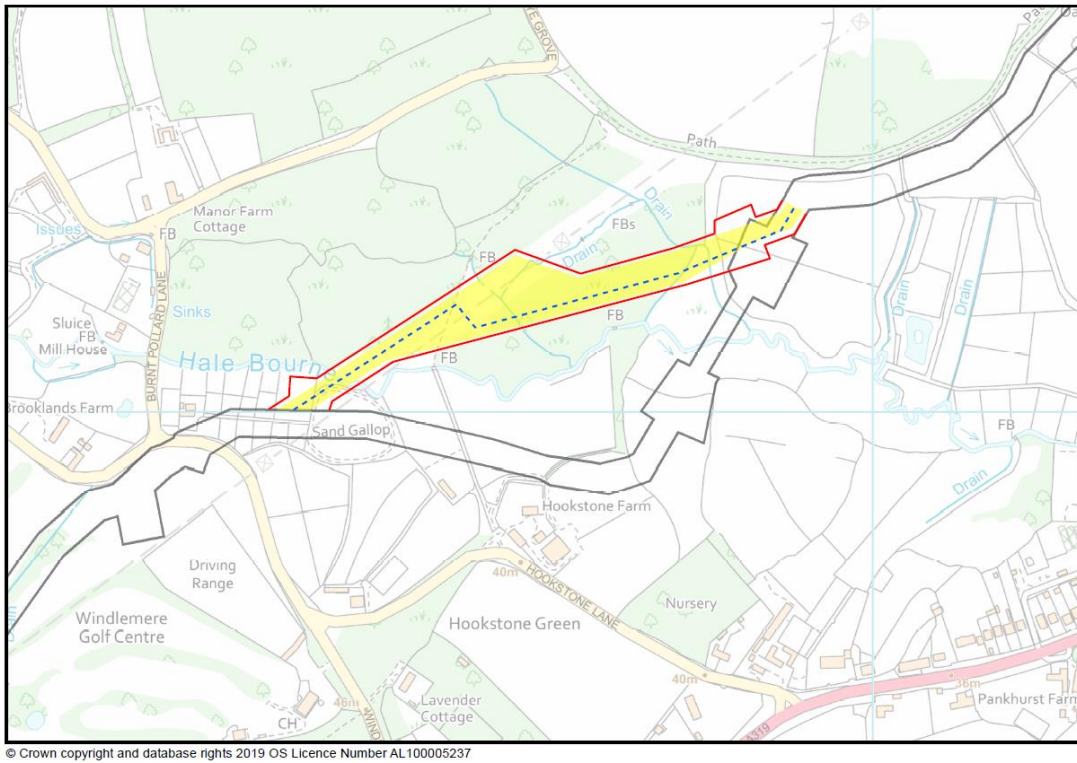
- 13.3.10 To reduce the impact on Red Road further, the Sub-option F1a and F1b then returns to utilise a track along the southern edge of the housing area in Coleville Gardens and Herons Court. This again avoids particularly sensitive protected habitat alongside the existing pipeline. This route refinement is shown in Illustration 13.3 below.

Illustration 13.3: Final option for Red Road



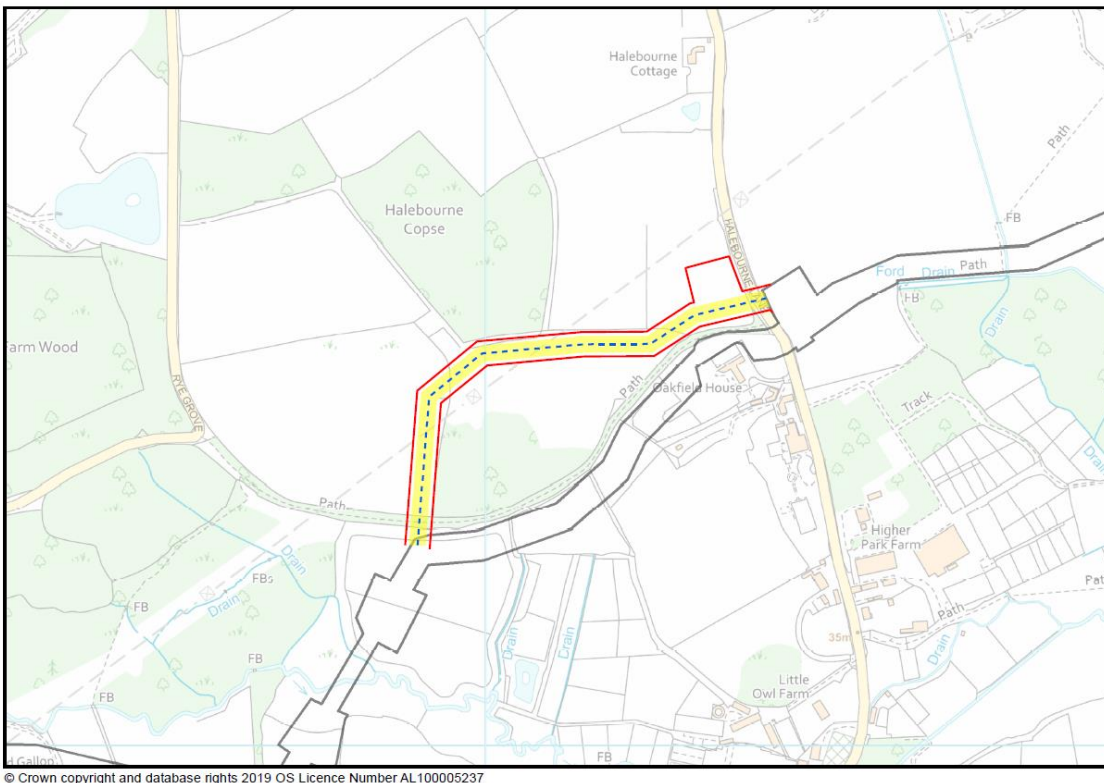
- 13.3.11 The route then crosses Guildford Road and the Lightwater Bypass and then crosses the now closed Windlemere golf course alongside the existing pipeline. The golf course is being turned into a Suitable Alternative Natural Greenspace (SANG) in order to provide natural recreation space and protect the TBH SPA to allow additional houses to be built in the local area.
- 13.3.12 Following engagement with landowners, the application route was revised to pass through open woodland rides created for overhead electricity lines, then through grazing fields to a trenchless crossing point on the Halebourne. This route refinement is shown in Illustration 13.4 below.

Illustration 13.4: Windle Brook (Halebourne) Crossing



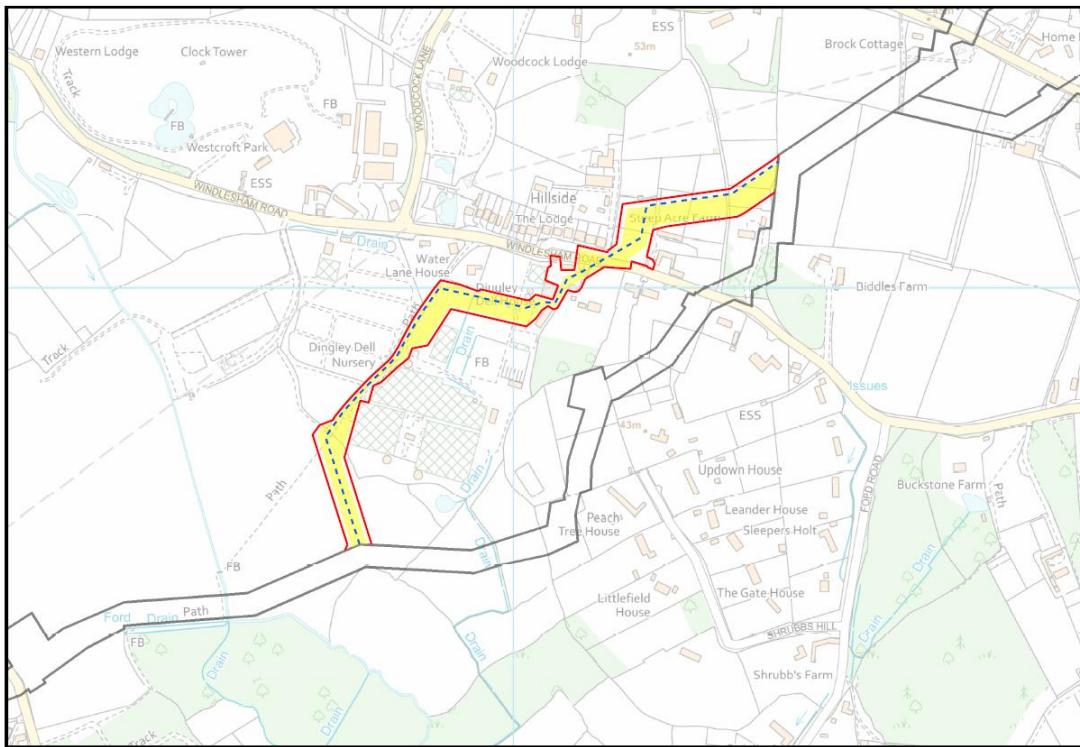
13.3.13 During route refinement the pipeline route was relocated north of Blind lane to avoid a conflict with residential land and a public right of way along Blind Lane. This route refinement is shown in Illustration 13.5 below.

Illustration 13.5: Blind Lane



13.3.14 As a result of consultation with the residents on Windlesham Road, the route was altered to pass through Dingley Dell Nurseries threading between the large glass houses and taking advantage of open areas before crossing Windlesham Road in a trenchless crossing. This is shown in Illustration 13.6 below.

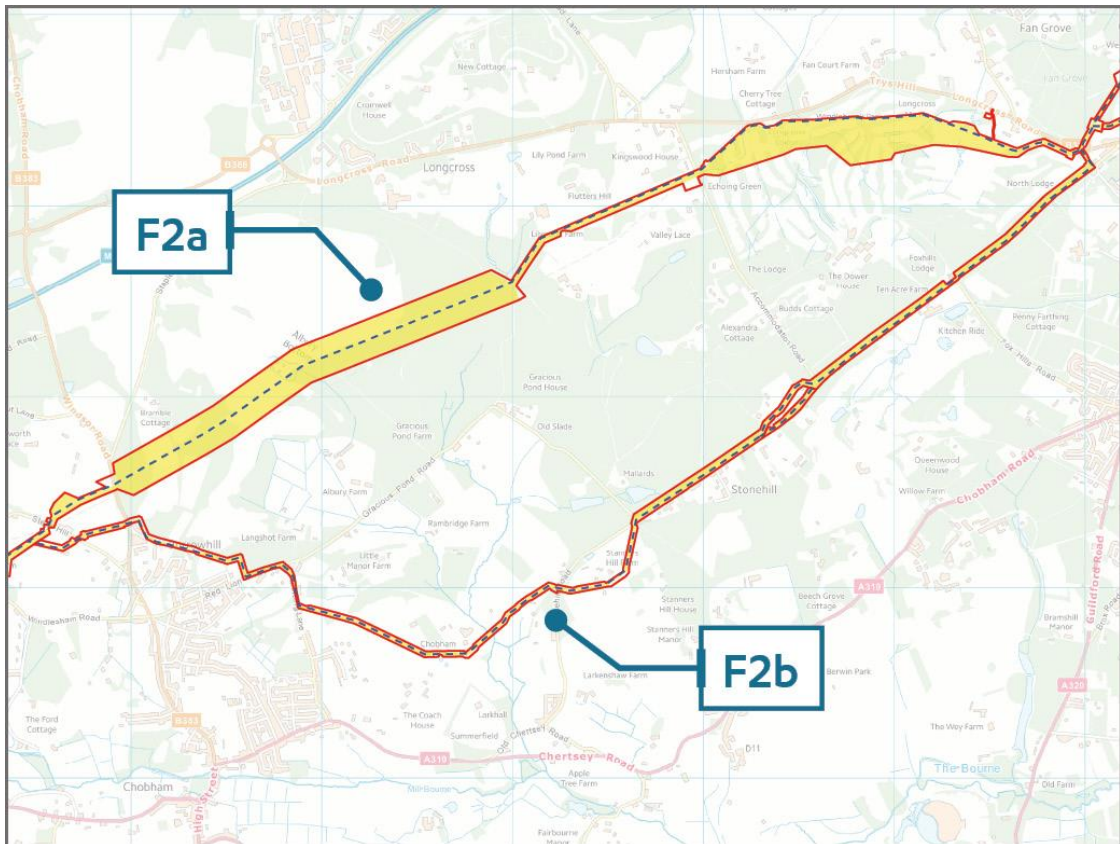
Illustration 13.6: South of Windlesham



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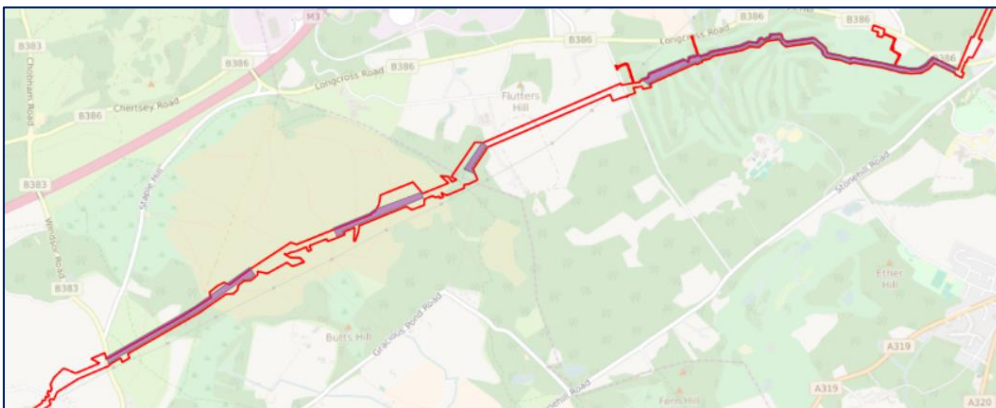
13.3.15 Sub-options F2a and F2b at Chobham Common are shown in Illustration 13.7. These sub-options were considered in order to identify a route in the location of Chobham Common.

Illustration 13.7: Sub-options F2a and F2b



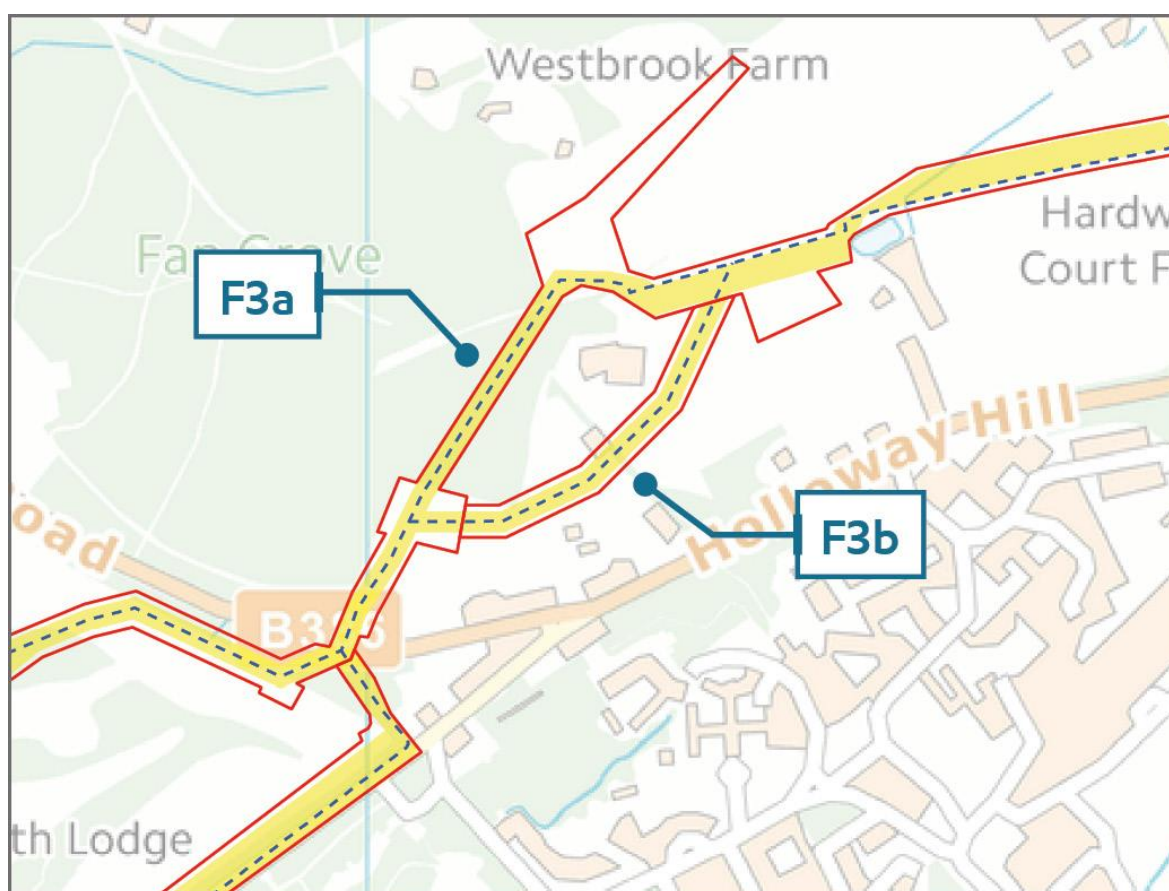
13.3.16 The sub-option selected follows the existing pipeline across Chobham Common, this being sub-option F2a. This route was selected after extensive consultation and engagement with statutory bodies, local residents and interest groups and the landowner of the Common. An alternative route, F2b, along Gracious Pond Road and Stonehill Road was considered and included in the initial statutory consultation. The responses from all parties overwhelmingly supported the route alongside the existing pipeline across Chobham Common. The impact of this route and the proposed mitigation is detailed in the ES and summarised in Section 13.8 of this Chapter. This is shown in Illustration 13.8 below.

Illustration 13.8: Route through Chobham Common



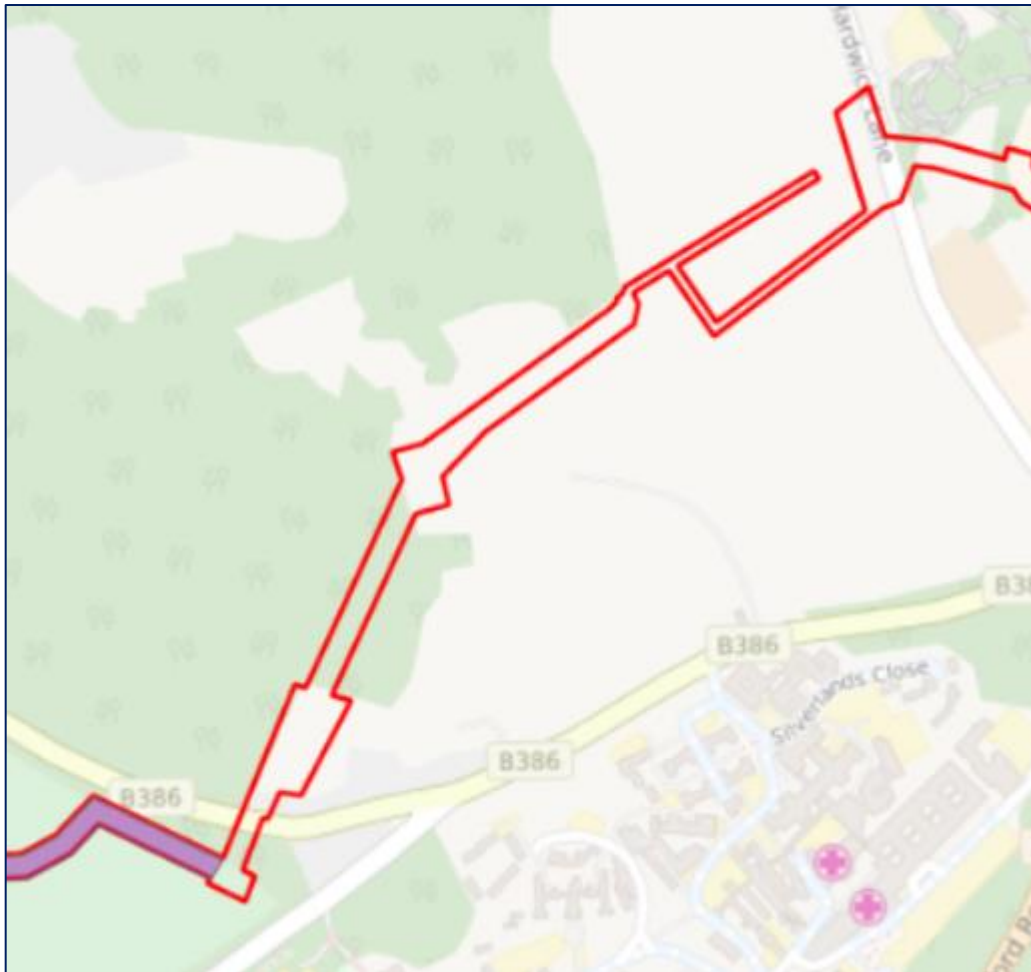
- 13.3.17 Within Sub option F2a, the proposed pipeline route then crosses Foxhills Country Club and Resort, where it will impact on 13 holes across the two 18-hole courses. The golf course is able to continue operating by reconfiguring the course to utilise holes on the other 18-hole golf course. By avoiding construction in Stonehill Road this ensures that access to the country club, spa and gym facilities, which account for the majority of member visits, are unaffected.
- 13.3.18 Sub-options F3a and F3b at Silverlands are shown in Illustration 13.9. These sub-options were considered in order to identify a route in the location around Silverlands Stonemasons.

Illustration 13.9: Sub-options F3a and F3b



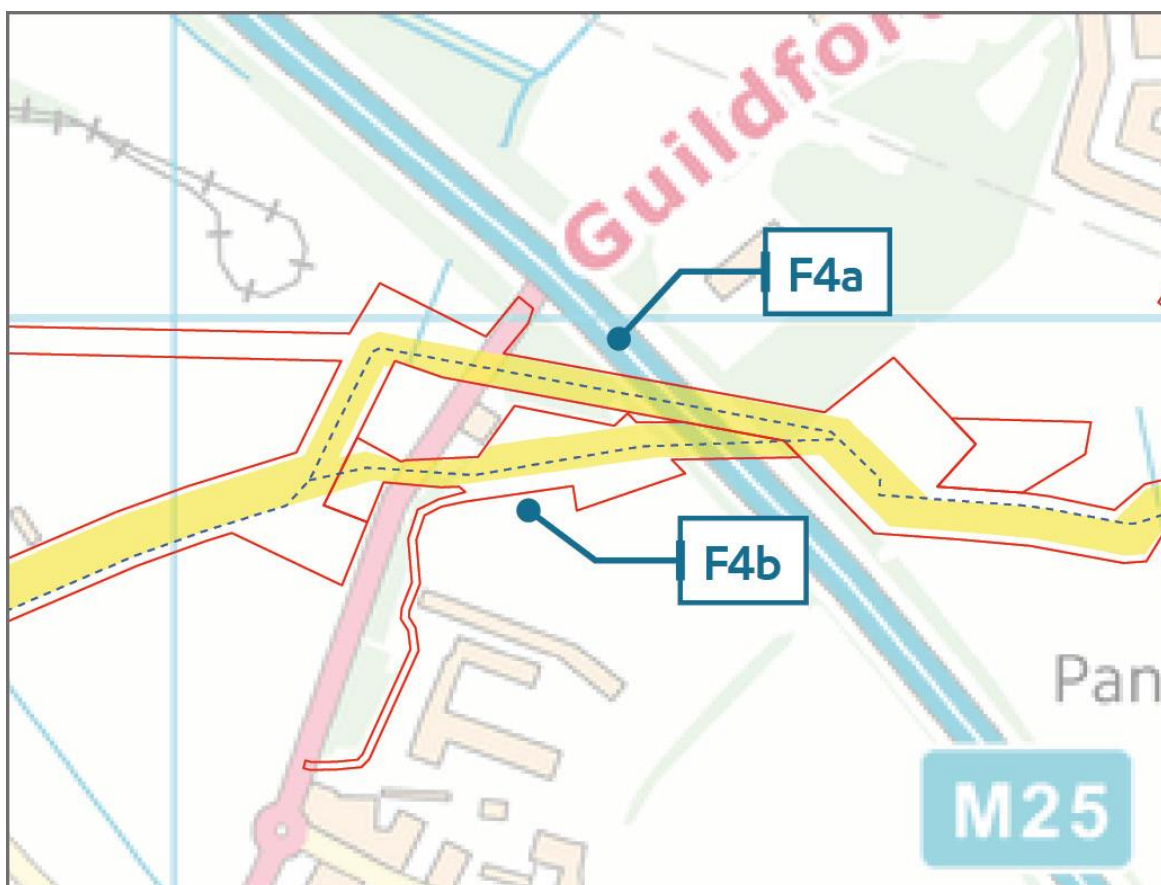
- 13.3.19 The proposed sub-option F3a at Silverlands has been selected following engagement with landowners. This route avoids impacting on the Silverlands Stone business and does not impact on plans to restore Silverlands House, a Grade II listed building on the Buildings at Risk Register. The proposed route passes alongside Ancient woodland and underneath the buffer woodland in a long trenchless crossing. At Hardwick Lane, engagement with the landowner has resulted in the route being refined to accommodate some new agricultural barns and a woodland planted to produce a truffle crop.
- 13.3.20 After engagement with local residents and the identification of an additional site of potential Ancient Woodland (under 2ha), the route was further refined as shown in Illustration 13.10.

Illustration 13.10: Longcross Road and Silverlands.



13.3.21 Sub-options F4a and F4b at Guildford Road/M25 are shown in Illustration 13.11. These sub-options were considered in order to identify a route in the location around the Guildford Road and M25. Sub-option F4b was selected as this accommodates a crossing of the M25 motorway without impacting on the existing motorway structures.

Illustration 13.11: Sub-options F4a and F4b



13.3.22 The proposed pipeline then crosses to the south of the miniature railway towards Salesian School. The field south of the miniature railway is currently subject to a planning permission granted in December 2018 (see 'Relevant Planning History' below) to relocate two of the school's pitches from the east of the M25 motorway as this land is allocated for housing development. The proposal includes a pavilion building. The proposal will impact on the proposed rugby pitch and location of the pavilion. Through engagement with the developers, the refined sub-option F4b will pass through the rugby pitch and the access road to the pavilion. The project will work with the school to program the installation of the pipeline to reduce the impact on the use of these facilities. The pipeline is then in a trenchless crossing under the Guildford Road (A320), the main school grounds and the M25 motorway.

13.4 Relevant Planning Authorities

13.4.1 The relevant Planning Authorities for Section F are:

- Surrey Heath Borough Council;
- Runnymede Borough Council; and
- Surrey County Council (Minerals and Waste Authority and other County Matter development).



13.4.2 Details of the relevant Planning Authorities' adopted and emerging plans together with a list of the policies relevant to the consideration of the project can be found in Chapter 6 Planning Policy Context and will form part of Statements of Common Ground (SoCG) with the relevant planning authorities.

13.5 Key Environmental and Planning Designations Within the Order Limits

13.5.1 The relevant adopted Local Plans for Section F are as follows:

- Surrey Minerals Plan Core Strategy Development Plan Document (2011);
- Surrey Minerals Plan Primary Aggregates Development Plan Document (2011)
- Surrey Waste Plan (2008);
- Surrey Aggregates Recycling Joint Development Plan Document (2013);
- Surrey Heath District Core Strategy and Development Management Policies 2011-2028 (2012) which will be replaced by the emerging Surrey Heath Local Plan to 2032; and,
- Runnymede Local Plan 2001 (2007 Saved Policies) to be replaced by the emerging Runnymede Local Plan 2030.

Surrey Heath Borough Council (SHBC)

13.5.2 The proposed replacement pipeline passes through two particularly environmentally sensitive sites in SHBC, the Pirbright Ranges and Chobham Common. The table below lists the designations present within the Order Limits in each of these locations.

Table 13.2: Environmental Designations in Surrey Heath BC

Pirbright Ranges	Chobham Common
Biological Site of Special Scientific Interest (SSSI)	Biological Site of Special Scientific Interest (SSSI)
Special Area of Conservation	Special Area of Conservation
	National Nature Reserve
Priority Habitat	Priority Habitat
Special Protection Area -Thames Basin Heaths (SPA)	Special Protection Area -Thames Basin Heaths (SPA)
Surrey Heath Wildlife Boundary designation	Surrey Heath Wildlife Boundary designation

13.5.3 The proposed pipeline route has been refined to avoid direct impacts on local wildlife sites and locally designated Sites of Nature Conservation Importance. The Order Limits between Guildford Road and the Lightwater By-pass and between Steep Hill and Windsor Road (B383) pass through the TBH SPA buffer zone identified by Planning Policy CP14 and CP15 in the Surrey Heath Core Strategy and Development Management Policies 2012.



Runnymede Borough Council (BC)

13.5.4 Within Runnymede BC, the proposed pipeline passes through Foxhills Country Club and Resort and the existing and proposed school playing fields at Salesian School are both designated as open space in the Runnymede Local Plan 2001 policy GB5 and Runnymede Submission Local Plan 2030 (emerging Plan) Policy SL25.

13.6 Relevant Planning History Within the Order Limits

13.6.1 Table 13.3 identifies the relevant planning history for planning permissions within Section F Order Limits.

Table 13.3: Relevant Planning History within Section F Order Limits

Local Planning Authority	Key Developments
Surrey Heath	<u>Windlemere Golf Course</u> Planning permission for three properties and the change of use of Windlemere Golf Course to a Suitable Alternative Natural Greenspace (SANG). Planning application reference 16/1207 granted in May 2018. The proposed houses are located to the south of the proposed pipeline route.
Surrey Heath	<u>Chobham Car Spares, Clearmount, Chobham</u> Certificate of Lawful Existing Use for scaffolding repair and storage business – pending decision (18/0705).
Surrey Heath	<u>Barn at Dingley Dell Nurseries</u> Prior approval granted for conversion of the barn to a dwelling house. Decided January 2019 (18/0962).
Surrey Heath	<u>Windlebrook Stables, Blackstroud Lane East, Lightwater</u> Retrospective permission granted for 2 stables and floodlit ménage, December 2018 (18/0644).
Surrey Heath	<u>Kingfishers View, 21 Coleville Gardens, Lightwater,</u> Rear extension approved May 2017 (17/0108).
Runnymede	<u>Salesian School, Guilford Road, Chertsey</u> Replacement pitches for Salesian School as part of a wider housing development on the schools existing pitches on the eastern side of the M25. Planning application reference 18/1279 granted December 2018. The pipeline will cross these pitches.
Runnymede	<u>Hardwick Park</u> Construction of three agricultural barns at Hardwick Park, planning reference 18/1317 granted October 2018. The pipeline route has been refined to minimise the impact on this development.

13.6.2 There are no major proposed developments, in addition to those mentioned above, located within the zone of influence for Section F of this project.

13.7 Assessment Principles (NPS EN-1 Part 4)

13.7.1 This part of the assessment considers the acceptability of Section F of the project against the assessment principles from Part 4 of NPS EN-1, as set out in section 7.3 of Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise relating to Section F that are relevant to Specific NPS EN-1 policy



headings and then sets out the measures required to manage identified impacts associated with the project.

- 13.7.2 Table 13.4: sets out the Assessment Principles that are addressed in Chapter 7 Planning Assessment: Project-wide. Other Assessment Principles are assessed in the subsequent section identifying where the assessment is in this chapter.

Table 13.4: Assessment Principles Compliance

Assessment Principles NPS (EN-1 Part 4)	Chapter 7 Planning Assessment: Project-wide Relevant Paragraphs
<u>Alternatives</u> Section 4.4 requires alternatives to the project to be assessed.	7.3.9 to 7.3.13
<u>Climate Change Adaptation</u> Section 4.8 requires climate change adaptation to be assessed.	7.3.19 to 7.3.24
<u>Pollution Control and Other Environmental Regimes</u> Section 4.10 requires discharges or emissions which affect air quality, water quality, land quality and the marine environment, or which give rise to noise and/or vibration to be assessed.	7.3.25 to 7.3.27
<u>Safety</u> Section 4.11 requires safety of the pipeline to be assessed.	7.3.28 to 7.3.31
<u>Hazardous Substances</u> Section 4.12 requires the management of hazardous substances to be assessed.	7.3.32
<u>Health</u> Section 4.13 requires the possible health and well-being impacts to be assessed.	7.3.33 to 7.3.38
<u>Common Law Nuisance and Statutory Nuisance</u> Section 4.14 requires any common law or statutory nuisances to be mitigated.	7.4.39 to 7.4.40
<u>Security Considerations</u> Section 4.15 requires security considerations to be mitigated.	7.4.41 to 7.4.43

Environmental Statement

- 13.7.3 The requirements set out in paragraphs 4.2.1 to 4.2.11 of NPS EN-1 are met as a comprehensive Environmental Statement (ES) (**application document 6.1-6.4**) covering the entire route (Sections A – H inclusive) accompanies the application for development consent.



- 13.7.4 Section 13.8 of this chapter considers how Section F of the route is in compliance with each of the generic topics in NPS EN-1 (which also broadly aligns with the technical chapters of the ES).

Habitat and Species Regulations

- 13.7.5 Section F of the project transects the TBH SPA and the Thursley Ash, Pirbright and Chobham Special Area of Conservation (TAP&C SAC). Chapter 7 Planning Assessment (paragraphs 7.4.26 to 7.4.46) includes the assessment of compliance with the NPSs in relation to the impact of the project on European Designated (Natura 2000) sites. In order for the pipeline to reach the West London Terminal Storage facility it is necessary to cross both the TBH SPA and TAP&C SAC in this section of the project.
- 13.7.6 A Habitats Regulation Assessment (HRA) (**application document 6.5**) has considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in combination effects.
- 13.7.7 Based on the information presented within the HRA report it is considered that there will be no adverse effects on the integrity of either designated site and as such an assessment beyond Stage 2 Appropriate Assessment has not been carried out.

Good Design

- 13.7.8 In accordance with NPS EN-1 section 4.5, the design of the pipeline in Section F will be as set out in paragraphs 7.3.14 to 7.3.18 Chapter 7 – Planning Assessment: Project-wide.
- 13.7.9 The majority of the pipeline within Section F will be below ground once complete, apart from above ground infrastructure which will comprise of two valve compounds and waymarkers. There are no cathodic cabinets in Section F.
- 13.7.10 The design of the pipeline follows the industry standards adopted by the applicant. The techniques for construction of the pipeline balance the desire to install quickly and efficiently with the need to avoid unnecessary disruption and environmental harm. The open trench construction is the most common technique used. Trenchless construction techniques will be used in locations such as passing underneath existing features such as major roads, railways and main rivers. In environmentally sensitive locations such as wetland heaths and ancient woodland, trenchless construction is also proposed to reduce the potential impact on these irreplaceable environments.
- 13.7.11 The route design of the pipeline project in Section F has taken careful account of the sensitive biodiversity and use of the Pirbright Ranges and balanced this with the impact of street works on The Maultway and Red Road, which are part of a busy commuter route. The route refinement seeks to utilise a track (PROW 126a) which is used to inspect the security fence and by recreational walkers. This reduces the need to remove vegetation, reduces the environmental impacts by



utilising disturbed ground, ensures that the pipeline when installed can be accessed for inspection and maintenance without impacting on the use of the firing ranges. There are two short sections of the Order Limits and Limits of Deviation that impact on The Maultway and Red Road. Short sections of street working in these roads are necessary, as the space between the security fence and The Maultway is narrow and alternative routes options to avoid working in Red Road will result in significant adverse environmental impact due to the presence of protected species and their habitats. The temporary inconvenience for road users and recreational walkers is considered to have less impact for this section.

- 13.7.12 The proposed replacement pipeline crosses Chobham Common, which was selected after extensive engagement and consultation with all interested parties. The project initially proposed a route to the south of Chobham Common along Stonehill Road as an alternative to the route alongside the existing pipeline. This was guided by the policy context in the NPS EN-1 and EN-4, which advises pipeline projects to avoid the most sensitive environmental designated areas. However, with sensitive construction, including trenchless construction underneath the wetland heath areas, and providing habitat improvement for ground nesting birds along the easement for the pipeline, the route across the Common offers the best option for the replacement pipeline.
- 13.7.13 The presence of Ancient Woodland and protected species also influenced the construction techniques and route design. A trenchless crossing of Accommodation Road has been extended in order to reduce the impact on the trees for the 7th hole on the Longcross course.
- 13.7.14 The proposed pipeline crosses Longcross Road in a trenchless crossing which continues underneath the woodland to the north. While the woodland is not ancient woodland it falls within the 15m buffer for the adjoining Ancient Woodland and in order to minimise the impact of construction on the woodland a long directional drill is proposed. The alignment has been further refined to avoid a landowner's truffle crop and agricultural barns.
- 13.7.15 At Salesian School, the proposed pipeline is in a long trenchless crossing to include the school grounds and the M25. An access track is included in the Order Limits to allow for any issues during construction under the school grounds. The route avoids the existing artificial turf pitches and passes under informal open space (this is open space used for casual recreational purposes such as sitting) within the school campus, this careful alignment reduces the potential to impact on the operation of the school.

13.8 Generic Impacts (NPS EN-1 Part 5 and NPS EN-4 Gas and Oil Pipelines)

- 13.8.1 This part of the assessment considers the acceptability of Section F of the SLP project against the generic impacts from Part 5 of NPS EN-1 and the specific impacts from gas and oil pipelines specified in NPS EN-4 as set out in section 7.4 in Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise in relation to Section F of the project that are relevant to specific



NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with Section F of the project.

Air Quality and Emissions

- 13.8.2 In accordance with section 5.2 of NPS EN-1, the ES Chapter 13 People and Communities and ES Appendix 13.2 Air Quality Technical Note provides a detailed assessment of the significance of the air quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide paragraphs 7.4.3 to 7.4.8 provide a project-wide overview of any impacts that the project is likely to have on air quality, together with identifying good practice measures set out in the Register of Environmental Actions and Commitments (REAC) and secured through the DCO requirements such as the CoCP in Requirement 5 and the contractor's CEMP secured in Requirement 6.
- 13.8.3 In Section F, the Surrey Heath District Council AQMA is within 350m of the Order Limits – this has been declared due to predicted exceedances of the annual mean nitrogen dioxide (NO₂) and 24-hour mean PM₁₀. In addition, the Order Limits pass through the Runnymede Borough Council AQMA along the M25 – this has been declared due to predicted exceedances of the annual mean NO₂ and 24-hour mean PM₁₀ AQOs. The maximum annual mean concentrations for nitrogen oxides (NO_x), nitrogen dioxides (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) for the grid squares within 400m of the proposed route in Section F are all below the respective national Air Quality Objectives.
- 13.8.4 On the basis of the proposed maximum number of daily heavy-duty vehicles and light duty vehicles associated with construction traffic controlled by good practice measures, the air quality effects from temporary construction traffic, including diversions, on human and ecological receptors in rural and urban areas are unlikely to have significant effects on the environment. Therefore, the proposals will not lead to a deterioration in air quality.

Summary

- 13.8.5 With respect to Section F, Chapter 13 People and Communities concludes that there will be no significant impacts on air quality and emissions during construction or operation, and therefore the project complies with the requirements of section 5.2 of NPS EN-1.

Biodiversity and Geological Conservation

- 13.8.6 In accordance with paragraphs 5.3.3 and 5.3.4 of NPS EN-1 and section 2.21 of NPS EN-4 ES Chapter 7 Biodiversity sets out the effects of the project, during both construction and operation, on international, national and locally designated sites, protected species and habitats, and other species identified as being of principal importance for the conservation of biodiversity.
- 13.8.7 Paragraphs 7.4.9 and 7.4.63 of Chapter 7 Planning Assessment: Project-wide provides a project-wide assessment of the identified biodiversity and geology impact of the project as a whole against the biodiversity and geology NPS policy tests in Chapter 6 Planning Policy Context.



13.8.8 This section specifically considers the biodiversity and geology impacts of the project within Section F of the project.

International and National Designated Sites

13.8.9 Section F of the project transects the internationally designated sites of TBH SPA and the TAP&C SAC. Chapter 7 Planning Assessment: Project-wide includes the assessment of compliance with the NPSs in relation to the impact of the project on European Designated (Natura 2000) sites. In order for the pipeline to reach the West London Terminal Storage facility it is necessary to cross both the TBH SPA and TAP&C SAC in this section of the project.

13.8.10 A Habitats Regulation Assessment has considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in combination effects.

13.8.11 Based on the information presented within the HRA report it is considered that there will be no adverse effects on the integrity of either designated site and as such an assessment beyond Stage 2 Appropriate Assessment has not been carried out.

13.8.12 As highlighted in paragraph 7.4.14 of Chapter 7 Planning Assessment: Project-wide, the project has been designed to avoid and reduce impacts on all designated sites as far as practicable. Table 13.6 identifies the internationally and nationally designated sites within 1km of the Order Limits of Section F, which have been assessed in the ES as all being of high value/sensitivity.

Table 13.6: Nationally Designated Sites within Section F

Statutory Nationally Designated Site		Qualifying feature	Approximate Distance and Location Relative to the Scheme
Site of Special Scientific Interest	Colony Bog and Bagshot Heath	Complex of mire, wet and dry heath and neutral grassland. Folly Bog is a component of the SSSI which supports bog and wet heathland habitats. A component SSSI of the Thames Basin Heaths SPA and Thursley, Ash, Pirbright and Chobham SAC. Notified features of the SSSI also comprise heathland bird species and vascular plants.	Within Order Limits
Site of Special Scientific Interest	Chobham Common	Largest surviving heathland complex in the Thames Basin with nationally important breeding populations of nightjar, woodlark and Dartford warbler. Rich bryophyte and lichen flora and an important site for invertebrates. A component SSSI of the Thames Basin Heath SPA and Thursley, Ash, Pirbright	Within Order Limits



Statutory Nationally Designated Site		Qualifying feature	Approximate Distance and Location Relative to the Scheme
		and Chobham SAC. Also a NNR (see above).	
National Nature Reserve	Chobham Common	See SSSI description above	Within Order Limits
Local Nature Reserve	Brentmoor Heath	Wet and dry heath habitats, with areas of woodland, acid grassland and ponds. Component of Colony Bog and Bagshot Heath SSSI, Thames Basin Heaths SPA and Thursley, Ash, Pirbright and Chobham SAC	190m south of Section F

13.8.13 The route within Section F crosses extensive areas of semi-natural habitat within the Colony Bog and Bagshot Heath SSSI and Chobham Common SSSI/NNR. These sites support extensive areas of Lowland Heathland Priority Habitat, including the Annex I habitats ‘European dry heaths’ and ‘Northern Atlantic wet heaths with *Erica tetralix*’, and smaller areas of Lowland Dry Acid Grassland and Lowland Fens Priority Habitats. The latter Priority Habitat includes the Annex I habitat ‘Depressions on peat substrates of the *Rhynchosporion*’.

13.8.14 Based on the information presented within the HRA report it is considered that there will be no adverse effects on the integrity of either designated site and as such an assessment beyond Stage 2 Appropriate Assessment has not been carried out.

Locally Designated Sites

13.8.15 Table 13.7 identifies the number of locally designated sites within 1km of the Order Limits of Section F, which have been assessed by the ES as being of medium value/sensitivity.

Table 13.7: Locally Designated Sites in Section F

Designation Type	Local Authority	Within Order Limits	Within 100m	Within 1km
SNCI	Surrey Heath	1	7	17
	Runnymede	0	1	4
Road Verge of Ecological Importance	Surrey Heath	0	0	1

13.8.16 As identified in Table 13.7, there is one SNCI that is located within the Order Limits:

- Monk’s Walk North & West (including M3 Exchange Land).

13.8.17 It has been identified that non-statutory designated SNCIs will be crossed by the proposed Order Limits and so will potentially be directly affected by construction activity. In Section F, the Order Limits pass through Monk’s Walk North & West



SNCI and passes within a few meters of White Hill SNCI, The Folly SNCI, Halebourne Copse and Fields SNCI, Chobham Place Woods SNCI and Chobham Place Grasslands SNCI.

- 13.8.18 Monk's Walk SNCI is designated for its wet woodland, heath and wetland. The potential loss of habitat will be reduced through embedded mitigation in the form of reducing the working width to 15m over a distance of 250m. To further reduce the potential impact, the Order Limits have been aligned to follow an existing track which is approximately 4m wide.
- 13.8.19 In order to reduce the impact on locally designated sites, embedded and best practice mitigation as outlined in Section 7.4 and Section 7.5 of the ES Chapter 7 Biodiversity, are secured through the CoCP in Requirement 5 of the DCO.

Protected Species

- 13.8.20 Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the Landscape and Ecological Management Plan (LEMP) secured in Requirement 12.
- 13.8.21 The contractor(s) will comply with relevant protected species legislation including with regards to badgers, bats, dormice, otters, water voles, sand lizards, great crested newts and Schedule 1 birds. Appropriate licences will be obtained where necessary from Natural England for all works affecting protected species as identified by the ES and through pre-construction surveys.

Badgers

- 13.8.22 The effects on badgers are not considered in the ES ("scoped out") following the Planning Inspectorate's Scoping Opinion response. Effects on badgers were scoped out on the basis of their conservation status and the population in the local area. As such, construction works likely to impact badgers or a sett in current use will be subject to mitigation and secured under a licence granted by Natural England.
- 13.8.23 The results of the badger surveys have nonetheless directly influenced the alignment of the Order Limits, with several changes being implemented to avoid direct impacts to main setts.

Bats

- 13.8.24 A desk study was undertaken as part of the ES in order to value habitat potentially used by commuting and foraging bats.
- 13.8.25 The ES determines that due to the species composition of bats recorded within the study area of Section F and the potential for roosts to be present within the Order Limits, all bats are valued as high.
- 13.8.26 Section F is heavily treed and likely to support a significant bat population. However, there is a lack of data to confirm the precise location of bats. Licences will be required before any works take place to trees likely to host bat roosts or feeding areas. Pre-construction surveys will be completed if the existing baseline



survey data needs to be updated or supplemented this is secured within in the CoCP secured by Requirement 5 of the DCO.

- 13.8.27 Where possible, the alignment of the Order Limits and limits of deviation have been selected to reduce the loss of trees with bat roost potential and increase the distance between construction areas and trees.
- 13.8.28 Good practice measures set out in the REAC will be secured through the DCO requirements such as the LEMP secured in Requirement 12.

Birds

- 13.8.29 The Thames Basin Heaths SPA and associated SSSI: Bourley and Long Valley SSSI, Colony Bog and Bagshot Heath SSSI, and Chobham Common SSSI/NNR are all important for a variety of bird species.
- 13.8.30 Outside of designated sites, it is considered that the overwhelming majority of breeding birds using habitats within or adjacent to the Order Limits will be common and widespread. These bird species could be present in almost all habitats within the Order Limits. In general terms, the most important habitats for breeding birds are considered to be hedgerows, woodland, scrub and rough grassland, although breeding birds will also be found in arable land and grazed pasture.
- 13.8.31 Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Dormouse

- 13.8.32 Dormice are common in Surrey and are considered likely to be present within all suitable habitats (i.e. woodland, scrub and hedgerows) with well-established connectivity to the wider landscape. As such, it has been assumed that dormice are currently present in all suitable habitats where the results of the data search confirm the historic presence of dormice at these locations.
- 13.8.33 Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Fish

- 13.8.34 Within Section F, the River Halebourne has been identified as having high sensitivity for fish species. Trenchless crossing techniques will be used to cross underneath the River Halebourne and so fish species in this watercourse will not be adversely affected by the project.
- 13.8.35 Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Great Crested Newt



13.8.36 Desk study and field results confirmed the presence of great crested newt (GCN) within 250m of the Order Limits in Section F at the following locations:

- Windlemere Golf Course and Foxhills Country Club and Resort.

13.8.37 The GCN populations identified within the 250m buffer of the Order Limits likely represent a small proportion of the overall GCN populations in Surrey where GCN has recently been recorded in most 10km squares. As such, GCN are afforded a medium value.

13.8.38 Appropriate licences will be obtained where necessary from Natural England for all works affecting GCN as identified by the ES and through pre-construction surveys. All relevant works will be undertaken in accordance with the relevant mitigation requirements and conditions set out in those licences.

13.8.39 Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Otter and Water Vole

13.8.40 Otters have the potential to use any watercourse. No suitable habitat for otter and/or water vole has been identified within Section F that will be affected by the project. Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Reptiles

13.8.41 The distribution of rare reptiles (i.e. sand lizard (*Lacerta agilis*)) within the study area is restricted to a small number of well-studied heathland sites in Surrey. The Order Limits encompass suitable sand lizard habitat at Chobham Common SSSI/NNR. The route also passes through the Turf Hill unit of Colony Bog and Bagshot Heath SSSI although the habitats within the Order Limits are unsuitable for this species as they are dominated by plantation Scots pine.

13.8.42 At various locations along the route, the Order Limits encompass suitable reptile habitat of other British reptiles such as rough grassland, woodland rides and heathland. This data and the results of the desk study formed the basis for the selection of sites for further assessment.

13.8.43 Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Habitats of Principal Importance for Biodiversity Conservation

13.8.44 The project Order Limits intersect with the following Priority Habitats in Section F:

- Purple Moor-grass and Rush Pastures;

13.8.45 Purple Moor-grass and Rush Pasture Priority Habitat at Foxhills Country Club and Resort is over 100m south of the Order Limits and the trench into which the



pipeline will be installed is likely to be above the water table through this site. No dewatering will likely be required at this location and so no effect is predicted.

- 13.8.46 Elsewhere within Section F, semi-natural habitats are fragmented, and the Order Limits largely comprise modified or artificial habitats.
- 13.8.47 Vegetation clearance and ground works will result in the temporary loss of Priority Habitats where they are present in the Order Limits. Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Ancient Woodland and Veteran Trees

- 13.8.48 There are no Ancient Woodland inventory sites (i.e. area of Ancient Woodland of at least 2ha) within the Order Limits of Section F. However, there are two Ancient Woodland Inventory sites within 50m of the Order Limits in Section F, totalling approximately 2.6ha (see ES Figure 7.3). There are an additional three areas of woodland, within 50m of the Order Limits, and one within the Order Limits, which have been identified as potential Ancient Woodland sites less than 2 ha.
- 13.8.49 The ES indicates in paragraph 7.5.556 that no vegetation clearance or groundworks in Ancient Woodland Inventory sites is required. As such, there is no potential pathway to effect and no Ancient Woodland Inventory sites will be affected by the project.
- 13.8.50 However, additional potential Ancient Woodland habitats under 2 ha, which have been identified by desk study will be directly impacted. Within Section F there is a site of potential Ancient Woodland of less than 2 ha adjoining the Order Limits as the pipeline crosses Foxhills Country Club and Resort. The pipeline alignment has been refined to avoid these small areas of potential Ancient Woodland. Although the Order Limits pass close to the potential ancient woodland, in this case the pipeline is laid within a golf course where the seed store in the soil has already been disturbed and the land use will remain unaltered after construction. Therefore, there is no significant impact on this woodland.
- 13.8.51 The proposed order limits within Section F are located in close proximity to ancient woodland will require all works in these areas be subject to good practice with respect to the protection of retained trees.
- 13.8.52 Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the Landscape and Ecological Management Plan (DCO Requirement 12).

Hedgerows

- 13.8.53 Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5, Hedgerows and Trees secured in Requirement 8 and the LEMP secured in Requirement 12.



Summary

- 13.8.54 Through the route design and embedded mitigation, and the good practice measures to be secured through the DCO Requirements, Section F of the project avoids significant harm to biodiversity and geological conservation and therefore complies with the requirements of section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4.

Civil and Military Aviation and Defence Interests

- 13.8.55 There are no civil or military aviation interests within the route along Section F of the project. The proposed pipeline will run close to the boundary of the Pirbright firing ranges operated by the Ministry of Defence (MoD) for training purposes. However, the construction of the pipeline will not impact on the operation of these ranges. The route along Red Road passes through land owned by the MoD, but this land is not actively used for training or for any other specific military activity. Red Road is a public highway and it is used by both military and civilian personnel.

Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation

- 13.8.56 In accordance with section 5.6 of NPS EN-1 and ES Chapter 13 People and Communities provides a detailed air quality assessment of the project, during both construction and operation.
- 13.8.57 Paragraphs 7.4.71 to 7.4.93 of Chapter 7 Planning Assessment: Project-wide provide an overview of any dust or artificial light impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. As paragraph 7.4.72 of Chapter 7 Planning Assessment: Project-wide states, there will be no odour, smoke, steam or insect infestation issues resulting from the project. The specific impacts arising from dust and artificial light emissions within Section F are considered below.

Dust

- 13.8.58 In respect of dust emissions, the possible receptors in Section F which may be affected are assessed as human receptors residing or working within 350m of the construction site and ecological receptors within 50m with the distances identified in Table 13.8 of this Chapter. Human receptors in Section F include several community and recreation/amenity facilities, including users of Public Rights of Way (PRoWs). Ecological receptors in Section F comprise the TBH SPA, Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI).



Table 13.8: Human and Ecological Receptors in Proximity to Section F

	Human Receptors						Ecological Receptors
	Demolition, Earthworks and Construction (Distance to Construction Boundary)				Trackout (Distance from Roads up to 200m from the Site Entrance)		Dust Soiling (Distance to Construction Boundary)
	<20m	<50m	<100m	<350m	<20m	<50m	<20m
Section F	38	217	648	3166	10-100	10-100	High
New Road Windlesham Logistics Hub	0	0	0	26	0	1-10	No ecological receptors present

- 13.8.59 In respect to potential dust emissions, the magnitude of dust emissions in Section F is presented in Table 1.7 of ES Appendix 13.2 Air Quality Technical Note, whilst an assessment of the sensitivity of the areas around Section F for human and ecological receptors is presented in Table 1.8 and Table 1.9 respectively of ES Appendix 13.2 Air Quality Technical Note.
- 13.8.60 The ES (Appendix 13.2, Table 1.10) has assessed the risk to human health and ecological receptors from dust emissions arising at each of the three construction stages (earthworks, construction and trackout) in Section F ranges from negligible to medium. The risk of dust soiling during the construction stages ranges from a low risk for the trackout phase to a medium risk for the earthworks phase.
- 13.8.61 The dust risk arising from the logistics hub in Section F is assessed as negligible to human health and it is not applicable to ecological receptors as there are not any such receptors within 50m from the site access points.
- 13.8.62 Despite the dust emission risk being judged as being negligible to low, good practice mitigation will be incorporated in order to control all effects of dust, not just medium to high risks, as set out in paragraphs 7.4.73 to 7.4.83 of Chapter 7 Planning Assessment: Project-wide.
- 13.8.63 Good practice measures such as, the preparation and compliance with a Dust Management Plan, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the contractor’s CEMP secured in Requirement 6.

Artificial Light

- 13.8.64 Temporary artificial light will be provided in Section F in the construction and operation phases.
- 13.8.65 During the construction phase, in addition to temporary site working area lighting, it is proposed to provide temporary lighting at the 11 construction compounds and the logistic hub located in Section F.



- 13.8.66 All lighting will be set up to avoid nuisance as far as is practicable so will be low-level and directional to avoid glare into residential properties. Good practice measures such as, the location and direction of lighting, are set out in the REAC and will be secured through the DCO Requirements such as the COCP secured in Requirement 5 and the contractor's CEMP secured in Requirement 6.

Summary

- 13.8.67 Through the good practice measures to be secured through the DCO Requirements, Section F of the project therefore complies with the requirements of section 5.6 of NPS EN-1 in relation to dust and artificial light.

Flood Risk

- 13.8.68 In accordance with section 5.7 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the flood impacts of the project, including a Flood Risk Assessment (FRA) for the project (**application document 7.3**).
- 13.8.69 Paragraphs 7.4.94 to 7.4.125 of Chapter 7 Planning Assessment: Project-wide provide an overview of any impacts that the project is likely to have on flood risk, together with identifying the mitigation that will be implemented to manage these impacts.
- 13.8.70 Only one of the construction compounds is in Flood Zone 2 this is Compound 5L on Guildford Road (Salesian School) with the remaining 10 construction compound locations in Section F are within Flood Zone 1. The logistics hub is located within Flood Zone 2.

Fluvial Flooding

- 13.8.71 In Section F, the FRA identifies twenty-six locations where the pipeline crosses a surface watercourse including three main rivers (Hale Bourne; Clappers Brook; and, an unnamed watercourse 57).
- 13.8.72 Three unnamed watercourses, Clappers Brook and the Hale Bourne flow through Flood Zone 3.
- 13.8.73 An assessment of the likelihood, severity and risk of flooding to and from all fluvial watercourses from the construction and operation of the pipeline is provided at FRA Appendix A. Within Flood Zone 3 trenchless crossings are proposed for unnamed watercourse 68 (crossing reference WCX 085) and the Hale Bourne (crossing reference WCX 066). With this type of construction, the severity of impact has been assessed as Very Low and subsequently the risk has been assessed as Low with no further mitigation proposed. The remaining unnamed watercourse crossing are open cut, the severity of impact with mitigation is Very Low and the risk is Low.
- 13.8.74 A range of mitigation measures have been incorporated to ensure that the project does not exacerbate flood risk in the locations which are identified as medium or high risk. These include specific mitigation measures which are listed in the FRA (**application document 7.3**). The implementation of these mitigation measures



will reduce the overall risk to and from the project where it crosses the floodplain from a medium or high risk down to a low risk. Good practice measures such as, controlling the storage of top soil within the flood plains, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.

- 13.8.75 During construction, the logistics hub and construction compound 5L are located within Flood Zone 2. An assessment of the impact of the logistic hub on flooding, identified the main source of flood risk is arising from surface water rather than from Fluvial flood risk. Compound 5L has been assessed and the main source of flood risk is fluvial, with mitigation measures the severity is reduced to Very Low and the risk is Very Low. Good practice measures set out in the REAC will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the contractor's CEMP secured in Requirement 6.
- 13.8.76 During the operation stage, the pipeline will be an underground structure, with the exception of two valve compounds above ground but not located within Flood Zone 2 or 3. Therefore, there will not be any significant impacts in terms of flood risk. Good practice measures such as, the design of fencing to reduce the impedance of flood waters, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.
- 13.8.77 The project has to cross the River Thames Floodplain in order to reach the West London Terminal storage facility, therefore the sequential test cannot be passed. The exception test has therefore been applied and the FRA Appendix A 'Sequential and Exception Test Reports' demonstrates that the exception test is passed for the project. This approach complies with NPS EN-1 paragraph 5.7.13 which states that 'If there is no reasonable available site in Flood Zones 1 or 2 or Zones A & B, then nationally significant energy infrastructure can be located in Flood Zone 3 or Zone C subject to the Exception Test'.

Surface Water

- 13.8.78 There are seven locations in Section F which are within identified surface water overland flow paths, these are set out in Table 8.1 of ES Chapter 8 Water.
- 13.8.79 An assessment of the potential flood risk and mitigation for the New Road Windlesham logistics hub and the construction compounds along the pipe which fall within flood zone 2 can be found in the FRA Appendix D. The source of the potential flood risk for the New Road, Windlesham logistics hub has been identified as surface water flood risk only. Mitigation measures proposed include the siting of office and welfare facilities above the flood level, and flood risk response actions and use of permeable surfacing.
- 13.8.80 A range of mitigation measures has been incorporated so that the project does not exacerbate flood risk in this location. These include specific measures which are listed in the FRA and ES Chapter 8 Water. The implementation of these mitigation measures will reduce the overall risk assessed as Low to Very Low. Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.



Groundwater

- 13.8.81 The FRA states that shallow groundwater could be expected from Bagshot Heath to the east of Chobham Common where the route runs through areas susceptible to flooding at the surface or to below ground property.
- 13.8.82 A range of mitigation measures has been incorporated so that the project does not exacerbate flood risk in this location. These include specific measures which are listed in the FRA and ES Chapter 8 Water. The implementation of these mitigation measures will reduce the overall risk assessed as Very Low during construction and operation. Where required, water stops or 'stanks' will be installed at intervals through the pipe bedding and side fill in order to intercept groundwater flowing along the pipeline bedding material and prevent the creation of new groundwater flow paths during the operational phase. Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.

Reservoir

- 13.8.83 In terms of reservoir flood risk, there is an unidentified potential source to the East of Lightwater (Hale Borne valley). The FRA states that the risk is significantly lower for this unidentified source compared to the West London reservoirs. However, a range of good practice and mitigation measures has been incorporated so that the project does not exacerbate flood risk in this location, such as construction workers undergoing training to increase their awareness of flood risk response actions. There are set out in the REAC, and will be secured through DCO requirements such as the CoCP secured in Requirement 5 and the contractor's CEMP secured in Requirement 6.

Water Infrastructure

- 13.8.84 Paragraphs 7.4.124 of Chapter 7 Planning Assessment: Project-wide provide an overview of any impacts that the project is likely to have on flood risk and water infrastructure, together with identifying the mitigation that will be implemented to manage these impacts.

Summary

- 13.8.85 Through the good practice measures set out in the REAC and specific mitigation identified in the FRA, secured DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section F of the project complies with the requirements of section 5.7 of NPS EN-1 and section 2.22 of NPS EN-4 in relation to flood risk.

Historic Environment

- 13.8.86 In accordance with section 5.8 of NPS EN-1, ES Chapter 9 Historic Environment provides a detailed description of the significance of the heritage assets affected by the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.126 to 7.4.149) provides a project-wide overview of any impacts that the project is likely to have upon the historic environment, together with good



practice measures that will be implemented to manage these impacts. Those related to Section F are identified below.

- 13.8.87 The route in Section F has been selected to reduce the impact on the historic environment by avoiding, where practicable, designated heritage assets in accordance with paragraph 5.8.12 of NPS EN-1. Some impacts on the historic environment may still occur as a result of construction activity, including upon as yet unidentified archaeological assets.
- 13.8.88 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.1) identifies those heritage assets where major or moderate adverse impacts have been identified to result from construction of the project, prior to the application of good practice measures. Assets in Section F where major or moderate impacts are identified within the ES are set out in Table 13.9.

Table 13.9: Heritage Assets with a Major or Moderate Adverse Effects Before Mitigation in Section F

Asset Number	Asset Name	Within Order Limits	Value	Significance of Effect of Project on Heritage Asset (without good practice measures)	Significance of Effect of Project on Heritage Asset (with good practice measures)
828	Steep Acre Farm	Yes	Medium	Moderate Adverse	Negligible
HLT98	Chobham Common	Yes	Medium	Moderate Adverse	Minor Adverse

- 13.8.89 As Table 13.9 identifies, ES Chapter 9 Historic Environment concludes that there will be no significant (major or moderate) residual impacts on heritage assets in Section F, following the application of good practice measures.
- 13.8.90 As set out in Table 15.9, ES Chapter 9 Historic Environment concludes that the significance of most construction effects in Section F, following the application of good practice measures are reduced to negligible. There is, however, one asset where the ES assessment identifies that minor adverse effects will still remain, following application of good practice measures:
 - Chobham Common – This heritage asset lies within the Order Limits.
- 13.8.91 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.2) identifies heritage assets where although significant effects are not identified, there may be minor adverse or negligible residual effect upon a heritage asset.
- 13.8.92 Although some residual effects are therefore identified to occur, these are assessed to be either negligible or short-term minor adverse effects upon the setting of heritage assets, or at worst minor adverse effects from physical impacts on the heritage assets themselves. With regard to paragraph 5.8.15 of NPS EN-1, as the residual effects are, at worst, minor adverse, there will be no substantial harm to heritage assets, nor will there will be any total loss of heritage assets, as a result of Section F of the project. Any harmful impact on the significance of heritage assets relating to the identified residual minor adverse effects is outweighed by the public benefit of the project, as set out in detail in Chapter 2 Statement of Need.



Summary

13.8.93 Good practice measures such as, an Archaeological Mitigation Strategy (AMS), are set out in the REAC, and will be secured through the DCO requirements. Through the good practice measures to be secured through the CoCP and AMS, the implementation of which is secured by DCO Requirements 5 and 11, Section F of the project complies with the requirements of section 5.8 of NPS EN-1 in relation to heritage assets.

Landscape and Visual

13.8.94 In accordance with section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 10 Landscape and Visual accompanying the application for Development Consent provides a detailed assessment of the landscape and visual impacts of the project. Furthermore, paragraphs 7.4.150 to 7.4.196 of Chapter 7 Planning Assessment: Project-wide provides an overview of any landscape or visual impacts that the project is likely to have, together with identifying the design measures that have sought to avoid or reduce potential impacts both through the alignment of the pipeline corridor and the use of the design measures outlined in Table 10.13 of ES Chapter 10 Landscape and Visual.

13.8.95 Landscape or visual impacts arising from construction and operation of the project in Section F are identified below.

Construction Impacts

Landscape character

13.8.96 Potential impacts on national landscape character areas and the Surrey Landscape Character Assessment for Section F are summarised in Table 13.10. Impacts during construction and post construction in years 1 and 15 are identified.

Table 13.10: Summary of Potential Impacts on Landscape Character – Section F

National Character Area	Construction	Year 1	Year 15
	Significance of Effect	Significance of Effect	Significance of Effect
129: Thames Basin Heaths	Moderate	Moderate	Minor

13.8.97 The ES Chapter 10 Landscape and Visual concludes that in year 1 post construction, the line of the route will be evident from the contrast in colour between the existing and the seeded grass across reinstated areas of pasture and grassland within all character areas, caused by disturbance during construction and establishment of re-seeded areas. However, this will be short term and not significant. Impacts will be localised and will not affect the overall landscape character.

Landscape Designations

13.8.98 Potential impacts on landscape designations identified in the ES Chapter 10 Landscape and Visual in Section F are summarised below.



Thames Basin Heaths National Character Area

- 13.8.99 In this National Character Area, the key characteristic of the landscape is tree cover. The project has the potential to result in the removal of a considerable amount of woodland, within Section F there are three main areas of woodland impacted the Pirbright Ranges; and, woodland to the east and west of Chobham Common. In these locations the project has committed to narrow working NW21, NW22, NW23 and NW25 as detailed in the CoCP and secured through Requirement 5 of the DCO. There are no local landscape designations in Section F.
- 13.8.100 There is potential for loss of notable tree groups/woodland through the west and north of the Pirbright Ranges and south of Lightwater at Turf Hill. There will be some loss of trees across Chobham Common (including some notable tree groups/woodland). However, this will not be entirely inappropriate because the installation of the pipeline offers an opportunity to remove some naturally regenerated trees and allow for the restoration of lowland heath through the regeneration of heathland species once the dense canopy has been removed. This will improve the character of the heathland landscape.
- 13.8.101 For trenchless crossings TC021, TC028, T029 and TC030, vegetation will be retained. Good practice measures are set out in the REAC, and will be secured through the DCO requirements such as the Hedgerow and Trees in Requirement 8 and the LEMP in Requirement 12.
- 13.8.102 Working widths will be reduced in specific locations where trees or hedges are present. Where notable trees will be retained within or immediately adjacent to the Order Limits, the trees and their root protection areas (RPAs) will be protected where they extend within the Order Limits and are at risk. This will be achieved through the installation of fencing or other measures.. This will reduce loss of trees and woodland including notable and TPO trees. In particular, tree loss will be reduced east of Chobham Common and will be secured through the DCO requirements such as Hedgerow and Trees in Requirement 8 and the LEMP in Requirement 12.
- 13.8.103 Construction activity will largely be short term, will often be set within the context of public highways or urban areas, and will be visually contained by the well treed character of the landscape. Temporary construction compounds will be close to, or set within the context of, public highways and/or a largely urban environment and have been sited to reduce impacts on trees. Temporary logistics hubs have also been sited to reduce impacts on trees and will utilise sites within the Thames Basin Heaths NCA that have previously been cleared for other development uses (refer to Chapter 3 Project Description).
- 13.8.104 Construction activity has the potential to cause disruption to the landscape within recreational areas, such as Foxhills Country Club and Resort and Chobham Common where it will be at odds with the less urban and more undeveloped character. This activity has the potential to have a large impact on the landscape and adversely affect the landscape character along the route, even when taking into account the good practice measures identified in Table 10.13 of the ES Chapter 10 Landscape and Visual. Tree loss will cause impacts of medium



duration before reinstatement planting will be established. During construction and in year 1 post construction, the potential magnitude of impact will be large, and the significance of effect on Thames Basin Heaths NCA will be moderate.

- 13.8.105 Where lost trees cannot be avoided and replaced in situ because of restrictions to planting trees over and around the pipeline, there will be less scope to accommodate replanting of trees within the wider area due to other environmental constraints. While reinstatement planting may not be possible in some localised areas, natural regeneration of vegetation will establish to restore the overall landscape character. However, it will not be possible to fully mitigate the permanent loss of TPO trees or to replace mature vegetation and notable trees within 15 years. In year 15 post construction, the potential magnitude of impact will be small, and the significance of effect on the local landscape character will be minor.

Ancient Woodland and Tree Preservation Orders (TPOs)

- 13.8.106 There is no classified ancient woodland impacted directly within the Order Limits of Section F.

- 13.8.107 Potential Ancient Woodland (undesigned) has been identified within the Order Limits in the following locations:

- Foxhills Country Club and Resort. Trenchless crossing techniques will be used (TC028) to avoid impact on the potential Ancient Woodland; and
- Silverlands, west of Addlestone and south of B386. Trenchless crossing techniques will be used (TC028) and, therefore, the landscape impact on this Potential Ancient Woodland (undesigned) will largely be avoided as vegetation will be retained except where emergency access is required to trenchless equipment or ecological works have been proposed.

- 13.8.108 There are four TPOs within the Order Limits in Section F:

- A block of woodland on land at and adjoining 'Rosedene', Blackstoud Lane West, Lightwater, the Order Limits clip the edge of this block of woodland. With the measures to retain trees and vegetation where practicable included in the REAC and secured through the DCO requirements such as the CoCP (DCO Requirement 5) and the hedgerows and trees Requirement 8 and the LEMP in DCO Requirement 12, impacts on the woodland will be managed.
- Linear woodland features at Westcroft Park Farm, Chobham, the Order Limits cross two linear tree features. With the measures to retain trees and vegetation where practicable included in the REAC and secured through the DCO requirements such as the CoCP (DCO Requirement 5) and the hedgerows and trees Requirement 8 and the LEMP in DCO Requirement 12, impacts on the woodland will be managed.
- Linear woodland features along Accommodation Road which form part of a larger TPO covering woodland areas fronting Longcross Road, Kitsmead Lane, Holloway Hill, Accommodation Road and Stonehill Road, the Order Limits cross the two strips of woodland either side of Accommodation Road and at Longcross Road at these locations the installation of the replacement pipeline



will be by trenchless construction to remove the impact on these trees. (TC027 and TC028). With the measures to retain trees and vegetation where practicable included in the REAC and secured through the DCO requirements such as the CoCP (DCO Requirement 5) and the hedgerows and trees Requirement 8 and the LEMP in DCO Requirement 12, impacts on the woodland will be managed.

- A small linear woodland on land at Hardwick Court Farm, Hardwick Lane, Chertsey, the Order Limits cross this area of linear woodland. At this point the installation of the replacement pipeline uses a trenchless construction to remove the impact on these protected trees (TC029). With the measures to retain trees and vegetation where practicable included in the REAC and secured through the DCO requirements such as the CoCP (DCO Requirement 5) and the hedgerows and trees Requirement 8 and the LEMP in Requirement 12 of the DCO, impacts on the woodland will be managed.

13.8.109 Powers will be secured under Schedule 1 to the DCO to construct the pipeline within the Limits of Deviation, including trenchless crossings or narrow working as required. Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the LEMP (DCO Requirement 12).

Registered Common Land and Open Access Land

13.8.110 This section does not address the issue of acquisition of land rights for Special Category Land, which is addressed in Chapter 17 Special Category Land.

13.8.111 The Order Limits run through approximately 2.3km of Chobham Common and three areas of Open access land, namely: along The Maultway (B3015); along Red Road (B311), southeast of Lightwater and at Turf Hill; and, Chobham Common.

13.8.112 There will be short-term disruption to a localised part of Chobham Common during construction, caused by the presence of construction vehicles, temporary fencing, stockpiled soils, laydown areas and construction compounds. While temporary, these features will be uncharacteristic and at odds with the undeveloped character of the Common. While loss of trees across Chobham Common will add to the overall extent of tree loss, the Common comprises a mosaic of woodland and open heathland. Therefore, while the loss of trees will cause a change in views, it will not adversely affect the overall landscape character of the common land.

13.8.113 As set out in Table 13.9 below during construction, the potential magnitude of landscape impact on Chobham Common will be small and the significance of the effect will be minor. The effects on the landscape caused by vegetation lost during construction will remain evident post construction up to 15 years, but the overall landscape character of the Common land will not be adversely affected. Post construction, the potential magnitude of impact and significance of effect will be negligible at year 15 post-construction.

13.8.114 A localised part of the southern end of open access land along The Maultway (B3015) falls within the Order Limits. This comprises an open layby off The



Maultway which appears to be used as informal car parking alongside the highway. Trees extend northwards to the east of The Maultway. Construction activity will be set within the context of the public highway and will not cause significant effects. There will potentially be loss of a localised area of trees within the open access land, but this will not affect the character of the open access land. Landscape impacts will be negligible at all assessment timeframes as set out in Table 13.9 below.

13.8.115 The strip of open access land along Red Road B311 comprises trees and scrub immediately south of Red Road and north of West End Common. Construction activity will be set within the context of the public highway and will not cause significant effects. Loss of trees within this area will not change the overall character of the open access land which is heavily influenced by Red Road. Landscape impacts will be negligible at all assessment timeframes.

13.8.116 North of Red Road B311, open access land at Turf Hill comprises a mosaic of woodland and heathland. There will be some short-term disruption during construction caused by the presence of construction vehicles, temporary fencing and stockpiled soils. However, these features will be temporary and set within the context of the urban edge of Lightwater, which features pylons and overhead wires and the public highway to the north. Tree loss will add to the overall extent of the loss. However, it will not be out of character because the Common comprises a mosaic of woodland and open heathland.

13.8.117 During construction, the potential magnitude of landscape impact on open access land at Turf Hill will be small and the significance of effect will be minor. The effects on the landscape caused by vegetation loss during construction will remain evident post construction, but the overall landscape character of the Common land will not be adversely affected. Post construction, the potential magnitude of impact and significance of effect will be negligible.

Table 13.9: Summary of Potential Impacts on Designation or Features – Section F

Designation or Feature	Construction	Year 1	Year 15
	Significance of Effect	Significance of Effect	Significance of Effect
Common land: Chobham Common	Minor	Negligible	Negligible
Open access land along the Maultway (B3015) and along Red Road (B311)	Negligible	Negligible	Negligible

Country Parks

13.8.118 Lightwater Country Park is situated over 500m north of the Order Limits. The Park is approximately 60 hectares of heathland, woodland, ponds and scrub. It is a promoted visitor site with car parking, café, playground, sports facilities, fishing and PRoWs. A promoted lookout point (Representative Viewpoint 47) is located within the western part of the park. Given the distance of the Park to the Order Limits it will not be physically affected by the project or affect views from the Park; this is due to intervening tree cover within and to the southwest of the Park, along with the extent of the urban area of Lightwater. Table 13.10 shows the impact of the significance of effects on country parks.



Table 13.10: Summary of Potential Impacts on Designation or Features – Section F

Designation or Feature	Construction	Year 1	Year 15
	Significance of Effect	Significance of Effect	Significance of Effect
Lightwater Country Park	Negligible	Negligible	Negligible

Visual Effects

- 13.8.119 The potential visual effects from the representative viewpoints along Section F are set out in ES Chapter 10 Landscape and Visual Appendix 10.3 and summarised in paragraph 10.5.133 in ES Chapter 10 Landscape and Visual.
- 13.8.120 The ES Chapter 10 Landscape and Visual concludes that there will be a number of representative viewpoints in Section F where the significance of the effect will be moderate, however, in all of these cases the effect is reduced to minor post construction in year 1 and the effect for all representative viewpoints will be negligible by year 15.

Operational Impacts

- 13.8.121 The ES Chapter 10 Landscape and Visual concludes that landscape and visual effects arising from pipeline operation in year 15 will be localised and not significant, when reinstatement planting outlined in Table 10.14 of ES Chapter 10 Landscape and Visual will be established. This is because the pipeline will be underground and above ground features including the proposed valves and pipeline markers will be small in scale. The details of planting will be secured through the LEMP, the implementation of which is secured by DCO Requirement 12.

Summary

- 13.8.122 With respect to Section F, taking into account assessment of compliance with the NPSs, the project complies with the requirements of section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4. Good practice measures such as, tree protection measures, replanting and maintenance, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP in Requirement 5, the hedgerows and trees Requirement 8 and the LEMP in Requirement 12.

Land Use Including Open Spaces, Green Infrastructure and Green Belt

- 13.8.123 In accordance with section 5.10 of NPS EN-1, ES Chapter 12 Land Use provides an assessment of the land use impacts of the project. Furthermore, Planning Assessment: Project-wide (paragraphs 7.4.196 to 7.4.212) provides a project-wide overview of any land use impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

Green Belt

- 13.8.124 Section F of the project is within the Metropolitan Green Belt.



- 13.8.125 Within Section F the following works and activities are proposed to be located within the Green Belt:
- the underground pipeline (permanent);
 - 1 valve (valve 12) (permanent);
 - pipeline markers (permanent);
 - pipeline flight markers (permanent);
 - 11 Construction Compounds (temporary);
 - construction activity such as fencing, storage of topsoil and machinery (temporary); and
 - a logistics hub at New Road, Windlesham (temporary).
- 13.8.126 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.226 to 7.4.273) also includes the assessment of compliance with the NPSs in relation to the impact of the project on the Green Belt. In order for the pipeline to reach the West London Terminal storage facility it is necessary to cross the Metropolitan Green Belt.
- 13.8.127 The installation of the replacement pipeline together with the associated construction activity will constitute inappropriate development in the Green Belt impacting on the openness of the Green Belt. However, very special circumstances exist that outweighs the protection afforded to the Green Belt, the potential harm to the Green Belt and any other harm from the proposal. As such, the project accords with relevant NPS policy on development in the Green Belt as set out in paragraphs 5.10.10 to 5.10.12 and paragraph 5.10.17, along with relevant Green Belt policy in the NPS.

Open Spaces

- 13.8.128 This assessment is fundamentally about the impact of the project on the use and function of open spaces and does not consider the issue of acquisition of land rights, which is addressed in Chapter 17 Special Category Land.
- 13.8.129 Section F does not pass through any formal public open spaces; however, it does cross areas with extensive public access such as Chobham Common. The scale of the Common, the limited area of the works and temporary nature of the construction of the pipeline will not result in a material impact on the public enjoyment of this open access land.
- 13.8.130 The construction of the pipeline will temporarily impact on the use of the two proposed playing fields at Salesian school, however, the project will consult with the school to keep disruption to a minimum.

Summary

- 13.8.131 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section F of the project complies with the requirements of section 5.10 of NPS EN-1 in relation to land use.



Noise and Vibration

13.8.132 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.274 to 7.4.289) provides a project-wide assessment of any noise and/or vibration impacts that the implementation of the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. This reflects the assessment undertaken in ES Appendix 13.3 Noise and Vibration Technical Note.

Summary

13.8.133 The commitment to agreeing a Noise and Vibration Management Plan with the relevant planning authority (as part of the CEMP secured as DCO Requirement 6) would ensure that appropriate noise and vibration mitigation would be implemented during the works, in accordance with paragraph 5.11 of NPS EN-1.

Socio-Economics

13.8.134 In accordance with the requirements of NPS EN-1 section 5.12, ES Chapter 13 People and Communities provides an assessment of the socio-economic impacts of the project.

Community

13.8.135 Section F is largely a rural section with some areas of street works in roads with heavy traffic but avoiding residential areas. Therefore, the pipeline runs through open ground which in many cases is used by the local community for recreation and sport. The impact of works on the local road network will be kept to a minimum by ensuring the traffic management needed for the works is supported by the Local Highway Authority, the timing and length of any traffic management will move along the working areas as the pipe is laid. This will reduce any delays to road users on Red Road and The Maultway, both of which are used by commuter traffic at peak times.

13.8.136 This section of the route passes through predominantly agricultural land and/or rural landscape, although there are a number of small towns and villages near the project, namely Lightwater, Chobham and West End. The community, recreation/amenity and tourism receptors within the study area or Order Limits identified in the ES are listed in Table 13.11.

Table 13.11: Community and Recreation/Amenity Receptors in Section F

Type	Receptor Name	Order Limits or Study Area
Community Receptor	<ul style="list-style-type: none"> Salesian School 	Order Limits
Recreation/ Amenity Receptor	<ul style="list-style-type: none"> Windlemere SANG Chobham Common Foxhills Golf Club 12 PRoW 	Order Limits Order Limits Order limits Order Limits
Tourism Receptor	<ul style="list-style-type: none"> Foxhills Country Club and Resort Great Cockcrow Miniature Railway 	Order Limits Study area



13.8.137 The project has undertaken an independent assessment of the impact on Open Spaces and this is reported in Chapter 16 Open Space. The proposed works through Salesian School grounds may be timed to take place during the school holidays. Although the proposal is to use a trenchless technique for this area, including the crossing of the Guildford Road (A320) and the M25, the Order Limits show access to the main school campus as a contingency should there be any issue with the trenchless construction. Good practice measures such as, an working with the schools using the sports pitches to reduce the impact of construction and ensuring the reinstatement of facilities, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5.

Recreation/Amenity

13.8.138 The recreation/amenity receptors in Section F are likely to experience temporary noise, vibration and visual impacts, as they are located within the Order Limits.

13.8.139 However, while temporary significant adverse impacts are anticipated to occur in isolated locations (in respect of combined significant visual, noise and vibration effects), the mobile and temporary nature of works in these locations mean that disruption caused by such effects will be limited.

Tourism

13.8.140 As set out in the table above, Foxhills Country Club and Resort is a tourist facility. The Club will be directly affected by installation works. The potential impact of disruption to the Club could be significant during installation and as such the golf course will not be capable of use during this period; visitor numbers may be affected temporarily as a result. However, with a total of 45 holes across three courses, there is scope for the club to maintain access for golf members to play 18 holes on a championship standard course during construction.

13.8.141 The ES states that no other tourism receptors will be directly affected but these receptors, in particular Great Cockcrow Miniature Railway since it is situated very close to the Order Limits, could experience some disruption from a combination of localised noise and visual effects. However, as installation works will be of short duration in any one location, with works being mobile and temporary in nature, no potential effects are considered to be significant, therefore visitor numbers are not expected to be significantly impacted.

13.8.142 Taking a collective view of all tourism receptors in this section, the magnitude of change is assessed to be small and the significance of the effect to the receptors and visitor numbers will be minor adverse and not significant.

Summary

13.8.143 Overall, there will be no significant impact on the socio-economic well-being of the local community and businesses in Section F during the construction of the pipeline, not only because the impacts are temporary but also the careful routing and timing of construction has sought to reduce the potential impacts. In terms of



the operational phase, once the replacement pipeline is in place there will be no significant impacts on community, recreation/amenity and tourism receptors.

Soils and Geology

- 13.8.144 In accordance with section 5.3 of NPS EN-1 section 2.23 of NPS EN-4, ES Chapter 11 Soils and Geology provides a detailed assessment of the soils and geology impacts of the project. Furthermore, paragraphs 7.4.330 to 7.4.351 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any soils and geology impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.
- 13.8.145 The design of the project has been iterative, and the design refinements have resulted in avoiding sensitive features as set out in Section 11.4 of ES Chapter 11 Soils and Geology.
- 13.8.146 Acid sandy and loamy soils with variable soil-water regimes are widespread across Section F (Bisley and Pirbright Ranges to M25) with a mix of other soils present such as seasonally waterlogged loamy and clayey soils. Section F also contains all of the mapped peat soils, which are situated to the east of Lightwater and southeast of Windlesham.
- 13.8.147 In terms of minerals, approximately one third of the study area south of Lyne (Section F) to the end of the corridor at the West London Terminal storage area (Section H) lies within the designated Surrey Minerals Safeguarding Areas (for concreting aggregates) of which 7% is in Section F.
- 13.8.148 In respect of agricultural land, there are pockets of Grades 1, 2, 3 and 4 agricultural land classification in this section of the project.

Impact on Soils

- 13.8.149 ES Chapter 11 Soils and Geology considers that all soils identified within the Order Limits will be affected, such that ALC grades/subgrades 1 (high value), 2 (high value), 3a (medium value), 3b (medium value) and 4 (low value) will be affected.
- 13.8.150 ES Chapter 11 Soils and Geology concludes that a minor adverse impact will occur across the range of soil receptors in Section F. This is considered to be a temporary impact because the quality of the soils will recover over the short term. Good practice measures such as, a soil management plan, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.
- 13.8.151 As a result, no additional mitigation measures have been identified and there will be no significant residual impacts predicted to any soils or geology during construction or operation.

Land Contamination

- 13.8.152 There are two sites in Section F which may potentially be affected by contamination from historical and/or current uses:



- Red Road Hill Depot – Historical land use (military land) within the Order Limits.

13.8.153 Chobham Car Spares – Current land use (Vehicle servicing yard/scrap yard within the Study Area. Good practice measures such as, a contaminated land risk assessment, methodology for construction through contaminated land and reporting of actions taken, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the Contaminated Land and Ground Water Requirement 10.

Impact on Geology (including Minerals)

13.8.154 The impacts on geology, including mineral safeguarding, are addressed in the project-wide paragraphs 7.2.218 to 7.4.225 in Chapter 7 Planning Assessment: Project-wide.

Summary

13.8.155 With respect to Section F, ES Chapter 11 Soils and Geology concludes there will be no significant residual impacts on soils and geology during construction or operation, and therefore the project complies with the requirements of section 5.3 of NPS EN-1 section 2.23 of NPS EN-4 with respect to soils and geology.

Traffic and Transport

13.8.156 In accordance with section 5.13 of NPS EN 1, the project has assessed the traffic and transport implications of the proposals. ES Appendix 13.1 Traffic and Transport Technical Note sets out the potential traffic and transport impacts of the project and residual effects. The ES has been informed by a separate Transport Assessment submitted as part of the application for development consent (**application document 7.4**). Furthermore, paragraphs 7.4.300 to 7.4.331 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any traffic and transport impacts that the project is likely to have, together with identifying the management that will be implemented to manage these impacts.

13.8.157 To minimise the impacts, the project has embedded design measures such as the use of trenchless crossings for trunk roads, motorways and railways.

13.8.158 While there will inevitably be some disruption during construction, mitigation good practice measures have been put place to reduce and mitigate manage this during construction of the pipeline. In addition, in order to minimise the disruption to traffic flows and highway safety there are measures such as a construction traffic management plan which would consider how traffic generated by construction vehicles would be managed which will be secured by Requirement 7 of the DCO.

13.8.159 For walking, cycling and equestrians, this will be managed by ensuring that pedestrian access to and from residential, commercial, community and agricultural land uses would be maintained throughout the construction period, including retention of vehicular access to be maintained where practicable which will be secured through Requirement 7 of the DCO.



- 13.8.160 There are no Public Rights of Way (PRoW) that cross the Order Limits in Section F that require a temporary Diversion. All PRoWs in Section F will remain open and useable during construction. There will be no impact on PRoWs during the operation of the pipeline.
- 13.8.161 With the use of embedded design measures and the project commitments secured by the DCO, the level of disruption to travel and transport will be limited. The project has, however, considered the impact on traffic and travel in the roads where works would exceed four weeks. Four weeks was chosen for the assessment based on good practice from other projects. Based on this, the road affected in Section F will be:
- B311 Red Road.
- 13.8.162 In terms of traffic flow, along with collision and safety, there would not be any increase from the project compared to the future traffic flow levels and collisions and safety, that would otherwise have occurred without this project, in relation to this road.
- 13.8.163 There will, however, be some impact on journey times on this road. For private vehicles, the sensitivity is described as Low and the magnitude is described as small, with the overall significance of the impact being negligible. For bus users, the sensitivity is described as High and the magnitude is described as negligible to small, with the overall significance of the impact being negligible. The impact will be negligible because of the short-term duration of the works.
- 13.8.164 In terms of the New Road, Windlesham, Logistic Hub, the increase in the annual average daily traffic would be 3%. Only where the percentage increase would be 30% or greater would a further assessment be required. Therefore, there will be no significant impacts experienced on the road as a result of this logistics hub. Given that there will be no significant effects expected on traffic and transport, no mitigation measures are required for this road.

Summary

- 13.8.165 There will not be any significant impacts on traffic and transport for the B311 Red Road and in all other respects, while there will inevitably be some disruption during construction, embedded design measures and mitigation will be put in place to reduce this impact to a negligible level. As such the project complies with section 5.13 of NPS EN-1.

Waste Management

- 13.8.166 In accordance with NPS EN-1 section 5.14, ES Chapter 16 Environmental Management and Mitigation the development of a Site Waste Management Plan (SWMP) prior to construction will be produced as set out in paragraphs 7.4.312 to 7.4.316 of Chapter 7 Planning Assessment: Project-wide. The SWMP will be secured through the DCO requirement for a CEMP (DCO Requirement 6).
- 13.8.167 Good practice measures such as, a SWMP are set out in the REAC and will be secured through the DCO requirements such as the CoCP secured in requirement



5. Section F of the project complies with the requirements of section 5.14 of NPS EN-1 with respect to waste management.

Water Quality and Resources

13.8.168 In accordance with section 5.15 of NPS EN-1, the ES Chapter 8 Water provides a detailed assessment of the water quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide paragraphs 7.4.317 to 7.4.329 provides a project-wide overview of any water quality impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

13.8.169 This section sets out any specific impacts that have been identified for the project in Section F on:

- existing quality of waters;
- existing water resources;
- existing physical characteristics of the water environment; and
- any impacts on water bodies or protected areas under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) around potable groundwater abstractions.

Water Quality

Groundwater

13.8.170 The groundwater environment in Section F is defined as the following:

- Palaeogene geological deposits which mostly form Secondary A aquifers, including the Bracklesham Group;
- a small area at the north of the section where Kempton Park Gravel superficial deposits form a Principal superficial aquifer; and,
- small areas of Secondary A superficial aquifers throughout the section formed by deposits including alluvium and river terrace deposits.

13.8.171 The groundwater environment in Section F is identified as between Medium to High value.

13.8.172 A number of possible effects on groundwater quality in Section F are identified in ES Appendix 8.5. Minor or negligible groundwater quality impacts have been identified for the following receptors during construction:

- the Secondary A aquifer at trenchless crossing TC 023 to the northwest of Chobham;
- the Secondary A aquifer at the crossing of the Hale Borne to the north of West End;
- the Secondary A aquifer in the vicinity of Windlesham Road and the B383 to the northwest of Chobham;
- Woodcock Lane licensed groundwater abstraction;

- Foxhills Country Club and Resort licensed groundwater abstraction;
- Colony Bog and Bagshot Heath SSSI (including Folly Bog) groundwater dependent terrestrial ecosystems (GWDTEs);
- Chobham Common SSSI GWDTE; and
- Foxhills GWDTE

13.8.173 Potential impacts during construction have been identified as potentially arising from the dewatering of surface water drainage or intercepted groundwater in open-trenches, the abstraction and discharge of abstracted groundwater from trenchless crossings or from leaks and spills from plant fuels and oils during the construction phase. It is recognised that groundwater in the superficial gravel aquifer is of high value. Good practice measures such as, good housekeeping measures and pollution controls, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the contractor's CEMP Requirement 6. These measures are set out in Table 8.12 of ES Chapter 8 – Water.

13.8.174 As set out in ES Chapter 3 Project Description, the pipeline design provides operational integrity through a range of measures (e.g. corrosion protection), and as such, the pollution risks arising from the operation of the pipeline are considered to be negligible. The specific impacts on groundwater quality are set out in ES Appendix 8.5 Potential Effects on Groundwater.

Surface Water

13.8.175 Two of the most important considerations in relation to surface water quality are potential impacts on aquatic ecology and any downstream surface water abstractions. ES Appendix 8.6 WFD Impact Assessment provides a summary of watercourse sensitivity from an aquatic ecology perspective.

13.8.176 In Section F, the following surface watercourse is assessed as being of moderate or high sensitivity (the remainder are low sensitivity watercourses or ephemeral drainage channels):

- High sensitivity: Hale Bourne

13.8.177 There are no licensed surface water abstractions in Section F.

13.8.178 The Hale Bourne is to be crossed using Horizontal Directional Drilling (HDD), therefore, no significant impacts effects from will likely be associated for in-channel workings. HDD trenchless techniques require shallow (less than 2m) launch and reception pits. These will not require any significant dewatering activities, therefore no significant impact is anticipated.

13.8.179 Impacts relating to discharge of sediment in surface water will not be significant so long as the measures identified in the CoCP are adhered to, as detailed below. Good practice measures such as, the control of runoff, restricting internal discharge of waste waters, compliance with discharge conditions and the production of a, erosion and sediment control plan, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in



Requirement 5, the contractor's CEMP in Requirement 6 and the Surface and Foul Water Requirement 9.

13.8.180 As a result, it has been assessed that construction impacts are unlikely to have a significant effect on surface water quality in Section F.

13.8.181 No operational impacts in Section F have been identified.

Water Resources

13.8.182 There are two licensed groundwater abstractions and no identified licensed groundwater abstractions have been identified within Section F. However, the abstraction boreholes themselves are outside of Section F.

13.8.183 Section F passes through Zone 3 of the Source Protection Area in Ashford. Zones 1 and 2 are located to the west of the proposed pipeline route. The construction of the pipeline is shallow and unlikely to penetrate saturated aquifer. During construction, trenches will remain open for as little time as possible to reduce the need for dewatering of the trench. The construction design will reduce impacts on ground water by installing water stops where necessary to reduce ground water flow along the pipeline and prevent new ground water flow pathway. During operation the pipeline is continuously monitored, valves are placed along the route to ensure that sections of the pipeline can be isolated automatically to reduce pollution risks. These valves are placed specifically to protect the water environment.

Physical Characteristics of the Water Environment

13.8.184 Based on the map showing susceptibility to groundwater flooding. Shallow groundwater could be expected from Bagshot Heath to the east of Chobham Common where much of the route runs through areas susceptible to groundwater flooding at the surface or to below ground property.

13.8.185 Groundwater level monitoring data provided by the Environment Agency and collected as part of this project do show that, generally, the depth to groundwater is not significant in relation to the depth that the pipeline trench will penetrate. However, the groundwater susceptibility flooding map does show the potential for shallow groundwater at locations throughout Section F and as such where the trench may be deeper at trenchless crossings, the groundwater table could be encountered.

13.8.186 A number of possible effects on groundwater resources in Section F are identified in ES Appendix 8.5 and Chapter 8, Water. Minor or negligible groundwater resource impacts have been identified for the following receptors during construction:

- residential and farm properties (including Steep Acre Farm, Grade II Listed building) in the vicinity of TC 023 to the northwest of Chobham (due to potential of subsidence caused by groundwater dewatering);
- superficial and bedrock Secondary A aquifers in the vicinity of Folly Bog, at the crossing of the Hale Borne to the north of West End and in the vicinity of



Windlesham Road and the B383 to the northwest of Chobham and at Chobham Common SSSI where abstracted groundwater could be discharged to ground;

- Colony Bog and Bagshot Heath SSSI (including Folly Bog);
- Chobham Common SSSI; and
- Foxhills GWDTE.

13.8.187 Potential impacts to groundwater flow due to the presence of the pipeline in Section F are largely considered to be negligible as sub-surface flows are not expected to be altered, partly due to the design of stanks at right angles to the pipeline. Stanks are part of the embedded mitigation, with the purpose of preventing the movement of groundwater through the pipe trench and ensuring that groundwater continues to reach receptors which rely on groundwater.

Water Bodies or Protected Areas under the Water Framework Directive (WFD) and SPZs around Potable Groundwater Abstractions

13.8.188 There are two surface WFD water bodies identified in Section F:

- Hale/Mill Bourne; and
- Chertsey Bourne (Virginia Water to Chertsey).

13.8.189 There is one groundwater WFD water body identified in Section F:

- Chobham Bagshot Beds (Bagshot to Afflestone Bourne confluence near Chobham)

13.8.190 Impacts of the project components will be localised and therefore likely to have a negligible or low impact on all WFD bodies identified. As a result, it is unlikely that the current status of the WFD water bodies will be compromised by the project. The project will also not compromise the ability of the WFD water bodies to achieve Good Overall Status/Potential in the future. As such, the project is compliant with WFD objectives.

Summary

13.8.191 Through the good practice measures secured through the DCO Requirements, Section F of the project complies with the requirements of section 5.15 of NPS EN-1 and section 2.22 of NPS EN-4 with respect to water quality and resources.

13.9 Conclusions on Planning Assessment of Section F

13.9.1 The proposed pipeline route between Bisley and Pirbright Ranges to the M25 has been the subject of a detailed optioneering and design iteration process to arrive at a proposal which seeks to avoid and then reduce potential temporary and permanent impacts.

13.9.2 The construction of a pipeline between Bisley and Pirbright Ranges on the A3015 and the M25 by Salesian School is highly constrained by the combination of environmentally sensitive international and national designated sites and the presence of a busy traffic road network of local and national importance.



- 13.9.3 The route seeks to reduce impacts on both residents and the environment, it follows undeveloped land where possible and limits the use of street works in local roads. Techniques such as trenchless crossing is used to reduce the temporary impact during construction. The timing of the works, together with the opportunities to provide improved habitats for protected species, further reduces the impact of the proposed pipeline.
- 13.9.4 Impacts on undeveloped and schools will be reduced through careful construction scheduling to minimise impacts on bird breeding seasons and to utilise school holidays and periods of low use such as during the winter these will be addressed through the project commitments set out in the CoCP and which will be secured by requirement 5 of the DCO and through the CEMP secured by requirement 6 of the DCO.
- 13.9.5 The construction impacts will in the main be temporary and not significant, once in place and operational there will be no impacts on the local residents and few permanent effects on the wider environment such as to outweigh the benefit of the provision of this nationally significant pipeline.

14 Planning Assessment – Section G – M25 to M3

Key points:

- Route utilises open spaces and undeveloped land;
- Street works kept to a minimum impact on Canford Drive, Roakes Avenue and Mead Lane only;
- Impacts on Abbey Rangers Football Club reduced by using trenchless techniques; and,
- Route crosses the River Thames but trenchless construction.

14.1 Introduction

- 14.1.1 The route is divided into geographical sections in the application. This chapter provides a planning assessment for Section G of the route, from the M25 to the M3, this section is within Surrey and passes through Runnymede and Spelthorne District Council areas. Sections A to F of the route are covered in Chapters 8 to 13 and Section H of the route is covered in Chapter 15 respectively.
- 14.1.2 It considers the acceptability of the project against the policies set out in Planning Statement Chapter 6 and identifies where matters relevant to specific National Policy Statement (NPS) EN-1 and NPS EN-4 policy headings arise and sets out the measures required to mitigate the identified impacts.
- 14.1.3 This chapter provides further consideration of the NPS policy headings for Section G of the route and is designed to be read as a standalone assessment. Key points from Planning Statement Chapter 7 – Project-wide may, therefore, be repeated within this section where relevant.
- 14.1.4 This chapter sets out the following for route Section G:
- Section 14.2: Overview of the route section, development proposed and its method of construction;
 - Section 14.3: Overview of Section G refinement;
 - Section 14.4: Identification of relevant Planning Authorities;
 - Section 14.5: Identification of key environmental and planning designations within the Order Limits;
 - Section 14.6: Relevant planning history;
 - Section 14.7: Overview of Section G against NPS EN-1 Assessment Principles (using the relevant subject headings from EN-1);
 - Section 14.8: Generic impacts (NPS EN-1 and NPS EN-4 where stated); and



- Section 14.9: Conclusions on Planning Assessment of Section G.

14.2 Overview of this Section

Route Description

- 14.2.1 Section G (Planning Statement Figure 4.1, Sheets 12 - 13) is a largely urban area extending between the M25 and M3, but also includes areas of open space, a nature reserve and SSSI. It spans Runnymede Borough Council and Spelthorne Borough Council administrative areas.
- 14.2.2 Section G is approximately 4km (3 miles) long and starts after the trenchless crossing of the A320 / M25, before continuing through Abbey Moor golf course (9 holes), avoiding Addlestone Cemetery. There is then a crossing of the Chertsey Branch railway line between Chertsey and Addlestone stations. The application route then follows Canford Drive before crossing the A317 Chertsey Road and subsequently passing through the former Meads School playing fields at Addlestone Moor.
- 14.2.3 The section then crosses the Chertsey Bourne before heading towards the River Thames across Chertsey Meads, an area of open space which is also a Local Nature Reserve. The route diverts away from the existing pipeline crossing the Thames to avoid Dumsey Meadow Site of Special Scientific Interest (SSSI), which lies to the north of the Thames. The trenchless crossing of the Thames will continue under the B375 and Old Littleton Lane. The Section ends at the M3 motorway west of Littleton Lane.

Use of Trenchless Installation Techniques

- 14.2.4 Trenchless installation techniques are proposed to be used for the following crossings.
- TC031 - Chertsey Branch railway line: Trenchless installation will be used to avoid the Chertsey Branch railway line, reducing impacts on travel in the area.
 - TC032 - A317 Chertsey Road: Trenchless installation will be used to reduce impacts on traffic in the built-up area of Chertsey.
 - Abbey Rangers football pitches: Construction technique to be confirmed during examination.
 - TC033 - Chertsey Bourne: A trenchless crossing will be used to minimise impacts on the ecology of the watercourse.
 - TC034 - River Thames and B375 Chertsey Bridge Road: A trenchless crossing under the River Thames will mitigate impacts on river habitats and people travelling by boat. The B375 is a busy road between Chertsey and Walton-on-Thames, and the use of a trenchless technique will avoid disruption to travel in the area.
 - TC035 - M3 motorway: A trenchless technique will be used to pass under the M3 motorway. This technique will mean that this major UK motorway can remain open throughout installation.

Above Ground Infrastructure

- 14.2.5 Above Ground Infrastructure (AGI) in Section G comprises a valve, as set out under the following headings, together with a Cathodic Protection cabinet, pipeline makers and flight marker posts as set out in Chapter 4 Project Description.
- 14.2.6 Valves There is one valve within Section G:
- Valve 13, this is located on a field boundary at Pannells Farm.
- 14.2.7 Further details on the valves are set out in Chapter 4 Project Description.
Construction
- 14.2.8 Details of the construction method, construction schedule and reinstatement are set out in Chapter 4 Project Description.

Crossings

- 14.2.9 The following river and watercourse crossings are required:
- Unnamed watercourse (WCX 092a) – open cut construction;
 - Unnamed watercourse 75 (WCX 092) – open cut construction;
 - Unnamed watercourse 76 (WCX 093) – open cut construction;
 - Unnamed watercourse 82 (WCX 094) – open cut construction;
 - Unnamed watercourse (WCX 094a) – open cut construction;
 - Unnamed watercourse 83 (WCX 108) – open cut construction;
 - Unnamed watercourse 77 (TC 031 / WCX 093a) – trenchless construction;
 - Chertsey Bourne (TC 033 / WCX 095) – trenchless construction; and
 - River Thames - (TC 034 / WCX 096b) - trenchless construction.
- 14.2.10 The following road crossings are required in this section:
- A317 Chertsey Road (RDX 062c) - open cut construction;
 - Mead Lane (RDX 062a - open cut construction);
 - B375 Chertsey Bridge Road – trenchless crossing (TC 034 / RDX 062b);
 - Littleton Lane – trenchless crossing (TC034 / RDX 062c); and
 - M3 motorway – trenchless crossing (MWX 002).
- 14.2.11 Street works, temporary construction access and Public Rights of Way (PRoW) diversions for Section G are shown on Access and Rights of Way Plan sheets 47 to 49 and Sheet 116 (**application document 2.5**). The proposed development would include the installation of the pipe within the following sections of road:
- Canford Drive – open cut construction;
 - Roakes Avenue – open cut construction; and
 - Mead Lane – open cut construction.



14.2.12 The following railway crossing is located in this section:

- Chertsey branch railway line (RLX 006a)

Construction Compounds

14.2.13 There are two construction compounds along Section G of the pipeline route located at:

- Pannells Farm (compound no. 5M); and
- Mead Lane, Chertsey Meads (compound no. 5N).

14.2.14 There is no logistics hub located in Section G. Construction within this section will be served by the proposed logistics hub at New Road, Windlesham.

Narrow Working

14.2.15 There are three areas of narrow working in Section G. This will reduce the width of the open cut trench construction through and through Abbey Moor Golf Course (NW27), Abbey Rangers Football Club (NW28) and Chertsey Meads (NW29). This approach involves the contractor(s) using less space than standard working width due to localised constraints, such as working in roads or sensitive areas.

14.3 Overview of Section Refinement

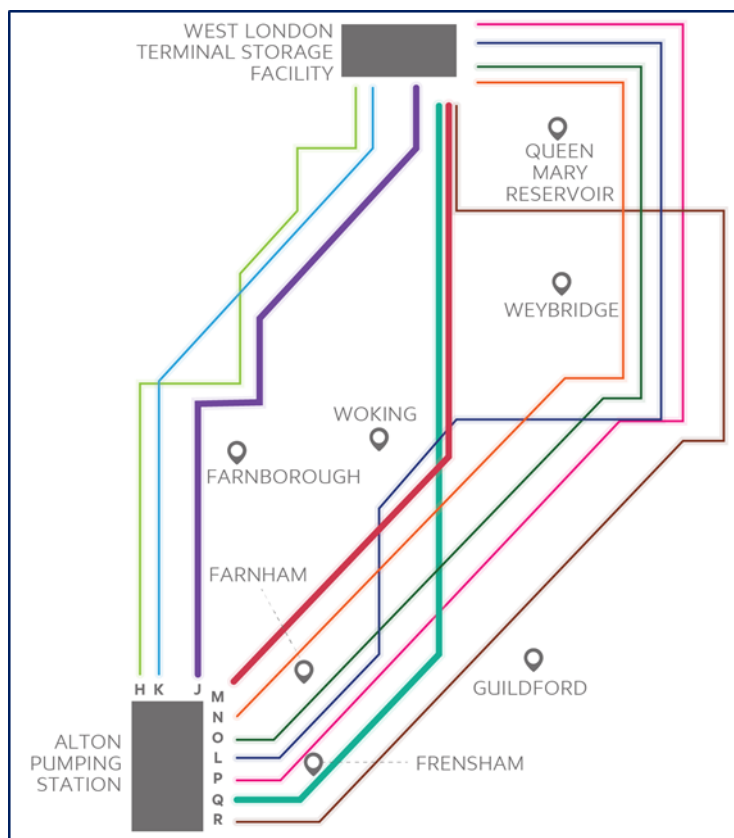
14.3.1 The overall approach to design development and route refinement is set out in Chapter 3 Scheme Development, and in further detail in ES Chapter 4 Design Evolution. The following sub-headings outline the key considerations relating to sub-option selection and specific design refinements which have influenced the design development of Section G of the route.

14.3.2 Section G is constrained in terms of routeing through residential areas as well as ecologically sensitive areas and business purposes. Engagement with landowners and communities, statutory consultation and the development of the Environmental Impact Assessment work has shaped the routeing of the proposed pipeline.

Corridor Selection

14.3.3 Chapter 3 of this Planning Statement outlines the evolution of the project. A long list of corridor options for the route of the replacement pipeline were identified and considered. A sifting process was carried out based on environmental, planning and engineering factors. Illustration 14.1 shows the corridor options North of Alton. These corridor options were the subject of non-statutory consultation, supported by the document 'Replacement Pipeline Corridor Consultation: Securing aviation fuel supplies in South East England'.

Illustration 14.1: Longlist corridor options – North of Alton



- 14.3.4 Through the design development of the project, a number of corridor options were reduced to a single preferred corridor, within which a route for the replacement pipeline has been identified in Section G.
- 14.3.5 Given the international significance of the Thames Basin Heaths Special Protection Area (TBH SPA) along the routes for Sections D, E and F, and NPS EN-1 relating to its protection (NPS EN-1 5.3.7 to 5.3.8), Corridors N, O, L, P, Q and R as shown in Illustration 14.1, which avoided the SPAs, were considered. However, these corridors were not taken forward because they would result in extensive sections requiring the laying of the pipe in roads, which would be complex and time-consuming to install, would result in a longer pipeline route and would result in greater disruption for local communities. In addition, some of these corridors would not have met key project objectives, such as taking the shortest route and avoiding the floodplain and mineral extraction areas. Corridors H and K did not avoid the TBH SPA but were not taken forward. For Corridor H the environmental constraints were no less than for other routes, therefore there was no benefit in taking this longer route. For corridor K the route passes along a significant length of road (Stonehill Road and Longcross Road) and would impact significantly on local people and businesses as construction in the road would be slow and more disruptive. In addition, as these corridors were away from the existing pipeline, to construct along Corridors H and K would require additional above ground infrastructure, new landowners and would not reduce the complexities for construction or reduce environmental impacts.



- 14.3.6 Of the corridors considered in the north, Corridors J, M and Q were shortlisted, and Corridor J was selected following the preferred corridor consultation. Corridor J passes through the TBH SPA but was favoured over the other two corridors because it avoided passing through the historic town of Farnham, it had less impact on commercial activity and would not lead to significant disruption to residential communities, Additionally, Corridor J would have less interaction with the floodplain and unlike Corridor Q does not re-enter the South Downs National Park and the Surrey Hill Area of Outstanding Natural Beauty.
- 14.3.7 The consideration of these corridor options against national policy for the protection of the SPA is set out in Chapter 7 Planning Assessment: Project-wide (7.4.34 to 7.4.46). Following the Corridor Options consultation, Corridor J which goes through the SPA was selected as the preferred corridor. This informed the selection of the preferred route. Details of all consultations undertaken are presented in the Consultation Report (**application document 5.1**).

Sub-option Selection and Design Refinement

- 14.3.8 Following the announcement of the preferred corridor, the project released an initial working route within that preferred corridor. This formed the basis for the development of the Statutory Consultation in specific locations where the constraints either environmental or engineering challenges identified some sub options. As part of statutory consultation on the preferred route, Sub-options for the preferred route were considered at two locations in Section G, as identified in Table 14.1.

Table 14.1 Sub-options Selected for Section G

Sub-option	Main Reason for Sub-option Selection
G1a and G1b: Chertsey Railway	G1b has been selected as further survey work in the area identified an area of Ancient Woodland that the project would seek to avoid along sub-option G1a. However, feedback from the consultation highlighted concerns about the impact of installation on traffic along Canford Drive. The project will therefore be implementing traffic management plans to effectively control the traffic flow in this area during installation and ensure that access is maintained for residents. The project will also look to reduce the width of the order limits through Abbey Moor Golf Course and create an installation timetable that reduces the impact on the golf course.
G2a and G2b: River Thames	The project has selected G2a as it has been found to have more suitable ground conditions than G2b for installation. The M3 motorway crossing was also planned at an angle along G2b which would pose significant engineering challenges. The project has carried out further technical work to identify the space that we would need to install the pipeline and cross the river.

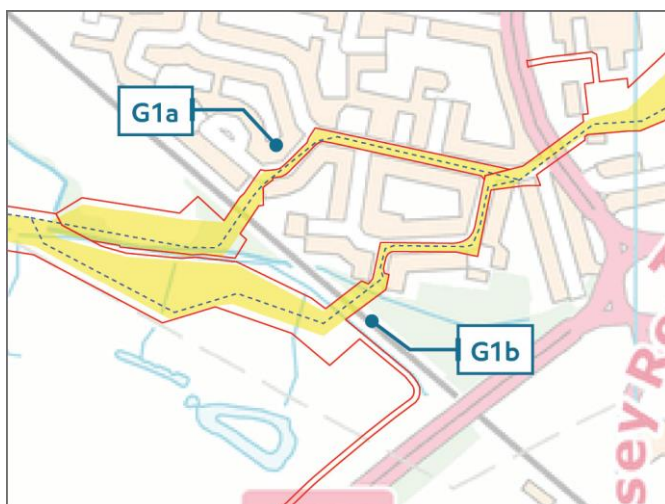
- 14.3.9 Section G is routed through open land where possible, however, in this part of Surrey, the open land is designated for its open space and recreational value. The selection of the route has taken account of these designations and sought to balance the competing issues raised. Engagement with landowners and statutory stakeholders, statutory consultation and the development of the environmental assessment work has shaped the routing of the proposed pipeline.

- 14.3.10 There are four key locations where design refinement has taken place. In January 2019 the project presented a Design Refinements consultation brochure that set out further refinements that had been made to the proposed route.

Suboptions Chertsey Railway Crossing

- 14.3.11 Heading east, the next section of the route that was subject to design refinement is as it crosses under the railway line. This section of the route utilises trenchless crossing techniques, and, therefore, areas for stringing the pipe are required. Two options through the residential area were considered. These options were presented as part of the design refinements consultation in 2019.
- 14.3.12 Two options for the Chertsey railway crossing were considered, G1a and G1b as shown in illustration 14.2.

Illustration 14.2: Sub Option G1



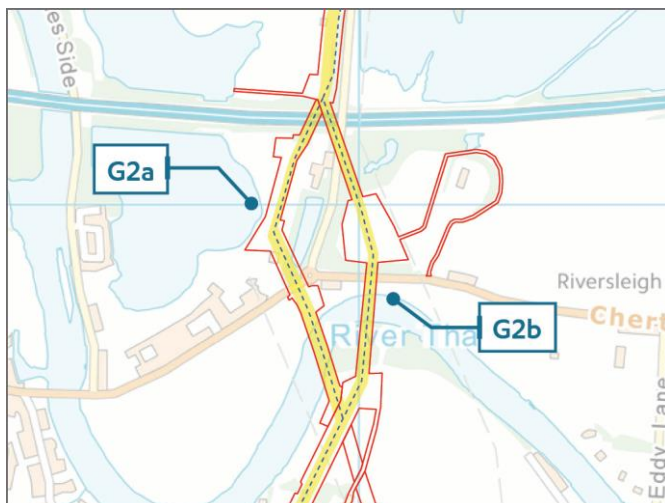
- 14.3.13 There were two sub-options, one along Harrow Close and Roakes Avenue (option G1a) and another which would utilise Canford Drive (option G1b) (and a reduced length of Roakes Avenue as it approached Chertsey Road).
- 14.3.14 Feedback from the consultation highlighted concern about the impact of installation on traffic along Canford Drive and Roakes Avenue. Following public consultation in Autumn 2018 and the identification of an area of Ancient Woodland through further survey work, option G1b was selected as this option avoided impacting on the Ancient Woodland. Traffic management plans will be developed to effectively control the traffic flow in this area during installation of the pipeline and to ensure that access is maintained for residents.
- 14.3.15 This option will have a greater impact on the Abbey Moor Golf Course and the project will look to reduce the working width within the Order Limits and create an installation timetable that reduces the impact on the golf course.

River Thames Crossing

- 14.3.16 Two options for the trenchless crossing under the River Thames and A375 Chertsey Road and M3 motorway were considered and presented at the preferred

route consultation, G2a and G2b as shown in Illustration 14.3. Option G2a is the preferred option with further amendments having been made subsequent to the Design Refinements consultation. This option has been found to have more favourable ground conditions than the alternative option.

Illustration 14.3 – Sub Options G2



- 14.3.17 The M3 motorway crossing was also technically challenging, two options were considered, option G2a and G2b. Following technical work to identify the space that will be required to install the pipeline and cross the river, it was determined that option G2a would be the preferred option from an engineering perspective.
- 14.3.18 In addition, the River Thames crossing will avoid the Traveller site to the west of Littleton Lane and reduce the extent of excavation work that will be required in the area of landfill to the north of the river.

Route Refinement

Hardwick Lane to Pannells Farm

- 14.3.19 The route between Hardwick Lane (Section F) and Pannells Farm was modified to reduce impacts on Pannells Farm, this has included changes to the siting of valve 13. This has reduced the impact on ecological receptors including protected species.

Abbey Rangers Football Club and Philip Southcote School

- 14.3.20 The application route utilises a section of the sports pitches by Philip Southcote school. Further refinement of the route has taken place following engagement with the football club and the Order Limits were amended to include the adjacent playing field in Philip Southcote School, providing a larger area for safely installing the replacement pipeline within the Abbey Rangers FC grounds. This change to the route reduces the effect on those pitches which are used most frequently. There will be an additional section of trenchless crossing under the main football pitches, though a 5-a-side pitch will be out of use during construction and will require reinstatement, other pitches will be required for stringing out the pipeline.



14.3.21 The works programme will seek to avoid key events, including the football tournament that takes place in July, where 200 teams participate.

Chertsey Meads

14.3.22 Additional refinements relate to the crossing of Chertsey Meads, and the proposed route addresses concerns that were raised regarding biodiversity at Chertsey Meads. The Order Limits were amended in response to consultation feedback from the local council around floral biodiversity within Chertsey Meads. This has resulted in the pipeline now being installed along Meads Lane, the access lane to the car park. This will have different impacts on the local community, including access to public open space, compared to the previous route options, but these will be controlled using traffic management measures to ensure that access to Chertsey Meads is maintained during construction.

14.4 Relevant Planning Authorities

14.4.1 The Planning Authorities for Section G are:

- Runnymede Borough Council;
- Spelthorne Borough Council; and,
- Surrey County Council (Minerals and Waste planning authority and County Matters (highways and schools) Development)

14.4.2 Details of the relevant Planning Authorities' adopted and emerging plans together with a list of the policies relevant to the consideration of the project can be found in Planning Statement Chapter 6 Planning Policy and will form part of Statements of Common Ground (SoCG) with the relevant planning authorities.

14.5 Key Environmental and Planning Designations Within the Proposed Order Limits

14.5.1 The relevant Adopted Local plans for Section G are as follows:

- Runnymede Local Plan 2001 Saved Policies (2007) to be replaced by the emerging Runnymede Local Plan 2030;
- Surrey Minerals Plan Core Strategy Development Plan Document (2011);
- Surrey Minerals Plan Primary Aggregates Development Plan Document (2011);
- Surrey Waste Plan (2008)
- Surrey Aggregates Recycling Joint Development Plan Document (2013)
- Spelthorne Borough Local Plan Saved Policies (2001) to be replaced by the emerging Spelthorne Borough Local Plan 2020-203, and
- Spelthorne Borough – Core Strategies and Policies Development Plan Document (2009)



Runnymede Borough Council

- 14.5.2 Within Runnymede Borough Council, the proposed pipeline passes through Abbey Moor golf course, current school playing fields at Salesian School, due for redevelopment, and Abbey Rangers Football Ground which is designated as open space in the Runnymede Local Plan 2001 policy GB5 and Runnymede Submission Local Plan 2030 (emerging Plan) Policy SL25.
- 14.5.3 The Metropolitan Green Belt is designated across Runnymede Borough Council and is protected by policy GB6. Within Section G, the exceptions to this are Chertsey South and Chertsey built up areas.

Spelthorne Borough Council

- 14.5.4 The Metropolitan Green Belt is designated across Spelthorne Borough. There are gaps within the Metropolitan Green Belt designation which correlate to significant built up areas, all of the application route within Spelthorne Borough Council is designated Metropolitan Green Belt.
- 14.5.5 The proposed Order Limits and Limits of Deviation pass through the edge of one Site for Nature Conservation Importance designated under saved policy RU11 of the Spelthorne Borough Council Local Plan 2001 N26 River Thames – County boundary to Sunbury (boundary with LB Richmond) and a smaller area to the north of Dumsey Meadow SSSI.
- 14.5.6 The Spelthorne Core Strategy (2009) confirms that land at Littleton Lane, Shepperton is an existing Gypsy and Traveller site.

14.6 Relevant Planning History Within the Order Limits

- 14.6.1 Within Section G, there are locations where planning applications have been submitted that will potentially affect the proposed development. These are set out below in Table 14.2.

Table 14.2: Planning History Impacting on the Order Limits Refinement

Application reference	Site Address	Description
RU.18/0796	Land at Hanworth Lane, Housing reserved site, land opposite Salesian School, Guildford Road	Request for EIA Screening Opinion for proposed development of 155 dwellings, new access road to the south of Hanworth Lane, open space, landscaping and sustainable drainage. Decision: not EIA development
RU.18/1879	Former Metrode Products Ltd Site Hanworth Lane Chertsey KT16 9LL	Erection of two new industrial buildings, subdivided into twelve units, to provide 5,790 sq.m of B1c, B2 and B8 Use, together with access, parking and landscaping (awaiting decision)
RU.17/0008	Land at Hanworth Lane Hanworth Lane Chertsey Surrey	Planning permission granted for the erection of 130 dwellings.



Application reference	Site Address	Description
Various applications in recent years	The Runnymede Centre, Chertsey High School	Planning permission for a new school, including use of temporary classrooms and car parking at Abbey Rangers Football Club.

14.6.2 The Order Limits surrounding the proposed construction compound at Pannells Farm extends into the area included in the application for an EIA Scoping Opinion near Salesian School. However, the location of the construction compound itself is to the south of the proposed housing site.

14.7 Assessment Principles (NPS EN-1 Part 4)

14.7.1 This part of the assessment considers the acceptability of Section G of the project against the assessment principles from Part 4 of NPS EN-1 as set out in Section 7.3 of Chapter 7 Planning Statement: Project-wide. It identifies where significant matters arise relating to Section G that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with the project.

14.7.2 Table 14.3 sets out the Assessment Principles that are addressed in Chapter 7 Planning Assessment: Project-wide. Other Assessment Principles are assessed in the subsequent section identifying where the assessment is in this chapter.

Table 14.3: Assessment Principles Compliance

Assessment Principles NPS (EN-1 Part 4)	Chapter 7 Planning Assessment: Project-wide Relevant Paragraphs
<u>Alternatives</u> Section 4.4 requires alternatives to the project to be assessed.	7.3.9 to 7.3.13
<u>Climate Change Adaptation</u> Section 4.8 requires climate change adaptation to be assessed.	7.3.19 to 7.3.24
<u>Pollution Control and Other Environmental Regimes</u> Section 4.10 requires discharges or emissions which affect air quality, water quality, land quality and the marine environment, or which give rise to noise and/or vibration to be assessed.	7.3.25 to 7.3.27
<u>Safety</u> Section 4.11 requires safety of the pipeline to be assessed.	7.3.28 to 7.3.31
<u>Hazardous Substances</u> Section 4.12 requires the management of hazardous substances to be assessed.	7.3.32
<u>Health</u> Section 4.13 requires the possible health and well-being impacts to be assessed.	7.3.33 to 7.3.38
<u>Common Law nuisance and Statutory Nuisance</u> Section 4.13 requires any common law or statutory nuisance be mitigated	7.4.39 to 7.4.40
<u>Security Considerations</u> Section 4.15 requires security considerations to be mitigated.	7.4.41 to 7.4.43



Environmental Statement

- 14.7.3 The requirements set out in paragraphs 4.2.1 to 4.2.11 of NPS EN-1 are met as a comprehensive Environmental Statement (ES) (**application document 6.1-6.4**) covering the complete route (Sections A – H inclusive) accompanies this application for development consent.
- 14.7.4 Section 14.8 of this chapter considers how Section G of the route is in compliance with each of the generic topics NPS EN-1 (which also broadly aligns with the technical chapters of the ES).

Habitats and Species Regulations

- 14.7.5 The requirements set out in paragraph 4.3.1 of NPS EN-1 are met to the extent that a comprehensive Habitats Regulations Assessment Report (HRA) (**application document 6.5**) covering the entire route accompanies the application for development consent.
- 14.7.6 There are no Special Areas of Conservation, Special Protection Areas or Ramsar sites within Section G. The Habitats Regulations Assessment Report concludes that there are no likely significant effects alone or in combination to any European (Natura 2000) sites in the wider area from Section G of the project.

Good Design

- 14.7.7 In accordance with NPS EN-1 section 4.5, the design of the pipeline in Section G will be as set out in paragraphs 7.3.14 to 7.3.18 of Chapter 7 Planning Assessment: Project-wide Assessment.
- 14.7.8 The majority of the pipeline within Section G will be below ground once complete, apart from above ground infrastructure which will comprise of one valve compound, one cathodic protection cabinet and waymarkers.
- 14.7.9 The design of the pipeline, it follows the industry standards adopted by the applicant. The techniques for construction of the pipeline balance the desire to install quickly and efficiently with the need to avoid unnecessary disruption and environmental harm. The open cut trench construction is the most common technique used. Trenchless construction techniques will be used in locations where this is essential such as passing underneath existing features such as major roads, railways and main rivers. In environmentally sensitive locations such as wetland heaths and ancient woodland, trenchless construction is also proposed to reduce the potential impact on these irreplaceable environments.
- 14.7.10 Within Section G narrow working will be utilised at certain locations through Abbey Moor golf course in order to reduce the adverse effects on members of the public using this open space. The route passes along residential streets, though this length has been kept to a minimum to reduce the impact of the community.
- 14.7.11 The route avoids Woburn Park Grade II Registered Park and Garden in order to avoid impacts on this cultural heritage and landscape feature.



14.7.12 The route through Chertsey Meads, an important area of open space which is important for the local community and wildlife, has been modified as a result of consultation responses. The route goes through the Chertsey Meads Local Nature Reserve site as this land is required in order to string the pipework for the trenchless crossing of the River Thames and in order to provide an alignment that avoids Dumsey Meadow SSSI. The route through Chertsey Meads will follow local roads rather than go across rural areas, to reduce impacts on sensitive flora.

14.8 Generic Impacts (NPS EN-1 Part 5 and NPS EN-4 Gas and Oil Pipelines)

14.8.1 This part of the assessment considers the acceptability of Section G of the project against the generic impacts from Part 5 of NPS EN-1 and the specific impacts from gas and oil pipelines specified in NPS EN-4 as set out in section 7.4 in Planning Statement Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise in relation to Section G of the project that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with Section G of the project.

Air Quality and emissions

14.8.2 In accordance with section 5.2 of NPS EN-1, the ES Chapter 13 People and Communities and ES Appendix 13.2 Air Quality Technical Note provides a detailed assessment of the significance of the air quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide paragraphs 7.4.3 to 7.4.8 provide a project-wide overview of any impacts that the project is likely to have on air quality. Good practice measures are set out in the Register of Environmental Actions and Commitments (REAC) and will be secured through the DCO requirements such as the CoCP in Requirement 5 and the contractor's CEMP secured in Requirement 6.

14.8.3 In Section G, the Order Limits pass through the Runnymede Borough Council AQMA along the M25 motorway. This is declared due to predicted exceedances of the annual mean NO₂ and 24-hour mean PM₁₀AQOs. The maximum annual mean concentrations for nitrogen dioxides (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) for the grid squares within 400m of the proposed route in Section G are all below the respective national Air Quality Objectives. However, for NO₂ AQO the maximum mean concentrations would be exceeded.

14.8.4 As the route crosses the River Thames, the Order Limits pass into the Spelthorne AQMA, which encompasses the whole district. This AQMA has been declared due to predicted exceedances of the annual mean NO₂AQO. As the whole of Spelthorne district has been declared as an AQMA. The maximum annual mean concentrations for nitrogen dioxides (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) for the grid squares within 400m of the proposed route in Section G are all below the respective national Air Quality Objectives. However, for NO₂ AQO the maximum mean concentrations would be exceeded; given that the whole of Spelthorne Borough has been declared as an AQMA it is likely that only parts of the Borough actually exceed the relevant AQOs.



14.8.5 On the basis of the proposed maximum number of daily heavy-duty vehicles and light duty vehicles associated with construction traffic controlled by good practice measures, the air quality effects from the temporary effects of construction traffic, including diversions, on human and ecological receptors in rural and urban areas are unlikely to have significant effects on the environment. Therefore, the proposals will not lead to a deterioration in air quality.

Summary

14.8.6 Through the good practice measures in the CoCP, and to be detailed in the contractor’s CEMP, the implementation of both of which are secured as DCO Requirements (Requirement 5 and 6), Section G of the project complies with the requirements of section 5.2 of NPS EN-1 in relation to air quality and emissions.

Biodiversity and Geological Conservation

14.8.7 In accordance with paragraphs 5.3.3 and 5.3.4 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 7 Biodiversity sets out the effects of the project, during both construction and operation, on international, national and locally designated sites, protected species and habitats, and other species identified as being of principal importance for the conservation of biodiversity.

14.8.8 Paragraphs 7.4.9 to 7.4.63 of Chapter 7 Planning Assessment: Project-wide provides a project-wide assessment of the identified biodiversity and geology impact of the project as a whole against the biodiversity and geology NPS policy tests identified in Chapter 6 Planning Policy Context.

14.8.9 This section specifically considers the biodiversity and geology impacts of the project within Section G of the project.

International and National Designated Sites

14.8.10 As highlighted in paragraph 7.4.14 of Chapter 7 Planning Assessment: Project-wide, the project has been designed to avoid and reduce impacts on all designated sites as far as practicable. The Order Limits of Section G avoid any international and national designated sites.

14.8.11 There are no internationally designated sites in Section G of the project. Table 14.4 identifies the nationally designated sites within 1km of the Order Limits of Section G which have been assessed in the ES as all being of high value/sensitivity.

Table 14.4: Nationally and Locally Designated Sites – Section G

Statutory Designated Site		Qualifying Feature	Approx. Distance and Location Relative to Section G
Site of Special Scientific Interest	Dumsey Meadow	Unimproved neutral floodplain grassland.	Within Order Limits
National Nature Reserve	Chertsey Mead	Remnant floodplain meadow on the banks of the River Thames with calcareous influences on plant flora.	Within Order Limits



- 14.8.12 Dumsey Meadows SSSI is designated for its unimproved vegetation community MG5 - *Cynosurus cristatus* - *Centaurea nigra* grassland. Condition assessment of the site in 2012 identified the single unit site as in favourable condition.
- 14.8.13 The Order Limits intersect a small area (<0.04ha) of Dumsey Meadows SSSI for a distance of approximately 55m along its eastern boundary. The pipeline will be installed by trenchless techniques at this location (TC034) as part of the River Thames watercourse crossing (WCX096b). As such, Dumsey Meadow SSSI will not be directly impacted.
- 14.8.14 The River Thames forms a hydrogeological barrier between Dumsey Meadows and launch area to the south. Dewatering will not take place near to the SSSI its notified features which have no or are of low to moderate groundwater dependency, therefore potential effects of loss, modification or fragmentation of habitat within the SSSI will not occur.
- 14.8.15 The INNS Himalayan balsam, Himalayan giant bramble (*Rubus armeniacus*) and Michaelmas daisy (*Aster* sp.) were recorded in Dumsey Meadow SSSI during field survey in 2018. Any further introduction or spread of INNS, or other species with origins outside of the Order Limits, could potentially cause significant adverse effects to sensitive habitats in Dumsey Meadow SSSI due to the dominance that INNS can have over native species. Areas of potential risk from INNS within the Order Limits are detailed in ES Appendix 7.4 INNS Factual Report.
- 14.8.16 Good practice measures such as, measures to avoid the potential spread of INNS and their disposal through waste management are set out in the REAC and will be secured through the DCO requirements such as the CoCP in Requirement 5 and the contractor's CEMP secured in Requirement 6. Given the distance between Dumsey Meadow SSSI and installation operations, in the unlikely event of pollutant leaks or spills during construction, they are highly unlikely to reach groundwater underlying the SSSI. Potential effects resulting from pollutant leaks or spills will not occur.
- 14.8.17 Air quality changes could occur through fugitive dust caused by construction plant activities. Within 50m of the Order Limits (IAQM, 2014), terrestrial habitat receptors within the Dumsey Meadow SSSI may be affected through changes in air quality as the plant communities of the SSSI may experience reduced photosynthesis, respiration and transpiration caused by dust.
- 14.8.18 However, due to the trenchless construction techniques proposed at this location (TC034), the closest above ground construction works areas will be approximately 75m away on the southern side of the River Thames at Chertsey Meads. As the effects of dust deposition are only significant at locations within 50m of source activities (IAQM, 2014), significant effects to Dumsey Meadow SSSI will not arise.

Locally Designated Sites

- 14.8.19 Table 14.5 identifies the locally designated sites within the Order Limits of Section G which have been assessed by the ES as being of medium value/sensitivity.



Table 14.5: Locally Designated Sites in Section G

Designation Type	Local Authority	Within Order Limits	Within 100m	Within 1km
SNCI	Spelthorne	2	0	1
SNCI	Runnymede	5	1	2

14.8.20 As identified in Table 14.5, there are seven SNCIs within the Order Limits:

- Pannell’s Farm SNCI;
- Chertsey Bourne at Chertsey Meads SNCI;
- Chertsey Meads SNCI
- River Thames SNCI
- River Thames – Runnymede SNCI
- River Thames – County boundary to Sunbury SNCI
- Land West of Littleton Lane SNCI/Shepperton Quarry SNCI

14.8.21 The Order Limits cross Chertsey Meads LNR and SNCI between Ordnance Survey grid references TQ 05812 66115 and TQ 05928 66651. The alignment of the Order Limits has been designed to avoid much of Pannells Farm SNCI (see Chapter 4 Design Evolution).

14.8.22 The site is designated for its wet grassland and pond habitats. These will in the main be avoided. However, there will be temporary loss of a very small area of marshy grassland (0.01ha) and Wet Woodland habitat (0.22ha) on the site’s eastern boundary.

14.8.23 Good practice measures such as, a soil management plan, are set out in the REAC, and will be secured through the DCO requirements such as the contractor’s CEMP secured in Requirement 6.

14.8.24 Due to the extremely small areas of habitat potentially affected, the potential impact is of small magnitude and minor adverse significance.

14.8.25 Chertsey Bourne is a main river to the south of Chertsey Meads. Trenchless construction techniques comprising the subsurface drilling of the pipeline will be implemented at this location (TC033). There will be no above ground construction works within this site.

14.8.26 As such, no pathway to potential effects in relation to habitat loss/gain, fragmentation or modification is anticipated for Chertsey Bourne at Chertsey Meads SNCI resulting in an impact of negligible magnitude and negligible significance.

14.8.27 Chertsey Meads is an open area of remnant floodplain meadow on the banks of the River Thames, managed by Runnymede District Council as a public open space and for nature conservation. Part of the SNCI is also an LNR and was formerly a SSSI. The Priority Habitat Inventory describes most of the site as Lowland Meadows Priority Habitat. The site also supports nationally scarce and



rare, locally scarce and red-listed species, SSSI selection criteria for vascular plant assemblages (JNCC, n.d.). The biodiversity value of Chertsey Meads is therefore high (see ES Appendix 7.1 Phase 1 Habitats and Botany Factual Report).

- 14.8.28 The Order Limits extend for approximately 6.3ha within Chertsey Meads LNR and comprises improved and poor-semi-improved grassland, semi-improved and unimproved neutral grassland and broadleaved semi-natural woodland.
- 14.8.29 The pipeline across Chertsey Meads will be largely constructed by open cut trenching. However, the working width will be reduced to 15m positioned towards the western half of the Order Limits (to reduce impacts to Lowland Meadows Priority Habitat), this is secured through the CoCP Requirement 5 of the DCO) and ground protection matting will be used over an approximate distance of 720m.
- 14.8.30 The trenchless crossing of the River Thames will be launched from the northern part of the site (TC034). Broadleaved semi-natural woodland will not be directly impacted by construction works due to the adoption of trenchless methods at this location. The position of the Order Limits has been aligned based on consultation responses from Runnymede Borough Council. Therefore, the Order Limits avoids particularly sensitive botany associated with the Lowland Meadow Priority Habitat immediately to the west.
- 14.8.31 A further area of Lowland Meadows Priority Habitat will be affected by the launch location for the trenchless crossing of the River Thames (TC034) and by open-cut trenching. Pipeline stringing-out areas to the South East require no groundworks and are therefore unlikely to adversely impact this habitat.
- 14.8.32 Good practice measures such as, a soil management plan, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.
- 14.8.33 The potential effect on the high value habitats in Chertsey Meads LNR is of small magnitude due to the avoidance of the most sensitive habitats, the small proportion of the entire site impacted and the proposed good practice measures. The effect will be of minor adverse significance.
- 14.8.34 No pathway to potential effects in relation to habitat loss/gain, fragmentation or modification is anticipated for River Thames to Runnymede SNCI as a result of the use of trenchless construction techniques.
- 14.8.35 No pathway to potential effects in relation to habitat loss/gain, fragmentation or modification is anticipated for River Thames – County boundary to Sunbury (boundary with London Borough of Richmond) SNCI as a result of the use of trenchless construction techniques.
- 14.8.36 Land west of Littleton Lane SNCI and Shepperton Quarry SNCI are generally highly disturbed locations of limited habitat interest and comprises mainly bare earth, due to recent and on-going excavation/quarrying works, with occasional scattered scrub. These SNCIs are designated for their bird interest, no key habitat supporting bird assemblages will be removed during the open cut excavation works.



Protected Species

- 14.8.37 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in requirement 5 and the Landscape and Ecological Management Plan (CEMP) secured in requirement 12.
- 14.8.38 The effects on badgers are not considered in the ES (“scoped out”) following the Planning Inspectorate’s Scoping Opinion response. Effects on badgers were scoped out on the basis of their conservation status and the population in the local area. As such, construction works likely to impact badgers or a sett in current use will be subject to mitigation and secured under a licence granted by Natural England.
- 14.8.39 The results of the badger surveys have nonetheless directly influenced the alignment of the Order Limits, with several route changes being implemented to avoid direct impacts to main setts.

Bats

- 14.8.40 A desk study was undertaken as part of the ES in order to value habitat potentially used by commuting and foraging bats.
- 14.8.41 The ES determines that due to the species composition of bats recorded within the study area of Section G and the potential for roosts to be present within the Order Limits, all bats are valued as high. The data relating to Bat roost in Section G shows the presence of bat roosts in the urban area of Chertsey.
- 14.8.42 Where possible, the alignment of the Order Limits and Limits of Deviation within Section G have been selected to reduce the loss of trees with bat roost potential and increase the distance between construction areas and trees.
- 14.8.43 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the Landscape and Ecological Management Plan secured in requirement 12.

Birds

- 14.8.44 The ES determines that construction works have the potential to have a negligible impact on bird mortality and injury, and a minor impact on bird disturbance and habitat loss, fragmentation or modification in Section G due to the more urban character of the area, the reduced impact on trees and open grassland used for recreation.
- 14.8.45 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the CEMP secured in Requirement 12.



Dormouse

- 14.8.46 The ES has concluded that dormouse are unlikely to be present in Section G due to fragmentation of habitats caused by urban areas and major road and railway infrastructure.

Fish

- 14.8.47 Within Section G, the River Thames has been identified as having high sensitivity for fish species. Trenchless crossing techniques will be used to cross underneath the River Thames and so fish species in this watercourse will not be adversely affected by the project.
- 14.8.48 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the CEMP secured in Requirement 12.

Great Crested Newt

- 14.8.49 The GCN populations identified within the 250m buffer of the Order Limits likely represent a small proportion of the overall GCN populations in Surrey where GCN has recently been recorded in most 10km squares. As such, GCN are afforded a medium value.
- 14.8.50 Appropriate licences will be obtained where necessary from Natural England for all works affecting GCN as identified by the ES and through pre-construction surveys. All relevant works will be undertaken in accordance with the relevant mitigation requirements and conditions set out in those licences.
- 14.8.51 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the CEMP secured in Requirement 12.

Otter and Water Vole

- 14.8.52 Otters have the potential to use any watercourse. No suitable habitat for otter and/or water vole has been identified within Section G that will be affected by the project.
- 14.8.53 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the CEMP secured in Requirement 12.

Habitats of Principal Importance for Biodiversity Conservation

- 14.8.54 The ES has gathered baseline information on the habitats within the Order Limits in Section G from both desk study and field survey. The following Priority Habitats have been recorded within or near to the Order Limits and are potentially sensitive to changes to groundwater levels, flows or quality:
- Lowland Meadows (within Order Limits); and
 - Wet Woodland.



- 14.8.55 Wet Woodland Priority Habitat is found at Addlestone Moor within Section G, at this location it has been identified as having, respectively, moderate and moderate to low dependence on groundwater levels, flows or quality.
- 14.8.56 Vegetation clearance and ground works will result in the temporary loss of Priority Habitats where they are present in the Order Limits. Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the CEMP secured in Requirement 12.

Ancient Woodland and Veteran Trees

- 14.8.57 There are no Ancient Woodland Inventory sites within or within 50m of Section G of the Order Limits. There is one Potential Ancient Woodland Site (less than 2ha) adjacent to the Order Limits. None were identified within the Order Limits. The ES indicates in paragraph 7.5.56 that no vegetation clearance or groundworks in Ancient Woodland Inventory sites is required. As such, there is no potential pathway to effect and no Ancient Woodland Inventory sites will be affected by the project.
- 14.8.58 All habitat not considered as Priority Habitat is assessed as being of negligible value and is not discussed further in the ES. The Limits of Deviation have been set to take account of the location of other utilities within the Order Limits, particularly in areas of streetworks. Within Section G, ground conditions within the restored gravel quarries have been taken into account when selecting the proposed pipeline location, to utilise areas of inert waste landfill.
- 14.8.59 The ES reports that no significant effects relating to habitat loss/gain, fragmentation or modification are predicted on ancient woodland within Section G.
- 14.8.60 Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the CEMP (DCO Requirement 12).

Hedgerows

- 14.8.61 There are no notable hedgerows located within Section G. However the project has made a project-wide commitment to reduce the impact of crossing all hedgerows.
- 14.8.62 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in requirement 5, the Hedgerows and Trees secured in Requirement 8 and the CEMP secured in Requirement 12.

Summary

- 14.8.63 Through the route design and embedded mitigation, and the good practice measures to be secured through the DCO Requirements, Section G of the project avoids significant harm to biodiversity and geological conservation and therefore



complies with the requirements of section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4.

Civil and military aviation and defence interests

14.8.64 There are no civil or military aviation interests affected by the construction of the proposed pipeline in Section G.

Dust, odour, artificial light, steam and insect infestation

14.8.65 In accordance with section 5.6 of NPS EN-1 and ES Chapter 13 People and communities provides a detailed air quality assessment of the project, during both construction and operation.

14.8.66 Paragraphs 7.4.71 to 7.4.93 of Chapter 7 Planning Assessment: Project-wide provide an overview of any dust or artificial light impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. As paragraph 7.4.72 of Chapter 7 Planning Assessment: Project-wide states, there will be no odour, smoke, steam or insect infestation issues resulting from the project. The specific impacts arising from dust and artificial light emissions within Section G are considered below.

Dust

14.8.67 In respect of dust emissions, the possible receptors in Section G which may be affected are assessed as human receptors residing or working within 350m of the construction site and ecological receptors within 50m. Human receptors in Section G include several community and recreation/amenity facilities, including people using public rights of way. Ecological receptors in Section G includes sites of Special Scientific interest (SSSI).

Table 14.6 human and Ecological Receptors in Proximity to Section G

	Human Receptors				Ecological Receptors		
	Demolition, Earthworks and Construction (Distance to Construction Boundary)				Trackout (Distance from Roads up to 200m from the Site Entrance)		Dust Soiling (Distance to Construction Boundary)
	<20m	<50m	<100m	<350m	<20m	<50m	<20m
Section G	57	151	474	2626	10-100	10-100	High

14.8.68 In respect to potential dust emissions, the magnitude of dust emissions in Section G is presented in Table 1.7 of ES Appendix 13.2 Air Quality Technical Note, whilst an assessment of the sensitivity of the areas around Section G for human and ecological receptors is presented in Table 1.8 and Table 1.9 respectively of ES Appendix 13.2 Air Quality Technical Note.

14.8.69 The ES (Appendix 13.2, Table 1.10) has assessed the risk to human health and ecological receptors from dust emissions arising at each of the construction stages (earthworks, construction and trackout) in Section G as being either negligible or



low. The risk of dust soiling during the construction stages ranges from a negligible risk for the trackout phase to a medium risk for the earthworks phase.

- 14.8.70 Despite the dust emission risk being judged as being negligible to low, good practice mitigation will be incorporated in order to control all effects of dust, not just medium to high risks, as set out in paragraphs 7.4.73 to 7.4.83 of Chapter 7 Planning Assessment: Project-wide.
- 14.8.71 Good practice measures such as, the preparation and compliance with a Dust Management Plan, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the contractor's CEMP secured in Requirement 6.

Artificial Light

- 14.8.72 Temporary artificial light will be provided in Section G in the construction phase.
- 14.8.73 During the construction phase, in addition to temporary site working area lighting, it is proposed to provide temporary lighting at the two construction compounds located in Section G.
- 14.8.74 All lighting will be set up to avoid nuisance as far as is practicable so will be low-level and directional to avoid glare into residential properties. Good practice measures such as, the location and direction of lighting, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the contractor's CEMP secured in Requirement 6.
- 14.8.75 In respect of the operation phase, there will not be any permanent lighting required for Section G.

Summary

- 14.8.76 Through the good practice measures to be secured through the DCO Requirements, Section H of the project will keep the impacts from dust and artificial light to a minimum and therefore complies with the requirements of section 5.6 of NPS EN-1 in relation to dust and artificial light.

Flood risk

- 14.8.77 In accordance with section 5.7 of NPS EN-1, ES Chapter 8 Water accompanying the application provides a detailed assessment of the flood impacts of the project, including a Flood Risk Assessment (FRA) for the project (**application document 7.3**).
- 14.8.78 Paragraphs 7.4.94 to 7.4.125 of Chapter 7 Planning Assessment provides a project-wide overview of any impacts that the project is likely to have on flood risk, together with identifying the mitigation that will be implemented to manage these impacts.
- 14.8.79 One of the construction compounds is in flood zone 3, this is Compound 20 on Mead Lane, the other compound at Pannells Farm is in flood zone 1 in Section G.

Fluvial Flood Risk

- 14.8.80 The majority of section G is located within Flood Zones 2 and 3 as it crosses the River Thames Floodplain. There are two watercourses within Section G, the Chertsey Bourne and the River Thames. Both of these will be crossed using trenchless crossing techniques. There are large areas of land that are at a high risk of fluvial flooding with much of the pipeline route in Section G passing through land within Flood Zones 2 and 3.
- 14.8.81 The largest area of flood risk is associated with the River Thames, with Flood Zone 3 extending across Chertsey Meads and Dumsey Meadow. Land to the west of the A317 are in Flood Zone 1.
- 14.8.82 The haul road, working areas along the pipe and the pipeline trench will be located in the Flood plain. The compound at Chertsey Meads will be located within the River Thames Floodplain. Mitigation measures proposed include the siting of office and welfare facilities above the flood level, and flood risk response actions and use of permeable surfacing. are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the contractor's CEMP secured in requirement 6.
- 14.8.83 During the operation stage, the pipeline will be an underground structure, with the exception of two valve compounds above ground but not located within Flood Zone 2 or 3. Therefore, there will not be any significant impacts in terms of flood risk. Good practice measures such as, the design of fencing to reduce the impedance of flood waters, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.
- 14.8.84 A range of mitigation measures have been incorporated to ensure that the project does not exacerbate flood risk in locations which are identified as medium or high risk. These include specific measures which are listed in the FRA and in ES Chapter 8. The implementation of these mitigation measures will reduce the overall risk assessed as Medium or High to Low. Good practice measures such as, controlling the storage of top soil within the flood plains, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.
- 14.8.85 The project has to cross the River Thames Floodplain in order to reach the West London Terminal storage facility, therefore the sequential test cannot be passed. The exception test has therefore been applied and the FRA Appendix A 'Sequential and Exception Test Reports' demonstrates that the exception test is passed for the project. This approach complies with NPS EN-1 paragraph 5.7.13 which states that 'If there is no reasonable available site in Flood Zones 1 or 2 or Zones A & B, then nationally significant energy infrastructure can be located in Flood Zone 3 or Zone C subject to the Exception Test'.
- 14.8.86 Section G passes through areas of Flood Plain associated with the River Thames. During construction, trenches will remain open for as little time as possible to reduce the need to dewater the trench. Most of the land within the Order Limits across Chertsey Meads will be used for stringing out of the pipeline-sections ahead of the installation of the pipeline under the River Thames using trenchless



techniques; sections of open cut trench within Flood Zone 3 have been kept to a minimum.

- 14.8.87 The design of the pipeline will reduce impacts on groundwater by installing temporary stanks where necessary to reduce groundwater flow pathways being created, as set out in the CoCP secured through Requirement 5 of the DCO. During operation, the pipeline is continuously monitored, valves are placed along the route to ensure that sections of the pipeline can be isolated automatically to reduce pollution risks. These valves are placed specifically to protect the water environment.
- 14.8.88 A range of mitigation measures have been incorporated to ensure that the project does not exacerbate flood risk in the locations which are identified as medium or high risk. These include specific mitigation measures which are listed in the FRA (**application document 7.3**). The implementation of these mitigation measures will reduce the overall risk to and from the project at those crossings with a medium or high risk down to a low risk. These measures are included within the CoCP, the implementation of which is secured by DCO Requirement 5, and will be detailed in the contractors CEMP, secured by DCO Requirement 6.
- 14.8.89 During the operation stage, the pipeline will be an underground structure, with the exception of the valve compound for Valve number 13. Therefore, there will not be any significant impacts in terms of flood risk.

Surface Water

- 14.8.90 There are licensed surface water abstractions from the River Thames approximately 4.5km downstream of the pipeline crossing. The use of trenchless construction techniques will protect this abstraction.
- 14.8.91 A range of mitigation measures has been incorporated so that the project does not exacerbate flood risk in this location. These include specific measures which are listed in the FRA and ES Chapter 8 Water. The implementation of these mitigation measures will reduce the overall risk assessed as Low to Very Low. Good practice measures such as, controlling the storage of top soil within area at risk of flooding from surface water, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.
- 14.8.92 During the operation stage, given that the pipeline will be an underground structure, with one valve compound above ground but not in Flood Zones 2 or 3, it will not have any significant impacts in terms of flood risk from surface water.

Ground water

- 14.8.93 The FRA states that it is likely that shallow groundwaters will be encountered for almost the entire length of the Order Limits in Section G. The FRA states that groundwater may be intercepted by the trench excavated to install the pipeline and is most likely to occur along the entire length of the proposed pipeline route through Section G.



- 14.8.94 A range of mitigation measures has been incorporated so that the project does not exacerbate flood risk in this location. These include specific measures which are listed in the FRA and in ES Chapter 8 Water. The implementation of these mitigation measures will reduce the overall risk assessed as Low during construction and operation within Section G. Where required, water stops or 'stanks' will be installed at intervals through the pipe bedding and side fill in order to intercept groundwater flowing along the pipeline bedding material and prevent the creation of new groundwater flow paths during the operational phase. Good practice measures such as, the use of sheet piling manage ground water flows, are set out in the REAC, and will be secured through to the DCO requirements such as the contractor's CEMP secured in Requirement 6.

Reservoir

- 14.8.95 In terms of reservoir flood risk, there is a potential source to the north from the West London reservoirs. However, a range of mitigation measures has been incorporated so that the project does not exacerbate flood risk in this location such as construction workers undergoing training to increase their awareness of flood risk response actions secured as set out in the REAC, and will be secured through DCO requirements such as the CoCP and the contractor's CEMP secured in requirement 6.

Water Infrastructure

- 14.8.96 Paragraph 7.4.124 of Chapter 7 Planning Assessment: Project-wide provide an overview of any impacts that the project is likely to have on flood risk and water infrastructure, together with identifying the mitigation that will be implemented to manage these impacts.

Summary

- 14.8.97 Through the good practice measures set out in the REAC and specific mitigation identified in the Flood Risk Assessment, secured DCO Requirements such as the CoCP (DCO Requirement 5) and CEMP (DCO Requirement 6), Section G of the project complies with the requirements of section 5.7 of NPS EN-1 and section 2.22 of NPS EN-4 in relation to flood risk.

Historic environment

- 14.8.98 In accordance with section 5.8 of NPS EN-1, ES Chapter 9 Historic Environment provides a detailed description of the significance of the heritage assets affected by the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.126 to 7.4.150) provides a project-wide overview of any impacts that the project is likely to have upon the historic environment, together with good practice measures that will be implemented to manage these impacts. Those related to Section G are identified below.
- 14.8.99 The route in Section G has been selected to reduce the impact on the historic environment by avoiding, where practicable, designated heritage assets in accordance with paragraph 5.8.12 of NPS EN-1. Some impacts on the historic



environment may still occur as a result of construction activity, including upon as yet unidentified archaeological assets.

14.8.100 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.1) identifies those heritage assets where major or moderate adverse impacts have been identified to result from construction of the project, prior to the application of good practice measures. Assets in Section G where major or moderate impacts are identified within the ES are set out in Table 14.7.

Table 14.7: Heritage Assets with a Major or Moderate Adverse Effects Before Mitigation in Section G.

Asset Number	Asset Name	Within Order Limits	Value	Significance of Effect of Project on Heritage Asset (without good practice measures)	Significance of Effect of Project on Heritage Asset (with good practice measures)
957	Enclosure and Ring Ditch Cropmarks, Chertsey	Yes	Medium	Moderate Adverse	Minor Adverse
1029	Sub-Rectangular Enclosure or Drainage Ditch Cropmarks, Chertsey	No	Medium	Moderate Adverse	Minor Adverse
1049	Sub-Circular Enclosure and Ring Ditch Cropmarks, Chertsey	Yes	Medium	Moderate Adverse	Minor Adverse
2005	Geophysical Survey Archaeological Feature 28	Yes	Low	Moderate Adverse	Negligible
2006	Geophysical Survey Archaeological Feature 29	Yes	Low	Moderate Adverse	Negligible

14.8.101 As Table 14.7 identifies, ES Chapter 9 Historic Environment concludes that there will be no significant (major or moderate) residual impacts on heritage assets in Section G, following the application of good practice measures. There are, however, three assets in Table 14.6 where the ES assessment identifies that minor adverse impacts will still remain, following application of good practice measures.

- Enclosure and Ring Ditch Cropmarks, Chertsey – within the Order Limits.
- Sub-Rectangular Enclosure or Drainage Ditch Cropmarks, Chertsey – located outside the Order Limits.
- Sub-Circular Enclosure and Ring Ditch Cropmarks, Chertsey – within the Order Limits.

14.8.102 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.2) identifies heritage assets where although significant effects are not identified, there may be minor adverse or negligible residual effect upon a heritage asset.

14.8.103 Although some residual effects are therefore identified to occur, these are assessed to be either negligible or short-term minor adverse effects upon the setting of heritage assets, or at worst minor adverse effects from physical impacts on the heritage assets themselves. With regard to paragraph 5.8.15 of NPS EN-1,



as the residual effects are, at worst, minor adverse, there will be no substantial harm to heritage assets, nor will there will be any total loss of heritage assets, as a result of Section G or any other Sections of the project. Any harmful impact on the significance of heritage assets relating to the identified residual minor adverse effects is outweighed by the public benefit of the project, as set out in detail in Chapter 2 Need.

Summary

14.8.104 Good practice measures such as, an Archaeological Mitigation Strategy (AMS), are set out in the REAC, and will be secured through the DCO requirements. Through the good practice measures to be secured through the CoCP and AMS, the implementation of which is secured by DCO Requirements 5 and 11, Section G of the project complies with the requirements of section 5.8 of NPS EN-1 in relation to heritage assets.

Landscape and visual

14.8.105 In accordance with section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 10 Landscape and Visual accompanying the application for Development Consent provides a detailed assessment of the landscape and visual impacts of the project. Furthermore, paragraphs 7.4.150 to 7.4.196 of Chapter 7 Planning Assessment: Project-wide provides an overview of any landscape or visual impacts that the project is likely to have, together with identifying the design measures that have sought to avoid or reduce potential impacts both through the alignment of the pipeline corridor and the use of the design measures outlined in Table 10.13 of ES Chapter 10 Landscape and Visual.

14.8.106 Landscape or visual impacts arising from construction and operation of the project in Section G are identified below.

Construction Impacts

Landscape character

14.8.107 Potential impacts on national landscape character areas and the Surrey Landscape Character Assessment for Section G are summarised in Table 14.7. Impacts during construction and post construction in years 1 and 15 are identified.

Table 14.8: Summary of Potential Impacts on landscape character (Section G)

National Character Area	Construction	Year 1	Year 15
	Significance of Effect	Significance of Effect	Significance of Effect
115: Thames Valley	Moderate	Moderate	Minor

14.8.108 The ES Chapter 10 Landscape and Visual concludes that in year 1 post construction, the line of the route will be evident from the contrast in colour between the existing and seeded grass across reinstated areas of pasture and grassland within all character areas, caused by disturbance during construction and establishment of re-seeded areas. However, this will be short term and not



significant. Impacts will be localised and will not affect the overall landscape character.

Landscape Designations

14.8.109 Potential impacts on landscape designations identified in the ES Chapter 10 Landscape and Visual in Section G are summarised below.

Thames Valley National Character Area

14.8.110 In this National Character Area, the key characteristic of the landscape is trees within the urban area. The character and amenity of streetscapes would be affected by loss of trees in some areas. Woburn Hill and Chertsey Meads ALI would experience short term effects of significance as a result of disruption to the landscape during construction. Vegetation loss would be limited within the ALI but could include a localised area of notable trees.

14.8.111 Working widths would be reduced in specific locations is secured through the CoCP by Requirement 5 of the DCO. Where notable trees would be retained within or immediately adjacent to the Order Limits, the trees and their root protection areas (RPAs) would be protected where they extend within the Order Limits and are at risk. This would be by means of fencing or other measures and will be secured through the DCO requirements such as Hedgerow and Trees Requirement 8 and the CEMP Requirement 12. This would reduce loss of trees within Woburn Hill and Chertsey Meads ALI (NW29).

14.8.112 Construction effects would largely be temporary and would predominantly be set within the context of public highways or urban areas, fragmented areas of landscape associated with gravel extraction, and major highways including the M3 and M25.

Ancient Woodland and Tree Preservation Orders (TPOs)

14.8.113 There is no Ancient woodland or potential Ancient Woodland under 2Ha impacted directly within the Order Limits in Section G.

14.8.114 There are two area TPOs within the Order limits in Section G:

- A block of woodland on land at Sandgates, Guildford Road, Chertsey – the Order Limits clip the corner of the woodland block. With the measures to retain trees and vegetation where practicable included in the REAC and secured through the DCO requirements such as the CoCP (DCO Requirement 5) and the hedgerows and trees requirement 8 and the CEMP in Requirement 12 of the DCO, impacts on the woodland will be managed.
- A linear area of woodland on land on the west side of Chertsey Road, Addlestone is bisected by the Order Limits. With the measures to retain trees and vegetation where practicable included in the REAC and secured through the DCO requirements such as the CoCP (DCO Requirement 5) and the hedgerows and trees Requirement 8 and the Landscape and Ecological Management Plan in Requirement 12 of the DCO impacts on the trees will be managed.



14.8.115 Powers will be secured under Schedule 1 to the DCO to construct the pipeline within the Limits of Deviation, including trenchless crossings or narrow working as required. Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the Landscape and Ecological Management Plan (DCO Requirement 12).

Registered Common Land and Open access Land

14.8.116 This section does not address the issue of acquisition of land rights for Special Category Land, which is addressed in Chapter 17 Special Category Land.

14.8.117 There is no common Land to Open Access land in Section G.

Visual effects

14.8.118 The potential visual effects from the representative viewpoints along Section G are set out in ES Chapter 10 Landscape and Visual Appendix 10.3 and summarised in paragraphs 10.5.133 in ES Chapter 10 Landscape and Visual.

Table 14.9: Key Potential Visual Receptors

Receptor Group	Examples
Residents	<p>People living in scattered rural properties and on edges of settlements closest to the Order Limits.</p> <ul style="list-style-type: none"> • Chertsey and Addlestone
People using PRoWs	<p>A strong network of PRoWs runs throughout the study area, and PRoWs run close to and cross the Order Limits.</p> <ul style="list-style-type: none"> • Thames Path
People visiting historic parks and gardens and promoted gardens	<ul style="list-style-type: none"> • Woburn Farm Grade II Registered Park and Garden (Section G).
People using publicly accessible landscapes	<p>Visual receptors within publicly accessible landscapes.</p> <ul style="list-style-type: none"> • Playing fields north of Abbey Moor Golf Course, Addlestone and south of Chertsey; • Chertsey Meads children’s play and picnic areas. <p>Sites promoted for wildlife (see details in Chapter 7 Biodiversity). Notable examples include:</p> <ul style="list-style-type: none"> • Chertsey Meads LNR; and • Dumsey Meadow SSSI, Chertsey.
People using private landscapes	<p>Users of golf courses:</p> <ul style="list-style-type: none"> • Abbey Moor Golf Course, Addlestone. <p>School playing fields at the following establishments:</p> <ul style="list-style-type: none"> • Philip Southcote School and nearby school, Addlestone; <p>Other:</p> <ul style="list-style-type: none"> • Cemetery at Addlestone Moor, south of Chertsey.

14.8.119 The project would not be visible from Woburn Farm Registered Park and Garden due to intervening vegetation within the western part of the park. From Representative Viewpoint 55, west of Woburn Farm, there would be close views of



construction activity from the footpath, exacerbated by removal of trees west of it. During construction, the magnitude of impact would be medium, and the significance of effect would be moderate.

- 14.8.120 From Representative Viewpoint 56a at Chertsey Meads, a locally designated and publicly accessible landscape promoted for recreational use, there would be close and open views of construction activity for a limited duration from the PRoW where it crosses the construction corridor and longer views along the construction corridor as it runs northeast within the more open landscape of Chertsey Meads. Whilst temporary, construction activity would be at odds with the open character of the landscape. The potential magnitude of impact would be medium, and the significance of effect would be moderate.
- 14.8.121 However, effects relating to construction activity would be short-term and temporary, and effects relating to loss of vegetation would largely be of medium duration whilst reinstatement planting becomes established, reducing over time to non-significant effects as reported below for year 15.

Operational Impacts

- 14.8.122 The ES Chapter 10 Landscape and Visual concludes that landscape and visual effects arising from pipeline operation in year 15 will be localised and not significant, when reinstatement planting outlined in Table 10.13 of ES Chapter 10 Landscape and Visual will be established. This is because the pipeline will be underground and above ground features including the proposed valves and cathodic protection cabinets will be small in scale. The details of planting will be secured through the CEMP, the implementation of which is secured by DCO Requirement 12.

Summary

- 14.8.123 Through the good practice measures secured through the DCO Requirements, Section G of the project complies with the requirements of section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4. Good practice measures such as, tree protection measures, replanting and maintenance, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP in requirement 5, the Hedgerows and Trees Requirement 8 and the CEMP in Requirement 12.

Land use including open spaces, green infrastructure and Green Belt (SCL)

- 14.8.124 In accordance with section 5.10 of NPS EN-1, ES Chapter 12 Land Use provides an assessment of the land use impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project Wide provides a project-wide overview of any land use impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

Green Belt

- 14.8.125 Section G of the project is within the Metropolitan Green Belt.



- 14.8.126 Within Section G are the following works and activities are proposed to be located within the Green Belt:
- the underground pipeline (permanent)
 - 1 valve (valve 13) (permanent);
 - pipeline markers (permanent);
 - pipeline flight markers (permanent)
 - 2 construction compounds (temporary);
 - refurbished Cathodic Protection Transformer rectifier cabinets; and,
 - construction activity such as fencing, storage of topsoil and machinery (temporary).
- 14.8.127 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.226 to 7.4.273) also includes the assessment of compliance with the NPSs in relation to the impact of the project on the Metropolitan Green Belt. In order for the pipeline to reach the West London Terminal storage facility it is necessary to cross the Metropolitan Green Belt.
- 14.8.128 The installation of the replacement pipeline together with the associated construction activity will constitute inappropriate development in the Metropolitan Green Belt impacting on the openness of the Metropolitan Green Belt. However, very special circumstances exist that outweighs the protection afforded to the Metropolitan Green Belt, the potential harm to the Metropolitan Green Belt and any other harm from the proposal. As such, the project accords with relevant NPS policy on development in the Green Belt as set out in paragraphs 5.10.10 to 5.10.12 and paragraph 5.10.17, along with relevant Green Belt policy in the NPS.

Open Spaces

- 14.8.129 This assessment is fundamentally about the impact of the project on the use and function of open spaces and does not consider the issue of acquisition of land rights, which is addressed in Chapter 17 Special Category Land.
- 14.8.130 Section G passes through a number of public open spaces, in particular:
- Abbey Moor Golf Club;
 - Abbey Rangers Football Club; and
 - Chertsey Meads SANG.
- 14.8.131 An assessment has been made of the impact of construction on these sites. There is no above ground infrastructure located within these open spaces, therefore the only impact is during construction. In all cases, the construction technique is open cut which is the appropriate construction technique. The working area will be fenced during construction, top soil stripped and stored alongside the working area, the trench will be excavated, and the material stored within the working area, the pile will be laid out and welded alongside the trench and tested, before being lifted into place and the ground reinstated.



14.8.132 The construction of the pipeline will temporarily impact on the use of the sports pitches at Abbey Rangers Football Club and Abbey Moor Golf Club. Discussions are on-going with the landowners in order to keep disruption to a minimum.

Summary

14.8.133 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section G of the project complies with the requirements of section 5.10 of NPS EN-1 in relation to Land use.

Noise and vibration

14.8.134 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.274 to 7.4.289) provides a project-wide assessment of any noise and/or vibration impacts that the implementation of the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. This reflects the assessment undertaken in ES Appendix 13.3 Noise and Vibration Technical Note.

Summary

14.8.135 The commitment to agreeing a Noise and Vibration Management Plan with the relevant planning authority (as part of the CEMP secured as DCO Requirement 6) would ensure that appropriate noise and vibration mitigation would be implemented during the works, in accordance with paragraph 5.11 of NPS EN-1.

Socio-economic

14.8.136 In accordance with the requirements of NPS EN-1 section 5.12, the ES Chapter 13 People and Communities provides an assessment of the socio-economic impacts of the project.

Community

14.8.137 Section G is a largely urban area interspersed with open spaces and reclaimed gravel quarries. The pipeline route has therefore utilised where possible open spaces and reclaimed land in order to reduce the impact on residents and local businesses. The community, recreation/amenity and tourism receptors within the study area or Order Limits identified in the ES are listed in Table 14.10.

Table 14.10: Community and Recreation/Amenity Receptors in Section G

Type	Receptor Name	Order Limits or Study Area
Community Receptor	Philip Southcote School	Within Order Limits
Recreation Amenity Receptor	Abbey Rangers Football Club	Within Order Limits
	Abbey Moor Golf Club	Within Order Limits
	Chertsey Meads Open Space	Within Order Limits
	Thames Path	Within Order Limits



- 14.8.138 Section G is a short section of pipeline between the M3 motorway and M25 motorway and is a mixture of agricultural, open space and urban land uses. There are short sections of streetworks within two residential streets and these will impact on the local residents on these streets.
- 14.8.139 Wider effects on the community will be reduced through the use of trenchless crossings of the main road through Chertsey.

Recreation and Amenity

- 14.8.140 The proposed works through Abbey Moor Golf Course will use a reduced working width to ensure as much of the golf course is unaffected as possible. The sports pitches at Chertsey High School and Abbey Rangers Football Club will be crossed using open cut and trenchless techniques in order to reduce the impact as far as possible, though there will still be a temporary loss of two five-a-side pitches, the project is committed to narrow working across the Abbey Rangers site.
- 14.8.141 Chertsey Meads is an important area for community recreation and there will be disruption to access while the pipeline is laid along Mead Lane, though this is considered to be the preferred option as the impact on Chertsey Mead itself will be reduced.

Tourism

- 14.8.142 The long distance Thames Path runs along the banks of the River Thames and this is an important recreational and tourism feature. The ES states that no other tourism receptors will be directly affected. The pipeline would be installed below this path using trenchless techniques as part of the River Thames crossing. As installation works will be of short duration in any one location, with works being mobile and temporary in nature, no potential effects are considered to be significant, therefore visitor numbers are not expected to be significantly impacted.

Summary

- 14.8.143 Overall, there will be no significant impact on the socio-economic well-being of the local community and businesses in Section G during the construction of the pipeline, not only because the impacts are temporary but also the careful routing and timing of construction has sought to reduce the potential impacts. In terms of the operational phase, once the replacement pipeline is in place there will be no significant impacts on community, recreation/amenity and tourism receptors.
- 14.8.144 Through the good practice measures secured through the DCO Requirements, Section G of the project complies with the requirements of section 5.12 of NPS EN-1 in relation to socio-economics.

Soils and Geology

- 14.8.145 In accordance with section 5.3 of NPS-EN1 and section 2.23 of NPS EN-4, ES Chapter 11 Soils and Geology provides a detailed assessment of the soils and geology impacts of the project. Furthermore, paragraphs 7.4.330 to 7.4.351 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of



any soils and geology impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

- 14.8.146 The design of the project has been iterative, and the design refinements have resulted in avoiding sensitive features as set out in section 11.4 of ES Chapter 11 Soils and Geology.
- 14.8.147 Section G comprises mainly seasonally waterlogged loamy and clayey soils. In terms of minerals, approximately one third of the study area from south of Lyne (Section F) to the end of the corridor at the West London Terminal storage facility (Section H) lies within designated Surrey Minerals Safeguarding Areas (for concreting aggregate) but none of the high value deposits sit within Section G.
- 14.8.148 In respect of agricultural land, there are pockets of Grades 1, 2, 3 and 4 agricultural land classification in this section of the project.

Impact on Soils

- 14.8.149 ES Chapter 11 Soils and Geology considers that all soils identified within the Order Limits will be affected, such that ALC grades/subgrades 1 (high value), 2 (high value), 3a (medium value), 3b (medium value) and 4 (low value) will be affected.
- 14.8.150 Good practice measures, as set out in the CoCP in ES Appendix 16.1, have been identified and the assessment in ES Chapter 11 Soils and Geology is based on these being in place. This will be secured by implementation of the CoCP (DCO Requirement 5).
- 14.8.151 ES Chapter 11 Soils and Geology concludes that a minor adverse impact will occur across the range of soil receptors in Section G. This can be considered to be a temporary impact because of the quality of soils will recover over the short term. Good practice measures such as, a soil management plan, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.
- 14.8.152 As a result, no additional measures have been identified and there will be no significant residual impacts predicted to any soils or geology during construction or operation.

Land Contamination

- 14.8.153 There are six sites in Section G which may potentially be affected by contamination from historic and/or current uses:
- Hanworth trading Estate - Current industrial park within the Study Area but outside Order Limits.
 - Former Chertsey Gas works - Former COMAH site within the Study Area but outside Order Limits.
 - Abbey Moor Golf Course - Historical landfill within the Order Limits.
 - Lavenders Landfill - Historical landfill within the Order Limits.



- Old Littleton Lane Landfill - Historical landfill partially within the Order Limits.
- Sheep Walk Landfill (Chertsey Road Tip) - Historical landfill within the Order Limits.

14.8.154 Good practice measures such as, a contaminated land risk assessment, methodology for construction through contaminated land and reporting of actions taken, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the Contaminated Land and Ground Water Requirement 10.

Impact on Geology (including Minerals)

14.8.155 The impacts on geology, including mineral safeguarding, are addressed in the project-wide paragraphs 7.2.218 to 7.4.225 in Chapter 7 Planning Assessment: Project-wide.

Summary

14.8.156 With respect to Section G, ES Chapter 11 Soils and Geology concludes there will be no significant residual impacts on soils and geology during construction or operation, and therefore the project complies with the requirements of section 5.3 of NPS EN-1 section 2.23 of NPS EN-4.

Traffic and transport

14.8.157 In accordance with section 5.13 of NPS EN 1, the projects has assessed the traffic and transport implications of the proposals. ES Appendix 13.1 Traffic and Transport Technical Note sets out the potential traffic and transport impacts of the project and residual effects. The ES has been informed by a separate Transport Assessment (**application document 7.4**) submitted as part of the application for development consent. Furthermore, paragraphs 7.4.300 to 7.4.311 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any traffic and transport impacts that the project is likely to have, together with identifying the management that will be implemented to manage these impacts.

14.8.158 To minimise the impacts, the project has embedded design measures such as the use of trenchless crossings for trunk roads, motorways and railways.

14.8.159 In addition, in order to minimise the disruption to traffic flows and highway safety there are measures such as a construction traffic management plan which would consider how traffic generated by construction vehicles would be managed which will be secured by Requirement 7 of the DCO.

14.8.160 For walking, cycling and equestrians, this will be managed by ensuring that pedestrian access to and from residential, commercial, community and agricultural land uses would be maintained throughout the construction period, including retention of vehicular access to be maintained where practicable which will be secured through Requirement 7 of the DCO.

14.8.161 There are no Public Rights of Way (PRoW) that cross the project Order Limits in Section G that require a temporary Diversion. All PRoWs in Section G will remain



open and useable during construction. There will be no impact on PRowWs during the operation of the pipeline.

- 14.8.162 With the use of embedded design measures and the project commitments secured by the DCO, the level of disruption to travel and transport will be limited. The project has, however, considered the impact on traffic and travel in the roads where works would exceed four weeks. Four weeks was chosen for the assessment based on good practice from other projects.
- 14.8.163 In terms of traffic flow, along with collision and safety, there would not be any increase from the project compared to the future traffic flow levels and collisions and safety, that would otherwise have occurred without this project.

Summary

- 14.8.164 There will not be any significant impacts on traffic and transport and in all other respects the while there will inevitably be some disruption during construction, embedded design measures and mitigation will be put in place to reduce this impact. As such, the project complies with section 5.13 of NPS EN-1.

Waste Management

- 14.8.165 In accordance with NPS EN-1 section 5.14, ES Chapter 16 Environmental Management and Mitigation the development of a Site Waste Management Plan (SWMP) prior to construction will be produced as set out in paragraphs 7.4.312 to 7.4.317 of Chapter 7 Planning Assessment: Project-wide. The SWMP will be secured through the DCO requirement for a CEMP (DCO Requirement 6). Good practice measures are set out in the REAC and will be secured through the DCO requirements such as the CoCP secured in Requirement 5. Section G of the project complies with the requirements of section 5.14 of NPS EN-1 with respect to waste management.

Water Quality and Resources

- 14.8.166 In accordance with NPS EN-1 section 5.15, the ES Chapter 8 Water provides a detailed assessment of the water quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide paragraphs 7.4.318 to 7.4.330 provides a project-wide overview of any water quality impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.
- 14.8.167 This section sets out any specific impacts that have been identified for the project in Section G upon:
- existing quality of waters;
 - existing water resources;
 - existing physical characteristics of the water environment; and
 - any impacts on water bodies or protected areas under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) around potable groundwater abstractions.



Water Quality

Groundwater

14.8.168 The groundwater environment in Section G is defined as the following:

- section where Kempton Park Gravel superficial deposits form a Principal superficial aquifer; and,
- Small areas of Secondary A superficial aquifers throughout the section formed by deposits including alluvium and river terrace deposits

14.8.169 The groundwater environment in Section G is identified as between Medium to High value.

14.8.170 A number of possible effects on groundwater quality in Section G are identified in ES Appendix 8.5. Minor or negligible groundwater quality impacts have been identified for the following receptors during construction:

- Dumsey Meadow SSSI;
- Chertsey Meads groundwater dependent terrestrial ecosystems (GWDTEs);
- Chertsey Special Protection Zone (SPZ)
- Addlestone Moor GWDTE;
- River Thames; and
- Superficial principal gravel aquifers

14.8.171 Potential impacts have been identified as potentially arising from the dewatering of surface water drainage or intercepted groundwater in open-trenches, the abstraction and discharge of abstracted groundwater from trenchless crossings or from leaks and spills from plant fuels and oils during the construction phase. Good practice measures such as, good housekeeping measures and pollution controls, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the contractor's CEMP Requirement 6 will ensure that the impact on groundwater receptors is negligible or minor. These measures are set out in Table 8.12 of ES Chapter 8 Water.

14.8.172 As set out in ES Chapter 3 Project Description, the pipeline design provides operational integrity through a range of measures (e.g. corrosion protection), and as such, the pollution risks arising from the operation of the pipeline are considered to be negligible. The specific impacts on groundwater quality are set out in ES Appendix 8.5 Potential Effects on Groundwater.

Surface Water

14.8.173 Two of the most important considerations in relation to surface water quality are potential impacts on aquatic ecology and any downstream surface water abstractions. ES Appendix 8.5 provides a summary of watercourse sensitivity from an aquatic ecology perspective.



14.8.174 In Section G, the following surface watercourses are assessed as being of moderate or high sensitivity:

Chertsey Bourne and River Thames

14.8.175 Due to its high aquatic sensitivity, it is proposed to use a trenchless crossing for both the Chertsey Bourne and River Thames, therefore removing any direct effects from in-channel works or to downstream surface water abstractions.

14.8.176 Impacts relating to discharge of sediment in surface water will not be significant so long as the measures identified in the CoCP are adhered to, as detailed below. Good practice measures such as, the control of runoff, restricting internal discharge of waste waters, compliance with discharge conditions and the production of a, erosion and sediment control plan, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in requirement 5, the contractor's CEMP in Requirement 6 and the Surface and Foul Water Requirement 9.

14.8.177 As a result, it has been assessed that construction impacts are unlikely to have a significant effect on surface water quality in Section G.

Water Resources

14.8.178 Section G passes through Zone 3 of the Source Protection Area in the Chertsey area. Zones 1 and 2 are located to the west of the proposed pipeline route. The construction of the pipeline is shallow and unlikely to penetrate saturated aquifer. During construction, trenches will remain open for as little time as possible to reduce the need for dewatering of the trench. The construction design will reduce impacts on ground water by installing water stops where necessary to reduce ground water flow along the pipeline and prevent new ground water flow pathway. During operation the pipeline is continuously monitored, valves are placed along the route to ensure that sections of the pipeline can be isolated automatically to reduce pollution risks. These valves are placed specifically to protect the water environment.

Physical characteristics of the Water Environment

14.8.179 The groundwater flood susceptibility map shows there is the potential for groundwater flooding of below ground property and at the surface for much of the length of the route in Section G. It is therefore anticipated that shallow groundwater levels will be encountered for almost the entire length of the Order Limits in Section G.

14.8.180 Potential impacts to groundwater flow due to the presence of the pipeline in Section G are largely considered to be negligible as sub-surface flows are not expected to be altered, due to the design of stanks at right angles to the pipeline. Stanks are part of the embedded mitigation, with the purposes of preventing the movement of groundwater through the pipe trench.

14.8.181 No impacts from changes in groundwater flow are identified in Section G, due to the negligible magnitude of the change in flow.



Water Bodies or Protected Areas under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) around Potable Groundwater Abstractions

- 14.8.182 The River Thames is used for surface water abstraction and is a WFD water body.
- 14.8.183 Impacts of the project components will be localised and therefore likely to have a negligible or low impact on all WFD bodies identified. As a result, it is unlikely that the current status of the WFD water bodies will be compromised by the project. The project will also not compromise the ability of the WFD water bodies to achieve Good Overall Status/Potential in the future. As such, the project is compliant with WFD objectives.

Summary

- 14.8.184 Through the good practice measures secured through the DCO Requirements, Section G of the project complies with the requirements of section 5.15 of NPS EN-1 and section 2.22 of NPS EN-4 with respect to water quality and resources.

14.9 Conclusions on Planning Assessment of Section G

- 14.9.1 The construction of the pipeline between the M3 motorway and M25 motorway is highly constrained with a combination of environmentally sensitive nationally designated sites and the presence of residential areas and a busy road network.
- 14.9.2 The route seeks to reduce the impacts on both residents and the environment, it follows open spaces where possible so that open trench techniques can be used, with reduced working widths proposed where appropriate. Limited sections of street works are required within Section G, though these have been reduced so far as possible. The street works at Mead Lane have been determined to be the better environmental option given the botanical sensitivity of Chertsey Meads, though it is acknowledged that they will have a greater impact on people using the car park to access this open space.
- 14.9.3 Impacts on open space and on schools will be reduced through careful construction scheduling, as will impacts on environmentally sensitive receptors such as breeding birds. These measures will be secured through project commitments in the CoCP in accordance with DCO Requirement 5 of the DCO.
- 14.9.4 The construction impacts will be temporary and not significant, once in place and operational there will be no impacts on local residents and no permanent effects on the wider environment such as to outweigh the benefit of the provision on this nationally significant pipeline.

15 Planning Assessment – Section H – M3 to the West London Terminal Storage Facility

Key points:

- Highly constrained urban area;
- Impact of pipeline and logistics hub on Metropolitan Green Belt;
- Reduced impact of pipeline by use of open space and undeveloped land;
- Street works impacting on local road network kept to a minimum; and,
- Trenchless techniques used to reduce impact on existing infrastructure.

15.1 Introduction

- 15.1.1 The route is divided into geographical sections in the application. This chapter provides a planning assessment for Section H of the route, from the M3 to the West London Terminal Storage Facility in London. Sections A to G of the route are covered in Chapters 8 to 14 respectively.
- 15.1.2 It considers the acceptability of the project against the policies set out in Chapter 6 Planning Policy Context and identifies where matters relevant to specific National Policy Statement (NPS) EN-1 and NPS EN-4 policy headings arise and sets out the measures required to mitigate the identified impacts.
- 15.1.3 This chapter provides further consideration of the NPS policy headings for Section H of the route and is designed to be read as a standalone assessment. Key points from Chapter 7 Planning Assessment: Project-wide may, therefore, be repeated within this section where relevant.
- 15.1.4 This chapter sets out as following for the route in Section H:
- Section 15.2: Overview of the route section, development proposed and its method of construction;
 - Section 15.3: Overview of Section H refinement;
 - Section 15.4: Identification of relevant Planning Authorities;
 - Section 15.5: Identification of key environmental and planning designations within the Order Limits;
 - Section 15.6: Relevant planning history;
 - Section 15.7: Overview of Section H against NPS EN-1 Assessment Principles (using the relevant subject headings from EN-1);
 - Section 15.8: Generic Impacts (NPS EN-1 and NPS EN-4 where stated); and
 - Section 15.9: Conclusions on Planning Assessment of Section H.



15.2 Overview of this Section

Route Description

- 15.2.1 Section H as shown in (Planning Statement Figure 4.1, Sheets 13 – 14) crosses a largely urban area. It spans Spelthorne Borough Council and the London Borough of Hounslow administrative areas.
- 15.2.2 Section H is approximately 8km (5 miles) long and starts after the crossing of the M3 motorway, proceeding north, before crossing the B376 Shepperton Road. The proposed Lower Thames Flood Alleviation Scheme (LTFAS) will also cross the route in this area.
- 15.2.3 The section then heads north to cross under the Queen Mary Intake Canal before following Ashford Road (B377) west of the Queen Mary Reservoir. This is followed by a crossing under the Staines Reservoir Aqueduct and Ashford Road just south of the A308.
- 15.2.4 The section then passes through Fordbridge Park before crossing under the Staines Bypass (A308) and River Ash.
- 15.2.5 After crossing the A308, it continues north, through the open space adjacent to Woodthorpe Road and then east along Woodthorpe Road itself, crossing the Waterloo to Reading railway line just east of Ashford Station. This will be accomplished by heading east from Station Approach to cross under Church Road (B378) into the grounds of Clarendon Primary School and then crossing under the railway line heading north.
- 15.2.6 The section passes on the east side of the grounds of St James Senior Boys' School and through the eastern part of the Thomas Knyvett College playing fields before crossing under the A30. The route finishes at the West London Terminal storage facility in Hounslow.
- 15.2.7 The route runs through restored sand and gravel quarries which are used for agriculture, residential streets and public open spaces. The final 125m of the route runs through the London Borough of Hounslow. All of the land within Hounslow is owned and operated by Esso as part of the West London Terminal storage facility.

Use of Trenchless Installation Techniques

- 15.2.8 Trenchless installation techniques are proposed to be used for the following crossings:
- TC 036 – B376 Shepperton Road: Trenchless crossing will be used to pass under an existing mineral operator's conveyor structure and to cross this busy road.
 - TC 037 – Queen Mary Reservoir Intake Canal: Trenchless construction will be used to pass underneath this engineering structure.
 - TC 038 – Staines Reservoir Aqueduct and B377 Ashford Road: A trenchless construction will be used to pass underneath the aqueduct and Ashford Road into Fordbridge Park



- TC 039 – Staines Bypass A308, River Ash and Woodthorpe Road: A trenchless crossing to avoid impacting on the A308, River Ash and Ashford Community Centre
- TC 040 – B378 Church Road: Trenchless crossing will be used to pass underneath the B378 into Ashford
- TC 041 – Waterloo to Reading Railway Line: A trenchless crossing will be used to pass underneath the railway line.
- TC 042 – Staines Road A30: Trenchless crossing will be used to pass under the A30 Staines Road.

Above Ground Infrastructure

- 15.2.9 Above Ground Infrastructure (AGI) in Section H comprises valves as set out under the following heading, together with pipeline makers and flight marker posts as set out in Chapter 4 Project Description.

Valves

- 15.2.10 There is one valve located within Section H:
- Valve 14: Ashford Road.
- 15.2.11 Further details on the valves are set out in Chapter 4 Project Description.

Construction

- 15.2.12 Details of the construction method, construction schedule and reinstatement are set out in Chapter 4 Project Description.

Crossings

- 15.2.13 The following river and watercourse crossings (WCX) are required:
- Unnamed watercourse (WCX 098) – open cut construction;
 - Unnamed watercourse (WCX 113) – open cut construction;
 - Queen Mary Reservoir intake channel (WCX 102/TC 037) – trenchless construction;
 - Staines Reservoir Aqueduct (WCX 104f/TC 038) – trenchless construction;
 - Unnamed watercourse (WCX 105/TC 039) trenchless construction;
 - River Ash (WCX 100/TC 039) – trenchless construction; and
 - Unnamed watercourse (WCX 106) – open cut construction.
- 15.2.14 The following road crossings are required in this section:
- B376 Shepperton Road (RDX 063/TC 036) – trenchless crossing;
 - Northern end of Ashford Road (B377) and junction with Kingston Road (TC38/RDX 064b) – trenchless crossing;



- A308 Staines Bypass (TC 039/RDX 065c) – trenchless crossing;
- Woodthorpe Road (TC 039/RDX 065d) – trenchless crossing
- Buxton Road (RDX 65e) – open cut construction;
- Access to Bronzefield Prison (RDX 065f) – open cut construction;
- Church Road (B378) (TC 040/RDX 066) – trenchless crossing;
- A30 Staines Road (TC 042/RDX 067)– trenchless crossing;and,
- Short Lane (RDX 068) – open cut construction.

15.2.15 Street works, temporary construction access and Public Rights of Way (PRoW) diversions for Section H are shown on Access and Rights of Way Plan sheets 49 to 53 and sheets 118, 119, 120, 121, 122, 123 and 124 (**application document 2.5**). The following works are within roads:

- Ashford Road (B377) – open cut construction;
- Woodthorpe Road – open cut construction;
- Station Approach – open cut construction; and
- Short Lane – open cut construction.

15.2.16 The following railway crossing are required in this section:

- Waterloo to Reading Railway Line (RLX 007) – trenchless crossing.

Construction Compounds

15.2.17 There are six construction compounds along Section H of the pipeline route, located at:

- south of the Shepperton Road crossing (Compound No. 5O);
- north of the Shepperton Road crossing (Compound No. 5P);
- Woodthorpe Road (Compound No. 5Q);
- south of A30 Staines Road (Compound No. 5R);
- south of Ashford Sports Ground (Compound No. 5S); and
- east of Short Lane (Compound No. 5T).

Logistics Hubs

15.2.18 There is a logistics hub at Brett Aggregates, Littleton Lane, just to the north of the M3, on land to the north of the proposed industrial estate that forms part of the restoration plan for the Brett Aggregates site. Access will be via the existing entrance, weigh bridge and wheel wash. The site will be used for the storage of pipe prior to installation, welfare facilities for construction staff and a small office. Further details regarding the logistics hubs are set out in Chapter 4 Project Description.



Narrow Working

15.2.19 There are two areas of narrow working in Section H. This will reduce the width of the open cut trench construction through Fordbridge Park (NW30) and through the grounds of St James' School (NW31). This approach involves the contractor(s) using less space than standard working width due to localised constraints, such as working in roads or sensitive areas.

15.3 Overview of Section Refinement

15.3.1 The overall approach to design development and route refinement is set out in Chapter 3 Scheme Development, and in further detail in ES Chapter 4 Design Evolution. The following sub-headings outline the key considerations relating to sub-option selection and specific design refinements which have influenced the design development of Section H of the route.

15.3.2 Section H is highly constrained in terms of the density of existing development and the mineral extraction that has taken place and continues to take place. Engagement with landowners and communities, statutory consultation and the development of the Environmental Impact Assessment work has shaped the routing of the proposed pipeline.

15.3.3 Although funding for the Lower Thames Flood Alleviation Scheme (LTFAS) is not yet secured, the proposed LTFAS has guided the route through the restored Littleton Lane quarry site. The restoration plan for the quarry continues to be implemented, the commercial premises will be retained, and the remaining site restored to agricultural use and wetland habitat. The pipeline takes account of these features and follows the route of a now disused conveyor and proposed flood bank.

15.3.4 The proposed expansion of Shepperton Studios has also impacted on the proposed route. To avoid the expansion site, and to reduce the potential for encountering mixed waste landfill, the proposed pipeline route refinement moved to the west of the selected route corridor.

Corridor Selection

15.3.5 Within Section H, there were no corridors to select as all corridor options followed the same alignment.

Sub-option Selection and Design Refinement

15.3.6 Sub-options for the preferred route were considered at three locations in Section F as identified in Table 15.1.

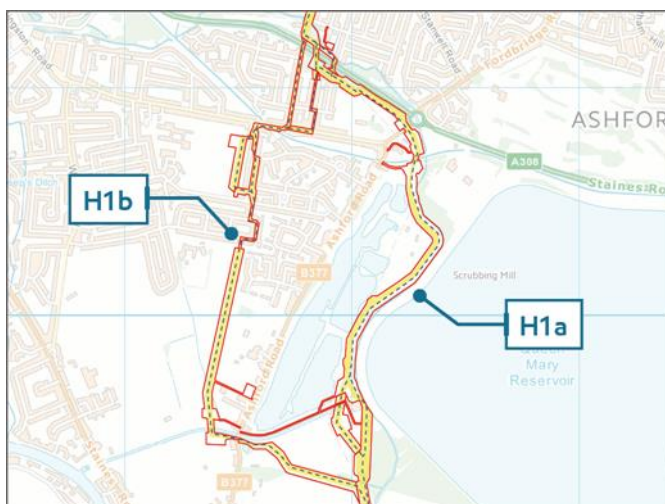
Table 15.1: Sub-options Selected for Section H

Sub-option	Main Reasons for Sub-option Selection
H1a and H1b Queen Mary Reservoir	Both sub-options have been deselected following ongoing engagement with landowners, consultation feedback and early involvement with the contractor. An alternative option has been chosen for the area to reduce the impact on the narrow residential roads along H1b and avoid major engineering challenges from H1a.

Sub-option	Main Reasons for Sub-option Selection
H2a, H2b and H2c Ashford Station	H2a was deselected due to engineering constraints and H2b was deselected based on strong opposition from consultation feedback. H2c was selected because it is the most feasible option from an engineering perspective and from consultation feedback which confirmed concerns from consultation feedback about the other two options.
H3a and H3b Thomas Knyvett College	H3b has been selected because it is a more direct and shorter option and it was also selected because it was closely linked to the selection of H2c.

15.3.7 Sub-options H1a and H1b at the Queen Mary Reservoir are shown in Illustration 15.1. These sub-options were considered in order to identify a route through to pass the residential areas of Ashford and the Reservoir.

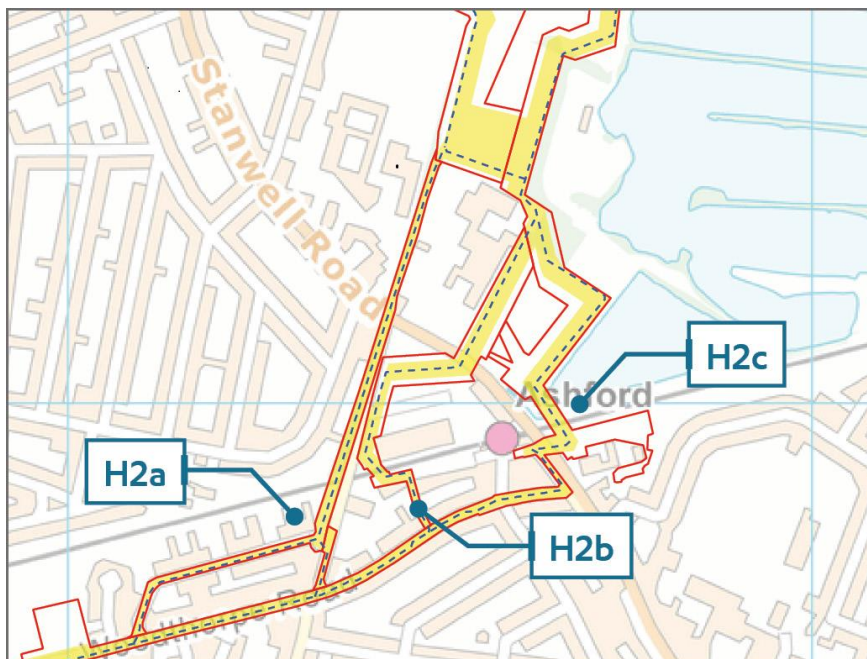
Illustration 15.1: H1 Sub-options



15.3.8 Following statutory consultation, it became clear that neither of the proposed route sub-options H1a or H1b were acceptable. H1b passed through a proposed gravel extraction site where the planning permission has been implemented by the commencement of the advanced works in preparation for the quarry operation; mineral extraction is due to commence in 2019. Sub-option H1b also passed through Buckland Infant School and the Matthew Arnold School campus. It also passed through a residential area characterised by narrow streets and relatively high-density housing. Within H1b, residents were clear that installing a pipeline along these roads would not be feasible, and access to the houses would not be available during installation. The alternative route (sub-option H1a) along the toe of the Queen Mary Reservoir embankment also proved to be technically unfeasible, with concerns raised by Thames Water regarding the safety of installing a pipeline along the toe of the reservoir embankment. The technical work that was carried out showed that: installing the pipeline near the toe (bottom) of the reservoir risks compromising its stability, and, pushes installation towards the overhead power lines; installation below the overhead power lines poses an increased safety risk; and, there is not enough space to safely install the replacement pipeline between the high pressure gas main and other underground utilities. As a result, this sub-option was deselected. Given the issues with sub-options H1a and H1b, the route through Ashford was reconsidered.

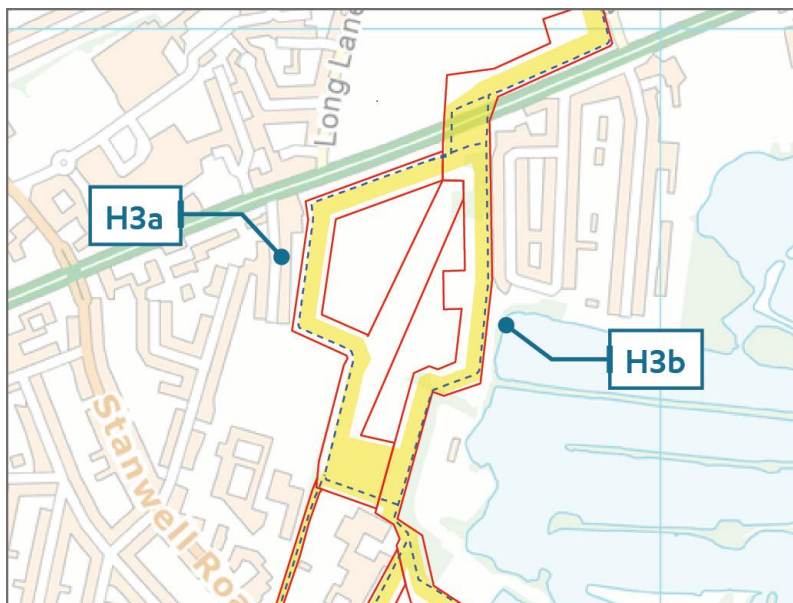
- 15.3.9 Sub-options H2a, H2b and H2c at Ashford Station are shown in Illustration 15.2. These sub-options were considered in order to identify a route through to cross the railway line and the dense built-up area of Ashford.

Illustration 15.2: H2 Sub-options



- 15.3.10 In order to cross the Reading to Waterloo railway line near Ashford Station, three sub-options were proposed and subject to statutory consultation. Sub-option H2a involved a long trenchless crossing from West Close under the railway and between St. James School and Thomas Knyvett College. This was not feasible because there are too many other utilities and pipelines within the confines of the route, and the resulting risks for construction were considered to be too great in such a constrained location. Sub-option H2b proposed crossing the railway line by the railway station, but this was not acceptable to Network Rail as the crossing could not be achieved within the parameters required by Network Rail and involved installing the pipeline in a narrow gap between two blocks of newly constructed apartment blocks. As a result, the third sub-option, H2c, has been selected and a refined route developed based on sub-option H2c. The refined route has reduced the potential disruption to those accessing the railway station, as the route preserves the existing one-way traffic flow along Station Approach and Station Road and retains access to the railway station car park. In addition, by installing along Station Approach will mean access to the station could be kept open by changing the pavement layout and temporarily suspending the parking bays. Overall, this refinement will mean that the current traffic movements will not change, temporary loss of parking spaces will be reduced and the duration of installation in Woodthorpe Road will also be reduced. Church Road and the railway line will remain unaffected by the installation of the pipeline using trenchless techniques.
- 15.3.11 Sub-options H3a and H3b at Thomas Knyvett College are shown in Illustration 15.3. These sub-options were considered in order to identify a route through to cross the A30 Staines Road and the College.

Illustration 15.3: H3 Sub-options



15.3.12 Following the selection of the Ashford Station H2 option, the application route for the replacement pipeline crosses the Waterloo to Reading railway line to the east of St James' School. In order to ensure minimal impact, Option H3b was selected to keep the pipeline along the eastern boundary of both the St James' School and Thomas Knyvett College playing fields before crossing the A30 Staines Road in a trenchless crossing.

Route refinement

15.3.13 Following the statutory consultation, the route through Ashford was reconsidered. Given the issues with H1a and H1b sub-options, a new route has been selected, which follows closely the existing pipe, along Ashford Road and a verge on its eastern side. This was discussed with Surrey County Council Highway Authority to ensure this was a feasible route.

15.3.14 To the south of the reservoir intake, the replacement pipeline alignment was moved to the west in order to avoid any conflict with the newly approved Shepperton Studios expansion and to follow the route of the redundant mineral conveyor which runs in land which has not been made up with landfill. Following a route refinement statutory consultation, this route has been confirmed as the most appropriate option through this area. The alternative route is shown in Illustration 15.4 below.

Illustration 15.4: Ashford Road Option



15.4 Relevant Planning Authorities

15.4.1 The Planning Authorities for Section H are:

- Spelthorne Borough Council;
- Surrey County Council (Minerals and Waste Authority and County Matters (highway and schools) Development);
- London Borough of Hounslow; and
- Greater London Authority.

15.4.2 Details of the relevant Planning Authorities' adopted and emerging plans together with a list of the policies relevant to the consideration of the project can be found in Chapter 6 Planning Policy Context and will form part of the Statements of Common Ground (SoCG) with the relevant planning authorities.

15.5 Key Environmental and Planning Designations Within the Order Limits

15.5.1 The relevant adopted Local Plans for Section H are as follows:

- Spelthorne Borough – Core Strategies and Policies Development Plan Document (2009);
- Spelthorne Borough Local Plan Saved Policies (2001);
- London Borough of Hounslow Local Plan 2015-2030 (2015);
- Surrey Minerals Plan Core Strategy Development Plan Document (2011);



- Surrey Minerals Plan Primary Aggregates Development Plan Document (2011);
- Surrey Waste Plan (2008);
- Surrey Aggregates Recycling Joint Development Plan Document (2013); and,
- The London Plan 2016 (Jan 2017).

Spelthorne Borough Council

- 15.5.2 The Metropolitan Green Belt is designated across Spelthorne Borough. There are gaps within the Metropolitan Green Belt designation which correlate to significant built up areas. The only exception to the Metropolitan Green Belt designation in Section H is Woodthorpe Road from Ferndale Road to Ashford Railway Station.
- 15.5.3 The Order Limits and Limits of Deviation pass through the edge of a number of Sites for Nature Conservation Importance (SNCI) designated under saved policy RU11 of the Spelthorne Borough Council Local Plan 2001 (n17 Land west of Littleton Lane, Shepperton and n12 Land west of Queen Mary Reservoir, Ashford Road, Laleham, n8 Princes Lake west of Clockhouse Lane, Ashford).
- 15.5.4 The proposed pipeline will pass along Woodthorpe Road adjacent to Ashford Sports Ground which is designated under Policy EN4 of the Spelthorne Core Strategy 2009 as a private sports ground.
- 15.5.5 The centre of Ashford, including Station Approach, is designated as an Employment Area under Policy EM1 and a Shopping Area under Policy TC3 of the Spelthorne Core Strategy 2009.
- 15.5.6 Allocation A11 Land to the West of Edward Way, Ashford seeks the provision of a children's play area within the Green Belt on the south side adjoining the A30. This allocation has not been delivered at the time of the writing of this Planning Statement.
- 15.5.7 Saved Policy BE25 of the Spelthorne Borough Council Local Plan 2001 designates part of the Ashford Sports Ground north of the A30 as a site or area of High Archaeological Importance (a15 Crop marks: ring ditch, west of Short Lane, Stanwell).

London Borough of Hounslow

- 15.5.8 The Metropolitan Green Belt is designated across the field to the west of the Esso West London Terminal storage facility, but the facility itself is not designated Metropolitan Green Belt.
- 15.5.9 The Esso West London Terminal storage facility is designated in the London Borough of Hounslow Local Plan 2015 as a Locally Significant Industrial Site. Policy ED2 applies and designates the site as a '*key local employment area made up of B class uses*'.
- 15.5.10 There are no other current planning or environmental designations covering this element of Section H.

15.6 Relevant Planning History Within the Order Limits

15.6.1 Table 15.2 identifies the relevant planning history for planning permissions within Section H Order Limits.

Table 15.2: Planning History Impacting on the Order Limits Refinement

Local Authority Area	Key Developments
Spelthorne	<u>Shepperton Quarry, Littleton Lane, Shepperton</u> Planning permission granted for gravel extraction in 1971 (12727B) varied by planning consent SP/92/0416 to extend the period of operation for the quarry in 1994. Recycling operation approved on the site under planning permission SP/09/0371 in 2011. The site is due to be restored in 2021.
Spelthorne	<u>Manor Farm, Ashford Road, Laleham</u> Planning permission granted 18/12/2012 for the extraction of sand and gravel with conveyor linking the quarry to the existing mineral treatment facilities at Queen Mary Reservoir (12/01132/SCC).
Spelthorne	<u>Queen Mary Reservoir, Laleham</u> Continued use of portable plant for treatment of minerals granted June 2017 (17/00737/SCC).
Spelthorne	<u>Ashford Sports Club, Short Lane, Stanwell</u> New Cricket nets and Astro turf pitch; granted planning permission January 2018. (17/01788/FUL).
Spelthorne	<u>St James' School</u> Retention of temporary class room for further five years granted May 2018 (18/00440/FUL).
Spelthorne	<u>3 Station Approach, Ashford</u> Additional third storey to form two additional flats granted permission May 2018 (18/00174/FUL).
Spelthorne	<u>50 Woodthorpe Road, Ashford</u> Granted planning permission for a vehicular cross over in May 2017 (17/00545/HOU).
Spelthorne	<u>55A Woodthorpe Road, Ashford</u> Redevelopment of site to form nine flats granted permission August 2017 (17/00560/FUL).
Spelthorne	<u>75 Woodthorpe Road, Ashford</u> Extension and conversion into six flats approved August 2017 (17/00926/FUL).
Spelthorne	<u>321 Ashford Road, Laleham</u> Front extension approved April 2018 (18/00239/HOU).
Spelthorne	<u>245 Ashford Road, Laleham</u> Widening dropped kerb, approved May 2017 (17/00510/HOU).
Spelthorne	<u>241 Ashford Road, Laleham</u> Front and rear extensions approved March 2018 (18/00042/HOU). Additional application for a further front extension submitted – pending decision (19/00007/HOU).
Spelthorne	<u>Ashford Road, Laleham</u> Telecommunications mast granted consent 30/01/16 (14/02145/FUL).
Spelthorne	<u>The Old Post Office, Knapp Road, Ashford</u> Conversion of the buildings to six flats, granted permission February



Local Authority Area	Key Developments
	2019 (18/01424/FUL).
Spelthorne	<u>White House Garage, Kingston Road, Ashford</u> Telecommunications mast granted permission 29/10/2014 (14/01532/T56).
Spelthorne	<u>Ashford Sports Club, Woodthorpe Road, Ashford</u> Telecommunications mast granted permission 25/06/2015 (15/00621/T56).
Spelthorne	<u>Land at Homers Farm, London Road, Ashford</u> Planning permission granted for the extraction of sand and gravel 12/01/15 (SP/13/00141/SCC). Restoration of quarry due for completion 2020.

15.6.2 There are no outstanding planning applications for major development affecting the project located within Hounslow.

15.6.3 There are a number of major development proposals that are yet to be submitted which the project has taken into account. These are shown in Table 15.3.

Table 15.3: Major Development

Location	Proposal
Laleham	LTFAS, promoted by the Environment Agency to provide flood relief between Datchet in the west and Teddington Lock in the east along the Thames. The proposals cross the route of the proposed pipeline at Littleton Lane, Laleham.
Heathrow	Heathrow Expansion project is a Nationally Significant Infrastructure Project due for submission in 2020. The pipeline does not directly interact with the proposals for Heathrow expansion.
Heathrow Southern Rail link	Early stages of a proposed rail link from Waterloo and Surrey/Hampshire into Heathrow. Proposed opening dates are 2027. The proposed pipeline does not impact on this project.

15.7 Assessment Principles NPS (EN-1 Part 4)

15.7.1 This part of the assessment considers the acceptability of Section H of the project against the assessment principles from Part 4 of NPS EN-1 as set out in Section 7.3 of Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise that are relevant to specific EN-1 policy headings and then sets out the measures required to manage identified impacts associated with the project.

15.7.2 Table 15.4 sets out the Assessment Principles that are addressed in Chapter 7 Planning Assessment: Project-wide. Other Assessment Principles are assessed in the subsequent section identifying where the assessment is in this chapter.



Table 15.4: Assessment Principles NPS (EN-1 Part 4)

Assessment Principles NPS (EN-1 Part 4)	Chapter 7 Relevant Paragraphs
<u>Alternatives</u> Section 4.4 requires alternatives to the project to be assessed.	7.3.9 to 7.3.13
<u>Climate Change Adaptation</u> Section 4.8 requires climate change adaptation to be assessed.	7.3.19to 7.3.24
<u>Pollution Control and Other Environmental Regimes</u> Section 4.10 requires discharges or emissions which affect air quality, water quality, land quality and the marine environment, or which give rise to noise and/or vibration to be assessed.	7.3.25 to 7.3.27
<u>Safety</u> Section 4.11 requires safety of the pipeline to be assessed.	7.3.28 to 7.3.31
<u>Hazardous Substances</u> Section 4.12 requires the management of hazardous substances to be assessed.	7.332
<u>Health</u> Section 4.13 requires the possible health and well-being impacts to be assessed.	7.4.39 to 7.4.40
<u>Security Considerations</u> Section 4.15 requires security considerations to be mitigated.	7.4.41 to 7.4.43

Environmental Statement

- 15.7.3 The requirements set out in paragraphs 4.2.1 to 4.2.11 of NPS EN-1 are met as a comprehensive Environmental Statement (ES) (**application document 6.1-6.4**) covering the entire route (Sections A – H inclusive) accompanies the application for development consent.
- 15.7.4 Section 15.8 of this chapter considers how Section H of the route is in compliance with each of the generic topics in NPS EN-1 (which also broadly aligns with the technical chapters of the ES).

Habitats and Species Regulations

- 15.7.5 The requirements set out in paragraph 4.3.1 of NPS EN-1 are met as a comprehensive Habitats Regulations Assessment Report (HRA Report) covering the complete project route accompanies the application for development consent.



- 15.7.6 In Section H, the only Natura 2000 site is the West London Waterbodies Special Protection Area. The HRA Report states that there to be no likely significant effects alone or in combination on this European (Natura 2000) site.

Good Design

- 15.7.7 In accordance with NPS EN-1 section 4.5, the design of the pipeline in Section H will be as set out in paragraphs 7.3.14 to 7.3.18 of Chapter 7 Planning Assessment: Project-wide.
- 15.7.8 The design of the pipeline follows the industry standards adopted by the applicant. The techniques for construction of the pipeline balance the desire to install quickly and efficiently with the need to avoid unnecessary disruption and environmental harm. The open cut construction is applied where possible as this is the quickest method. Trenchless construction techniques will be used in locations where this is essential, such as passing underneath existing features such as major roads, railways and main rivers.
- 15.7.9 The design of the project has taken account of the proposed LTFAS by widening the Order Limits and the Limits of Deviation. This will allow either the route of the pipeline to avoid a conflict with the proposed LTFAS, by routing underneath any proposed structures if the scheme is constructed after the project, or for the project to take up the opportunity provided by LTFAS to accommodate the pipeline within the proposed LTFAS structure, should this be in place before the project.
- 15.7.10 Through engagement with key landowners and developers the pipeline design takes advantage of existing and proposed structures such as taking account of the proposed flood channel, intake structure and flood training embankment for the proposed LTFAS, moving the route to the west of the proposed Shepperton Studios expansion, and taking account of the new conveyor from the Manor Farm quarry across Ashford Road.
- 15.7.11 The Limits of Deviation have been set to take account of the location of other utilities within the Order Limits particularly in areas of streetworks. Within Section H, the ground conditions within the restored gravel quarries has been taken into account when selecting the proposed pipeline location, to utilise areas of inert waste landfill.

15.8 Generic Impacts (NPS EN-1 Part 5 and NPS EN-4 Gas and Oil Pipelines)

- 15.8.1 This part of the assessment considers the acceptability of Section H of the project against the generic impacts from Part 5 of NPS EN-1 as set out in section 7.4 in Chapter 7 Planning Assessment: Project-wide. It identifies where significant matters arise in relation to Section H of the project that are relevant to specific NPS EN-1 policy headings and then sets out the measures required to manage identified impacts associated with Section H of the project.



Air Quality and Emissions

- 15.8.2 In accordance with section 5.2 of NPS EN-1, the ES Chapter 13 and ES Appendix 13.2 Air Quality Technical Note provides a detailed assessment of the significance of the air quality impacts of the project as a result of construction traffic. Furthermore, Chapter 7 Planning Assessment: Project-wide paragraphs 7.4.3 to 7.4.8 provide a project-wide overview of any impacts that the project is likely to have on air quality. Good practice measures are set out in the Register of Environmental Actions and Commitments (REAC), and, will be secured through the DCO Requirements such as the CoCP in Requirement 5 and the contractor's CEMP, secured in Requirement 6.
- 15.8.3 The highest increase in vehicle numbers during the construction phase will occur on road links around the construction logistics hubs where construction traffic will be greatest in order to access the specific logistic hub entrances. In Section H, the Order Limits pass through the Spelthorne AQMA which encompasses the whole borough. This AQMA has been declared due to predicted exceedances of the annual mean NO₂ AQO. The maximum annual mean concentrations for nitrogen dioxides (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) for the grid squares within 400m of the proposed route in Section H are all below the respective national Air Quality Objectives. However, for NO₂ AQO the maximum mean concentrations would be exceeded; given that the whole of Spelthorne Borough has been declared as an AQMA it is likely that only parts of the Borough actually exceed the relevant AQOs.
- 15.8.4 At the Brett Aggregates Littleton Lane logistics hub, which is located within an Air Quality Management Area, there is predicted to be a total of 20 heavy duty vehicle (HDV) movements (i.e. 10 in and 10 out) and 140 light duty vehicle (LDV) movements (i.e. 70 in and 70 out) (presented as a peak year annual average daily traffic (AADT)). These increases will not exceed the screening criteria for a specific Air Quality Assessment, as set out in The Land Use Planning and Development control: Planning for Air Quality guidance (IAQM/EPUK, 2017). As described in the Transport Assessment, some of the LDVs will not use the public roads as they will travel along the haul road within the Order Limits to their intended destination. In addition, the point of access is Littleton Lane, however, there is an opportunity to use the proposed haul road to transport material from the hub to the working area in Ashford thereby avoiding traffic on the road through Laleham village.
- 15.8.5 The ES concludes that the effects from construction road traffic exhaust emissions on air quality will be negligible. On the basis of the proposed maximum number of daily HDV and LDV within the AQMA the air quality effects from construction traffic, including diversions, on human and ecological receptors in rural and urban areas, are not considered to be significant.
- 15.8.6 The current use of this site as a mineral and waste material treatment facility generates significant HGV activity with quarry lorries visiting and leaving the site regularly. The proposed use of the site as a logistics hub for this project will generate significantly fewer HGV vehicle movement over the life of the project. There will be a peak in traffic during the mobilisation of the hub and the import of the pipe. After this period, traffic numbers will be lower and relate to smaller



numbers of movements to serve the installation of the pipeline to the north of the River Thames.

- 15.8.7 On the basis of the proposed maximum number of daily heavy-duty vehicles and light duty vehicles associated with construction traffic controlled by good practice measures, the air quality effects from temporary construction traffic, including diversions, on human and ecological receptors in rural and urban areas are unlikely to have significant effects on the environment. Therefore, the proposals will not lead to a deterioration in air quality.

Summary

- 15.8.8 Through the good practice measures in the CoCP, and to be detailed in the contractor’s CEMP, the implementation of both of which are secured as DCO Requirements (Requirement 5 and 6), Section H of the project complies with the requirements of section 5.2 of NPS EN-1 in relation to air quality and emissions.

Biodiversity and Geological Conservation

- 15.8.9 In accordance with section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 7 Biodiversity sets out the effects of the project, during both construction and operation, on international, national and locally designated sites, protected species and habitats, and other species identified as being of principal importance for the conservation of biodiversity. In addition, ES Chapter 7 Biodiversity also identifies how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.
- 15.8.10 Paragraphs 7.4.9 to 7.4.63 of Chapter 7 Planning Assessment: Project-wide of the identified biodiversity and geology impacts of the project as a whole against the biodiversity and geology NPS policy tests identified in Chapter 6 Planning Policies.
- 15.8.11 This section specifically considers the biodiversity and geology impacts of the project within Section H of the project.

International and National Designated Sites

- 15.8.12 As highlighted in paragraph 7.4.14 of Chapter 7 Planning Assessment: Project-wide, the project has been designed to avoid and reduce impacts on all designated sites as far as practicable. The Order Limits of Section H avoid any international or national designated sites.
- 15.8.13 Tables 15.5 and 15.6 identifies the internationally and nationally designated sites respectively within 1km of the Order Limits of Section H which have been assessed in the ES as all being of high value/sensitivity. Such designated sites relate to their ‘level’ of value or importance ranging from internationally important sites through to those of national importance. These are sites that are designated in accordance with legislation, typically receiving some kind of legal protection.

Table 15.5: International Designated Sites – Section H

Statutory Designated Site (International)	Qualifying Feature	Approximate Distance and Location Relative
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			to Section H
Special Protection Area (SPA)	South West London Waterbodies	A habitat that supports important assemblages of wintering waterbirds, including gadwall and shoveler. These birds are of European importance.	650m west

Table 15.6: National Designated Sites – Section Nationally Designated Sites – Section H

Statutory Designated Site (National)		Qualifying Feature	Approx. Distance and Location Relative to Section H
Site of Special Scientific Interest	Staines Moor	Alluvial meadows with areas of open water supporting a rich and varied flora. Significant proportions of British wintering bird populations recorded, including gadwall and shoveler. Component SSSI of South West London Waterbodies SPA.	650m west
Local Nature Reserve	Bedfont Lakes	Willow carr, reedbeds, lakes, scrub, neutral grassland/wildflower meadows and bare soil habitats supporting a variety of bird, invertebrate, amphibian and mammals species.	790m east

15.8.14 The HRA considered the potential implications of the project on European sites with reference to habitat loss, disturbance, recreational pressure, hydrological processes, invasive species introductions, reductions in air and water quality and in-combination effects. The European sites where potential effect pathways (source-receptor pathways) within Section H of the project that were identified were:

- South West London Waterbodies SPA and Ramsar

15.8.15 Due primarily to the small-scale nature of the works, careful design of the project to avoid the designated sites so that they are not in the Order Limits and the distance between the site and the project, the HRA (Stage 1 Screening) concluded that there will be no likely significant effects, either alone or in combination, to the South West London Waterbodies SPA/Ramsar.

15.8.16 The Staines Moor SSSI is a component of the South West London Waterbodies SPA and Ramsar site. It is located approximately 650m west of the Order Limits in Section H. Designated for wetland habitats supporting important bird assemblages, notably gadwall and shoveler, there are possible impacts pathways to these sites during construction of the project.

15.8.17 A detailed assessment with respect to the qualifying features of the South West London Waterbodies SPA/Ramsar is provided in the project's HRA Report.

15.8.18 The potential impact pathways identified for Staines Moor SSSI and South West London Waterbodies SPA/Ramsar comprise the following and are each detailed, in turn:

- Species disturbance; and
- Hydrological change – surface water contamination.



Species Disturbance

- 15.8.19 There is a theoretical disturbance pathway to wintering bird species associated with the South West London Waterbodies SPA/Ramsar and component Staines Moor SSSI. For the duration of construction of the project there will be changes to noise and visual stimuli generated by movement of plant and personnel within the construction area. However, the effects of noise (as well as visual/human presence) are only likely to be significant where the route extends within or is directly adjacent to the boundary of the designated site, or within/adjacent to an offsite area of known foraging, roosting or breeding habitat that supports mobile animal species for which a site is designated.
- 15.8.20 Given the above, the project is considered sufficiently distant from the SSSI/SPA/Ramsar (650m) and project activities relatively minor in the disturbance generated (e.g. there will be no major disturbance events, such as rock blasting or other controlled explosions and piling) that noise disturbance is unlikely to have any effect on bird species within the sites. Similarly, at such a distance visual disturbance to the SPA will not be expected to result from project activities.
- 15.8.21 Outside of the SPA, disturbance may result from the project where the route is near to other areas that the qualifying species use during the winter. The southwest London area supports a complex of waterbodies that are important for the maintenance of the qualifying species of the SPA, beyond those that are specifically included in the designation. The lakes along Littleton Lane, the Queen Mary Reservoir and the lakes to the west of the reservoir, and the lakes comprising the former Princes Club Watersports Park are recognised as forming part of this wider complex. The former two are also designated as Important Bird Areas, and the qualifying features of the SPA are known to have used these waterbodies, albeit in small numbers. As the timing of the works in this section of the route have yet to be confirmed, there is the potential for project activities to cause noise or visual disturbance during the winter when the qualifying species might be present.
- 15.8.22 There are existing noise and visual disturbance pressures to these lakes, including disturbance from the M3 motorway, recreation and industry. Although the current importance of these waterbodies to the SSSI/SPA is unknown, given this context it is likely that if birds of the qualifying species do use these waterbodies during the winter then they are habituated to the existing levels of disturbance.
- 15.8.23 Despite the above, over-wintering bird species using waterbodies near to the Order Limits will readily be able to disperse and find alternative nearby habitat if disturbed as a result of project activities. There are also existing structures and vegetation between the route and nearby waterbodies that will buffer noise or visual stimuli.
- 15.8.24 As such, the potential impact of disturbance on qualifying or interest features of the South West London Waterbodies SPA, Ramsar and component SSSIs is considered to be of negligible magnitude and negligible significance.



Hydrological change – surface water contamination

- 15.8.25 Hydrological links between the project and the Staines Moor SSSI, via the Staines Reservoir Aqueduct, have been identified. Potential impacts to sensitive habitats or species of the SSSI could arise from the release of sediment or chemical pollutants into this feeder watercourse.
- 15.8.26 The project has very low potential to generate contamination to surface water bodies connected to the SSSI/SPA/Ramsar during construction. The Order Limits are approximately 650m from the SPA/Ramsar. The crossing of surface water features with connectivity to SPA-linked waterbodies will be achieved through trenchless construction techniques. Trenchless techniques will be used to cross Queen Mary Reservoir Intake Canal (TC 037) and Staines Reservoir Aqueduct (TC 038) to reduce obstruction to the canal and the habitats within it. Trenchless techniques will also be used to go under the Staines Bypass, the River Ash and Woodthorpe Road from Fordbridge Park (TC 039).
- 15.8.27 Good practice measures such as, the management of surface water runoff and in compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP in Requirement 5, the contractor’s CEMP, secured in Requirement 6 and the surface and foul water Requirement 9.
- 15.8.28 As such, the potential for contamination of waterbodies connected to the SSSI/SPA/Ramsar is extremely remote. The potential impact is of negligible magnitude and negligible significance.

Locally Designated Sites

- 15.8.29 Table 15.7 identifies the locally designated sites within 1km of the Order Limits of Section H which have been assessed by the ES as being of medium value/sensitivity.

Table 15.7: Locally Designated Sites in Section H

Designation Type	Local Authority	Within Order Limits	Within 100m	Within 1km
SNCI	Spelthorne	2	1	5
SMI	Hounslow	0	0	1
SBI	Hounslow	0	0	1

- 15.8.30 As identified in Table 15.7, there are two SNCIs that are located within the Order Limits:
 - Land west of Queen Mary Reservoir, Ashford Road SNCI; and
 - Princes Lake west of Clockhouse Lane SNCI
- 15.8.31 For both the land west of Queen Mary Reservoir SNCI and Princes Lake west of Clockhouse Lane SNCI, trenchless construction techniques will be implemented in order to reduce/remove any impact upon this SNCI. With the exception of Valve 14 compound on Ashford Road, there will be no above ground construction works



within this site. The land take for the valve compound is 5m x 7m, and, therefore, is not significant. The construction of the pipeline will not impact on the SNCI and therefore no pathway to effects by habitat loss/gain, fragmentation or modification is anticipated for Land West of Queen Mary Reservoir SNCI.

- 15.8.32 For the Land West of Queen Mary Reservoir there will be minor encroachment of approximately 0.22ha into this site on its southern boundary to launch and receive the trenchless construction technique equipment. This area comprises a cleared area and a line of trees. There will not be any temporary loss of habitat important in supporting bird assemblages. The contractor will apply relevant protective principles to trees and a buffer zone will be created within or immediately adjacent to the Order Limits. This will be secured through Requirement 6, and also through Requirements 8 (Hedgerows and Trees) and 12 (Landscape and Ecological Management Plan (LEMP)) of the DCO.
- 15.8.33 For both sites, the ES identifies that there is potential for invasive non-native species (INNS) to be introduced or spread via contaminated machinery or soil. There is also a risk of transferral from pedestrian movement and construction vehicles. Working within watercourses will also be required, with the potential to cause introduction or spread of INNS within the aquatic environment.
- 15.8.34 Good practice measures such as, measures to avoid the potential spread of INNS and their disposal through waste management are set out in the REAC and will be secured through the DCO requirements such as the CoCP in Requirement 5 and the contractor's CEMP secured in Requirement 6.
- 15.8.35 ES Appendix 13.2 Air Quality Technical Note shows that, taking into account the good practice measures, there are no potentially significant effects in relation to air quality and there is no requirement for additional mitigation.
- 15.8.36 The pipeline will be subject to comprehensive testing during installation, and the design provides operational integrity through a range of measures, including a pipeline wall thickness greater than British Standard PD8010 standards to provide additional long term protection from deterioration or damage, and a cathodic protection system to protect against corrosion.
- 15.8.37 Overall, no significant effects have been identified on the SNCIs within Section H during construction or operation of the project.

Protected Species

- 15.8.38 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.
- 15.8.39 The contractor(s) will comply with relevant protected species legislation including with regards to badgers, bats, dormice, otters, water voles, sand lizards, great crested newts and Schedule 1 birds. Appropriate licences will be obtained where necessary from Natural England for all works affecting protected species as identified by the Environmental Statement and through pre-construction surveys.



Badgers

- 15.8.40 The effects on badgers are not considered in the ES (“scoped out”) following the Planning Inspectorate’s Scoping Opinion response. Effects on badgers were scoped out on the basis of their conservation status and the population in the local area. As such, construction works likely to impact badgers or a sett in current use will be subject to mitigation and secured under a licence granted by Natural England.
- 15.8.41 The results of the badger surveys have confirmed that there are currently no badger setts impacted by the alignment of the Order Limits in Section H.

Bats

- 15.8.42 A desk study was undertaken as part of the ES in order to value habitat potentially used by commuting and foraging bats.
- 15.8.43 The ES determines that due to the species composition of bats recorded within the study area of Section H and the potential for roosts to be present within the Order Limits, all bats are valued as high.
- 15.8.44 Where possible, the alignment of the Order Limits and Limits of Deviation in Section H have been selected to reduce the loss of trees with bat roost potential and increase the distance between construction areas and trees.
- 15.8.45 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the LEMP secured in Requirement 12.

Birds

- 15.8.46 The statutory designated sites within Section H are of importance for overwintering birds, including Gadwall and Sholver; these are considered above. However, construction projects have the potential to effect other bird species and these were considered in the ES.
- 15.8.47 The ES determines that construction works have the potential to have a negligible impact on bird mortality and injury, and a minor impact on bird disturbance and habitat loss, fragmentation or modification.
- 15.8.48 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Dormouse

- 15.8.49 The ES has concluded that dormouse are unlikely to be present in Section H between the M25 and Esso’s West London Terminal storage facility, due to fragmentation of habitats caused by urban areas and major road and railway infrastructure.



Fish

- 15.8.50 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Great Crested Newt

- 15.8.51 Desk study and field results confirmed the presence of great crested newt (GCN) within 250m of the Order Limits in Section H at the following location:

- west of Queen Mary Reservoir

- 15.8.52 The GCN populations identified within the 250m buffer of the Order Limits likely represent a small proportion of the overall GCN populations in Surrey where GCN has recently been recorded in most 10km squares. As such, GCN are afforded a medium value.

- 15.8.53 Appropriate licences will be obtained where necessary from Natural England for all works affecting GCN as identified by the ES and through pre-construction surveys. All relevant works will be undertaken in accordance with the relevant mitigation requirements and conditions set out in those licences.

- 15.8.54 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Otter and Water Vole

- 15.8.55 Otters have the potential to use any watercourse. No suitable habitat for otter and/or water vole has been identified within Section H that will be affected by the project.

- 15.8.56 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Habitats of Principal Importance for Biodiversity Conservation

- 15.8.57 The ES has gathered baseline information on the habitats within the Order Limits from both desk study and field survey.

- 15.8.58 Section H is through a predominately urban area. Semi-natural habitats are continued to the edges of flooded former gravel pits, comprising semi-improved neutral grassland and broadleaved semi-natural woodland.

- 15.8.59 The Order Limits within Section H cross three waterbodies: the River Ash, a high sensitivity watercourse; the intake channel from River Thames to Queen Mary reservoir, a moderate sensitivity watercourse; and Staines Reservoir Aqueduct, a low sensitivity watercourse. However, trenchless construction will avoid direct impact on these watercourses.



- 15.8.60 Outside of designated sites, Priority Habitats are considered to be of medium value.
- 15.8.61 All habitat not considered as Priority Habitat is assessed as negligible value and is not discussed further in the ES. The Limits of Deviation has been set to take account of the location of other utilities within the Order Limits particularly in areas of street works. Within Section H ground conditions within the restored gravel quarries has been taken into account when selecting the proposed pipeline location, to utilise areas of inert waste landfill.
- 15.8.62 Through engagement with landowners and developers the pipeline design takes advantage of existing and proposed structures such as taking account of the proposed flood channel, intake structure and flood training embankment for the proposed LTFAS, moving the route to the west of the proposed Shepperton Studios expansion, and taking account of the new conveyor from the Manor Farm quarry across Ashford Road.
- 15.8.63 Good practice measures such as, compliance with all legislation and permits, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the LEMP secured in Requirement 12.

Ancient Woodland and Veteran Trees

- 15.8.64 There are no Ancient Woodland Inventory sites (i.e. areas of ancient woodland of at least 2ha) within or within 50m of Section H of the Order Limits. There is one Potential Ancient Woodland Site (less than 2ha) adjacent to the Order Limits and none were identified within the Order Limits.
- 15.8.65 The ES reports that no significant effects relating to habitat loss/gain, fragmentation or modification are predicted on ancient woodland within Section H.
- 15.8.66 Furthermore, with the implementation of good practice measures, no significant effects on ancient woodland are predicted from the introduction/spread of INNS or dust deposition from air quality changes.
- 15.8.67 Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the LEMP (DCO Requirement 12).

Hedgerows

- 15.8.68 There are no notable hedgerows located within Section H. However, the project has made a project-wide commitment to reduce the impact of crossing all hedgerows.
- 15.8.69 Good practice measures are set out in the REAC, and, will be secured through the DCO requirements such as the CoCP secured in Requirement 5, the Hedgerows and Trees secured in Requirement 8 and the LEMP secured in Requirement 12.



Summary

- 15.8.70 Through the route design and embedded mitigation, and the good practice measures secured through the DCO Requirements, Section H of the project avoids significant harm to biodiversity and geological conservation and therefore complies with the requirements of section 5.3 of NPS EN-1 and section 2.21 of NPS EN-4.

Civil and Military Aviation and Defence Interests

- 15.8.71 Section H approaches Heathrow Airport from the south and terminates at Esso's West London Terminal storage facility. The construction of the replacement pipeline will maintain the safe and uninterrupted delivery of aviation fuel to the airport.
- 15.8.72 The project is located within the Safeguarded Zone for Heathrow Airport. Therefore, under the requirement of the Town and Country Planning (safeguarded aerodromes, technical sites and military explosives storage areas) Direction 2002, the Secretary of State for Business, Energy and Industrial Strategy will also consult the Secretary of State for Defence and the Civil Aviation Authority, amongst others, about the construction of cross-country pipelines over 16.093 kilometres in length.
- 15.8.73 The construction and operation of the pipeline will not have any adverse impact on the operation of the airport.

Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation

- 15.8.74 In accordance with section 5.6 of NPS EN-1, ES Chapter 13 People and Communities provides a detailed air quality assessment of the project, during both construction and operation.
- 15.8.75 Paragraphs 7.4.71 to 7.4.93 of Chapter 7 Planning Assessment: Project-wide provide an overview of any dust or artificial light impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. As paragraph 7.4.72 of Chapter 7 Planning Assessment: Project-wide states, there will be no odour, smoke, steam or insect infestation issues resulting from the project. The specific impacts arising from dust and artificial light emissions within Section H are considered below.

Dust

- 15.8.76 In respect to dust emissions, the possible receptors in Section H which may be affected are assessed as human receptors residing or working within 350m of the construction site and ecological receptors within 50m as identified in Table 15.8 of this Chapter. Human receptors in Section H includes several community and recreation/amenity facilities, including public rights of way. Ecological receptors in Section H comprise two Sites of Nature Conservation Interest (SNCI).



Table 15.8: Human and Ecological Receptors in Proximity to Section H

	Human Receptors						Ecological Receptors
	Demolition, earthworks and construction (Distance to construction boundary)				Trackout (Distance from roads up to 200m from the site entrance)		Dust Soiling (Distance to construction boundary)
	<20m	<50m	<100m	<350m	<20m	<50m	<20m
Section H	281	677	1459	5500	10-100	10-100	Low

- 15.8.77 In respect to potential dust emissions, the magnitude of dust emissions in Section H is presented in Table 1.7 while an assessment of the sensitivity of the areas around Section H for human is presented in Table 1.6 and ecological receptors is presented in Table 1.7 respectively of Appendix 13.2 Air Quality Technical Note in the ES.
- 15.8.78 Appendix 13.2 Air Quality Technical Note in the ES (Table 1.10) has assessed the risk to human health and ecological receptors from dust emissions arising at each of the construction stages (earthworks, construction and trackout) in Section H as being either negligible or low. The risk of dust soiling during the construction stages ranges from a negligible risk for the trackout phase to a medium risk for the earthworks phase.
- 15.8.79 Despite the dust emission risk being judged as being negligible to low, good practice mitigation will be incorporated in order to control all effects of dust, not just medium to high risks, as set out in paragraphs 7.4.73 to 7.4.83 of Chapter 7 Planning Assessment: Project-wide.
- 15.8.80 Good practice measures such as, the preparation and compliance with a Dust Management Plan, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the contractor’s CEMP secured in Requirement 6.

Artificial Light

- 15.8.81 Artificial light will be provided in Section H in the construction phase.
- 15.8.82 During the construction phase, in addition to temporary site working area lighting it is proposed to provide lighting at the seven construction compounds and the logistics hub at Brett Aggregates, Littleton Lane.
- 15.8.83 All lighting will be set up to avoid nuisance as far as is practicable so will be low-level and directional to avoid glare into residential properties. Good practice measures such as, the location and direction of lighting, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the contractor’s CEMP secured in Requirement 6.
- 15.8.84 In respect of the operation phase, there will not be any permanent lighting required for Section H.



Summary

- 15.8.85 Through the good practice measures to be secured through the DCO Requirements, Section H of the project will keep the impacts from dust and artificial light to a minimum and therefore complies with the requirements of section 5.6 of NPS EN-1 in relation to dust and artificial light.

Flood Risk

- 15.8.86 In accordance with section 5.7 of NPS EN-1, ES Chapter 8 Water accompanying the application provides a detailed assessment of the flood impacts of the project, including a Flood Risk Assessment (FRA) for the project (**application document 7.3**).
- 15.8.87 Paragraphs 7.4.94 to 7.4.125 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any impacts that the project is likely to have on flood risk, together with identifying the mitigation that will be implemented to manage these impacts.
- 15.8.88 In respect to Section H, there are no high risks either from or to the project related to reservoir flood risk or canal flood risk.

Fluvial Flood Risk

- 15.8.89 In Section H, the FRA watercourse crossing schedule identifies seven locations where the pipeline crosses watercourses within the section: one at River Ash; one Intake channel; one at King George VI reservoir; and, 4 unnamed watercourses.
- 15.8.90 Both the River Ash and Intake Channel are located within fluvial Flood Zone 3, however, trenchless crossings and no haul roads are planned for this location therefore there will be a medium likelihood to impact on flooding. As a result, the severity of impact has been assessed as Very Low and subsequent risk has been assessed as Low with no mitigation proposed.
- 15.8.91 An assessment of the likelihood, severity and risk of flooding to and from all fluvial watercourse from the construction and operation of the pipeline is provided at FRA Appendix A. This assessment identifies one crossing in Section H (WCX 098) as having an unmitigated high risk. Watercourse crossing reports have therefore been developed for these locations in order to provide a full assessment of risk and these are included in Appendix C of the FRA (**application document 7.3**).
- 15.8.92 A range of mitigation measures has been incorporated to ensure that the project does not exacerbate flood risk in the locations which are identified as medium or high risk. These include specific mitigation measures which are listed in FRA Section 13 of the ES. The implementation of these mitigation measures will reduce the overall risk to and from the project where it crosses the flood plain from a medium or high risk down to a low risk. Good practice measures such as, controlling the storage of top soil within the flood plains, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.



- 15.8.93 An assessment of the potential flood risk and mitigation for the logistics hub at Littleton Lane and the construction compounds along the pipeline route which fall within Flood Zones 2 and/or 3 can be found in the FRA Appendix 7. Good practice measures such as, the siting of office and welfare facilities above the flood level, and flood risk response actions are set out in the REAC, and, will be secured through the DCO Requirements such as the CoCP secured in requirement 5 and the contractor's CEMP secured in Requirement 6.
- 15.8.94 The location of Valve 14 is within Flood Zone 2, this is a permanent feature of above ground infrastructure. Mitigation measures will be required to ensure that the below ground valve chamber can be pumped out should a flood event occur. Good practice measures such as, the design of fencing to reduce the impedance of flood waters, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.
- 15.8.95 The project has to cross the River Thames Floodplain in order to reach Esso's West London Terminal storage facility, therefore the sequential test cannot be passed. The exception test has therefore been applied and the FRA Appendix A 'Sequential and Exception Test Reports' demonstrates that the exception test is passed for the project. This approach complies with NPS EN-1 paragraph 5.7.13 which states that 'If there is no reasonable available site in Flood Zones 1 or 2 or Zones A & B, then nationally significant energy infrastructure can be located in Flood Zone 3 or Zone C subject to the Exception Test'.
- 15.8.96 During the operation stage, given that the pipeline will be an underground structure it will not have any significant impacts.

Surface Water

- 15.8.97 There is one location in Section H of this route which is within an identified surface water flow route; this is surface water ponding on Station Road, Ashford.
- 15.8.98 A range of mitigation measures has been incorporated so that the project does not exacerbate flood risk in this location. These include specific measures which are listed in the FRA and ES Chapter 8. The implementation of these mitigation measures will reduce the overall risk assessed as Low to Very Low. Good practice measures such as, controlling the storage of top soil within area at risk of flooding from surface water, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.
- 15.8.99 During the operation stage, given that the pipeline will be an underground structure it will not have any significant impacts.

Ground water

- 15.8.100 The FRA states that it is likely that shallow groundwaters will be encountered for almost the entire length of the Order Limits in Section H. The FRA states that groundwater may be intercepted by the trench excavated to install the pipeline is most likely to occur along the entire length of the proposed pipeline route north of the River Thames to Esso's West London Terminal storage facility.



15.8.101 A range of mitigation measures has been incorporated so that the project does not exacerbate flood risk in this location. These include specific measures which are listed in the FRA and ES Chapter 8. The implementation of these mitigation measures will reduce the overall risk assessed as Low during construction and operation within Section H. Good practice measures such as, the use of sheet piling to manage ground water flows, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.

Water Infrastructure

15.8.102 Paragraph 7.4.124 of Chapter 7 Planning Assessment: Project-wide provide an overview of any impacts that the project is likely to have on flood risk and water infrastructure, together with identifying the mitigation that will be implemented to manage these impacts.

Summary

15.8.103 Through the good practice measures and specific mitigation identified in the FRA secured through the DCO Requirements, Section H of the project complies with the requirements of section 5.7 of NPS EN-1 and section 2.22 of NPS EN-4 in relation to flood risk.

Historic Environment

15.8.104 In accordance with section 5.8 of NPS EN-1, ES Chapter 9 Historic Environment provides a detailed description of the significance of the heritage assets affected by the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.126 to 7.4.149) provides a project-wide overview of any impacts that the project is likely to have upon the historic environment, together with good practice measures that will be implemented to manage these impacts. Those related to Section H are identified below.

15.8.105 The route in Section H has been selected to reduce the impact on the historic environment by avoiding, where practicable, designated heritage assets in accordance with paragraph 5.8.12 of NPS EN-1. Some impacts on the historic environment may still occur as a result of construction activity, including on as yet unidentified archaeological assets.

15.8.106 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.1) identifies those heritage assets where major or moderate adverse effects have been identified to result from construction of the project, prior to the application of good practice measures. Non-designated heritage assets in Section H where major or moderate effects are identified (without good practice measures) within the ES are set out in Table 15.9.



Table 15.9: Heritage Assets with a major or moderate adverse effects before mitigation in Section H

Asset Number	Asset Name	Within Order Limits	Value	Significance of Effect of Project on Heritage Asset (without good practice measures)	Significance of Effect of Project on Heritage Asset (with good practice measures)
1502	Linear and Ring Ditch Cropmarks, Laleham	Yes	Medium	Moderate adverse	Minor adverse

15.8.107 As Table 15.9 identifies, ES Chapter 9 Historic Environment concludes that there will be no significant (major or moderate) residual effects on heritage assets in Section H, following the application of good practice measures. Good practice measures such as, an Archaeological Mitigation Strategy, are set out in the REAC, and will be secured through DCO Requirement.

15.8.108 As set out in Table 15.9, ES Chapter 9 Historic Environment concludes that the significance of most construction effects in Section H, following the application of good practice measures are reduced to negligible. There is, however, one asset where the ES assessment identifies that minor adverse effects will still remain, following application of good practice measures:

- Linear and Ring Ditch Cropmarks, Laleham – This heritage asset lies within the Order Limits

15.8.109 ES Appendix 9.4 Potential Effects on the Historic Environment (Table 1.2) identifies additional heritage assets where no significant effects are identified, but where there may be minor adverse or negligible residual effects on a heritage asset.

15.8.110 Although some residual effects are therefore identified to occur, these are assessed to be either negligible or short-term minor adverse effects upon the setting of heritage assets, or at worst minor adverse effects from physical impacts on the heritage assets themselves. With regard to paragraph 5.8.15 of NPS EN-1, as the residual effects are, at worst, minor adverse, there will be no substantial harm to heritage assets, nor will there will be any total loss of heritage assets, as a result of Section H of the project. Any harmful impact on the significance of heritage assets relating to the identified residual minor adverse effects is outweighed by the public benefit of the project, as set out in detail in Chapter 2 Statement of Need.

Summary

15.8.111 Good practice measures such as, an Archaeological Mitigation Strategy, are set out in the REAC, and will be secured through the DCO requirements such as the Archaeology secured in Requirement 11. Section H of the project complies with the requirements of section 5.8 of NPS EN-1 in relation to heritage assets.



Landscape and Visual

15.8.112 In accordance with section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4, ES Chapter 10 Landscape and Visual accompanying the application for Development Consent provides a detailed assessment of the landscape and visual impacts of the project. Furthermore, paragraphs 7.4.150 to 7.4.196 of Planning Assessment: Chapter 7 : Project-wide provides a project-wide overview of any landscape or visual impacts that the project is likely to have, together with identifying the design measures that have sought to avoid or reduce potential impacts both through the alignment of the pipeline corridor and the use of the design measures outlined in Table 10.13 of ES Chapter 10 Landscape and Visual.

15.8.113 Landscape or visual impacts arising from construction and operation of the project in Section H are identified below.

Construction Impacts

Landscape Character

15.8.114 Potential impacts on national landscape character areas in Section H are summarised in Table 15.10. Impacts during construction and post construction in years 1 and 15 are identified.

Table 15.10: Summary of Potential Impacts on Landscape Character for Section H

National Character Area	Construction		Year 1		Year 15	
	Magnitude of Impact	Significance of Effect	Magnitude of Impact	Significance of Effect	Magnitude of Impact	Significance of Effect
115 Thames Valley	Medium	Moderate	Medium	Moderate	Small	Minor

15.8.115 Trees provide key characteristic features within the urban area and losses will significantly affect the character of the urban environment. The tree loss within this area will cause noticeable damage to the landscape and will cause impacts of medium duration before reinstatement planting will be established. During construction and in year 1 post construction, the overall potential impact will be medium, and the significance of the effect will be moderate. Where lost trees cannot be replaced in situ because of restrictions to planning trees over and around pipeline easements, there will be less scope to accommodate replanting within the wider urban area. It will not be possible to fully mitigate the permanent loss of trees or to replace mature vegetation and notable trees within 15 years. Therefore, in terms of the impact from the project in year 15 post construction the impact will be small, and, the significance of the effect will be minor.

Country Parks

15.8.116 Bedfont Lakes Country Park is situated over 400m east of the Order Limits within Section H and it will not be physically affected by the project. Intervening tree cover within the park and to the west, along with intervening built development at West Bedfont, will screen views towards the route from within the park (refer to Representative Viewpoint 63, ES Appendix 10.3). The magnitude of impact on



Bedfont Lakes Country Park will be no change and the significance of effect will be negligible at all assessment timeframes.

Landscape Designations

15.8.117 There are no local landscape designations identified within Section H.

Ancient Woodland and Tree Preservation Orders (TPOs)

15.8.118 The route has been designed, and the Order Limits have been refined, to avoid designated Ancient Woodland in accordance with the overarching commitment to design route alignment to avoid all areas of existing classified Ancient Woodland.

15.8.119 There is one Potential Ancient Woodland Site (less than 2ha) adjacent to the Order Limits located to the south of the solar farm at Queen Mary reservoir. None were identified within the Order Limits.

15.8.120 There are two areas of trees protected by a Tree Preservation Order that will be potentially impacted by the project, these are in the following locations:

- east of Ashford Road. There will be localised loss of TPO trees to accommodate Valve 14 within linear tree belt east of Ashford Road; and
- Within the grounds of St James' Senior Boys' School. There will be localised loss of TPO trees around the school boundary. A commitment to a reduced working width (NW31) applies here and will reduce loss of TPO trees.

15.8.121 Good practice measures such as, tree protection measures, are set out in the REAC, and will be secured through the DCO requirements such as the Hedgerows and Trees Requirement 8.

15.8.122 Notwithstanding this, the collective remaining loss of TPO and protected trees will potentially cause a large magnitude of impact and effect of major significance during construction and post construction year 1.

15.8.123 While reinstatement planting will establish to replace lost vegetation, it will not be possible to fully mitigate the permanent loss of valued trees. There will be restrictions to planting trees over and in proximity to the pipeline and it will not be possible to replant trees where they will be removed to accommodate Valve 14. Post construction year 11 the potential magnitude of impact will be medium, and the significance of effect will be moderate. In year 15 post construction, the magnitude of impact will be small, and the significance of effect will be minor.

15.8.124 Powers will be secured under Schedule 1 to the DCO to construct the pipeline within the Limits of Deviation, including trenchless crossings or narrow working as required. Details of working methods and root protection will be secured through the CEMP (DCO Requirement 6), details of works affecting trees (DCO Requirement 8) and the LEMP (DCO Requirement 12).



Visual Effects

- 15.8.125 The potential visual effects from the representative viewpoints along Section Hset out in ES Chapter Landscape and Visual Appendix 10.3 and summarised in paragraphs 10.5.136 to 10.5.139 in ES Chapter 10 Landscape and Visual.
- 15.8.126 From Representative Viewpoint 59a (Ashford Road, Staines-upon-Thames), construction activity will be prominent along Ashford Road for a limited duration in the context of the public highway. Localised loss of trees protected by TPO to accommodate Valve 14 will also be visible. During construction, the magnitude of impact will be small, and the significance will be moderate.
- 15.8.127 From Representative Viewpoint 60 (Woodthorpe Road, Ashford), the loss of the hedgerow north of Woodthorpe Road will allow close views of the construction compound and associated lighting within the playing field immediately north of Woodthorpe Road. During construction, the potential magnitude of impact will be large, and the significance of effect will be major.
- 15.8.128 There will be significant effects for users of Fordbridge Park at Representative Viewpoint 61, because the loss of trees will change the character of the park and open up views towards the surrounding urban area and traffic on a localised section of the A308. This will degrade the overall character and scenic quality of the view. During construction, the potential magnitude of impact will be large, and the significance of effect will be major. Year 1 post construction, the loss of trees, some of which are mature and distinctive specimen trees, will change the character of the park and continue to open up views towards traffic on a localised part of the A308. The potential magnitude of impact will be medium, and the significance of effect will be moderate.
- 15.8.129 Trees within Fordbridge Park also screen views towards traffic on the A308 from a localised area of housing within the immediately adjoining residential areas of Staines-upon-Thames and Ashford. Removal of trees within the western part of the park north and south of the A308 will allow filtered views of traffic on the A308 and will cause deterioration in the view and significant effects for residents south of the A308 on the northern periphery of Celia Crescent, Ashford, and north of the A308 on the southern periphery of Fern Walk and Marlborough Road, Ashford.
- 15.8.130 The ES Chapter 10 - Landscape and Visual, concludes that no construction and operational mitigation commitments have been identified.

Operational Impacts

- 15.8.131 The ES Chapter 10 Landscape and Visual concludes that landscape and visual effects arising from pipeline operation in year 15 will be localised and not significant, when reinstatement planting outlined in Table 10.14 of ES Chapter 10 Landscape and Visual will be established. This is because the pipeline will be underground and above ground features including the proposed valve and pipeline marker posts will be small in scale.

Summary

15.8.132 With respect to Section H, taking into account assessment of compliance with the NPSs, the project complies with the requirements of section 5.9 of NPS EN-1 and section 2.21 of NPS EN-4. Good practice measures such as, tree protection measures, replanting and maintenance, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP in Requirement 5, the Hedgerows and Trees Requirement 8 and the LEMP in Requirement 12.

Land Use Including Open Spaces, Green Infrastructure and Green Belt

15.8.133 In accordance with section 5.10 of NPS EN-1, ES Chapter 12 Land Use provides an assessment of the land use impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide provides an overview of any land use impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

15.8.134 Section H of the project is within the Metropolitan Green Belt.

15.8.135 Within Section H the following works and activities are proposed to be located within the Metropolitan Green Belt:

- the underground pipeline (permanent);
- 1 valve (valve 14) (permanent);
- pipeline markers (permanent);
- pipeline flight markers (permanent)
- Brett Aggregates, Littleton Lane, Logistics Hub (temporary);
- six Construction Compounds (temporary); and,
- construction activity (such as fencing, storage of topsoil and machinery) (temporary).

15.8.136 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.226 to 7.4.273) also includes the assessment of compliance with the NPSs in relation to the impact of the project on the Metropolitan Green Belt. In order for the pipeline to reach the West London Terminal storage facility it is necessary to cross the Metropolitan Green Belt.

15.8.137 The installation of the replacement pipeline together with the associated construction activity would constitute inappropriate development in the Green Belt impacting on the openness of the Green Belt. However, very special circumstances exist that outweighs the protection afforded to the Green Belt, the potential harm to the Green Belt and any other harm from the proposal. As such, the project accords with relevant NPS policy on development in the Green Belt as set out in paragraphs 5.10.10 to 5.10.12 and paragraph 5.10.17, along with relevant Green Belt policy in the NPS.

15.8.138 Section H passes through a number of public open spaces:

- Fordbridge Park;



- Woodthorpe Road including an equipped play area; and
- Ashford Sport Ground.

15.8.139 An assessment has been made of the impact of construction on these sites in Chapter 16 Open Space. With the exception of the pipeline markers, there is no above ground infrastructure located within these open spaces, therefore the only impact is during construction. The construction technique through the open spaces is open cut, which is the appropriate construction technique. The working area will be fenced during construction, top soil stripped and stored alongside the working area, the trench will be excavated, and the material stored within the working area, the pipeline will be laid out and welded alongside the trench and tested, before being lifted into place and the ground reinstated.

15.8.140 A trenchless crossing is required to cross the Staines By-pass, the launch and receiving pits are located in Fordbridge Park and Woodthorpe Road open spaces. This will add to the period of construction in these locations.

15.8.141 Access to the unaffected open space will be maintained at all times. In Woodthorpe Road there is an equipped play area which will not be available during construction as it falls within both the Order Limits and the limits of deviation for the pipeline. The assessment of this play area indicates that it is a Local Equipped Area of Play that is well used by local families and, therefore, the applicant will provide a temporary facility during construction. Good practice measures such as, the reinstatement of the play area, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP in Requirement 5.

15.8.142 At Ashford Sports Ground, the Order Limits and limits of deviation do not impact on the two football pitches used during the winter season but will overlap the outfield of the eastern cricket pitch. It is proposed to construct the pipeline through this area during the winter months to avoid a conflict with the cricket pitch. The working area will be restored and turfed/planted with grass seed in time for the commencement of the cricket season in April. Access to the club and its car park will be maintained during construction. Good practice measures such as, ensuring access to community facilities, are set out in the REAC, and will be secured through the DCO requirements such as the CEMP secured in Requirement 6.

Summary

15.8.143 Through the good practice measures set out in the REAC and secured through DCO Requirements such as the CoCP (DCO Requirement 5) and the CEMP (DCO Requirement 6), Section H of the project complies with the requirements of section 5.10 of NPS EN-1 in relation to land use.

Noise and Vibration

15.8.144 Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.274 to 7.4.289) provides a project-wide assessment of any noise and/or vibration impacts that the implementation of the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts. This reflects the assessment undertaken in ES Appendix 13.3 Noise and Vibration Technical Note.



Summary

15.8.145 The commitment to agreeing a Noise and Vibration Management Plan with the relevant planning authority (as part of the CEMP secured as DCO Requirement 6) would ensure that appropriate noise and vibration mitigation would be implemented during the works in accordance with paragraph 5.11 of NPS EN-1.

Socio-Economics

15.8.146 In accordance with the requirements of NPS EN-1 section 5.12, ES Chapter 13 People and Communities provides an assessment of the socio-economic impacts of the project.

Community

15.8.147 Section H is an urban area interspersed with open spaces and reclaimed gravel quarries. The pipeline route has therefore utilised where possible open spaces and reclaimed land in order to reduce the impact on residents and local businesses. Table 15.11 identifies the type and name of the receptor and its location either within the Order Limits or the Study Area.

Table 15.11: Community and Recreation/Amenity Receptors in Section H

Type	Receptor Name	Order Limits or Study Area
Community Receptor	• Clarendon Primary School	Order Limits
	• St James' School	Order Limits
	• Thomas Knyvett School	Order Limits
Recreation Amenity Receptor	• Fordbridge Park	Order Limits
	• Woodthorpe Road open spaces and play area	Order Limits
	• Ashford sports Ground	Order Limits
	• 4 designated cycle paths	Order Limits

15.8.148 The project has undertaken an independent assessment of the impact on Open Spaces and this is reported in Chapter 16 Open Space. This has resulted in the identification of impacts to schools, open space, and playing fields. Careful timing of work and planning of construction activity will aim to reduce the impact, for example, by constructing on school premises outside term time, by crossing playing fields outside the primary sports season e.g. construction in the summer to avoid the football season. The use of informal open space will be temporary during construction and unlikely to cause any significant effect to the quality and value of the local area.

15.8.149 On Woodthorpe Road an equipped play area is located within the Order Limits and partially within the Limits of Deviation for the pipeline construction, this facility is likely to be removed for a temporary period during construction. Following an assessment, the impact of this will be reduced by the provision of a temporary play facility within the Order Limits, and a replacement facility will be provided on the original site once construction is complete.



- 15.8.150 Good practice measures such as, working with the schools using the sports pitches to reduce the impact of construction and ensuring the reinstatement of facilities, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5.
- 15.8.151 In order to cross the railway at Ashford, it will be necessary to temporarily suspend the 14 car parking spaces outside the businesses in Station Approach during the proposed construction works. Once the pipeline is in place, the area will be restored and parking reinstated. A trenchless crossing is proposed under Church Road (B378), which will involve the excavation of a pit in Station Road, however, Station Road is a one-way circulation system for Ashford Station and this circulation system will be unaffected. The Station will remain open and access to the Station car park maintained.

Tourism

- 15.8.152 In this section there is one tourist facility, the Dover to Middleton Teasdale Long Distance Walking Route. Visitors to this facility are expected to pass through the area of disruption and are not expected to experience the effects (visual and noise) for a long period of time. It is not considered that visitor numbers will be adversely impacted.

Summary

- 15.8.153 On balance there will be no significant impact on the socio-economic well-being of the local community and businesses in Section H during the construction of the pipeline, not only because the impacts are temporary but also the careful routing and timing of construction has sought to reduce the potential impacts. Furthermore, once in place the pipeline will operate without any impact.
- 15.8.154 Through the good practice measures secured through the DCO Requirements, Section H of the project complies with the requirements of section 5.12 of NPS EN-1 in relation to socio-economics.

Soils and Geology

- 15.8.155 In accordance with section 5.3 of NPS-EN1 and section 2.23 of NPS EN-4, ES Chapter 11 Soils and Geology accompanying the application for Development Consent paragraphs 7.4.330 to 7.4.351 of Chapter 7 Planning Assessment: Project-wide provides a project-wide overview of any soils and geology impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.
- 15.8.156 The design of the project has been iterative, and the design refinements have resulted in avoiding sensitive features as set out in section 11.4 of ES Chapter 11 Soils and Geology.

Impacts on Soils

- 15.8.157 The soils in Section H contains only freely draining slightly acid loamy soils. The bedrock geology in the study area contains the Palaeogene aged strata which are



present for a large extent with the Bracklesham Group outcrop comprising the Camberley Formation, Windlesham Formation and the Bagshot Formation (Wittering Formation is absent), observed between Church Crookham and Shepperton (Sections D to H). North of Shepperton in Section H the bedrock geology comprises Thames Group including the Claygate Member and the London Clay. Throughout Section H there are superficial deposits which comprise various terrace gravels.

15.8.158 Section H lies within designated Surrey Minerals Safeguarding Areas (for concreting aggregate. There are two sites that lie partly within the study area for Section H which are within Mineral Safeguarding Areas comprising:

- Queen Mary Reservoir, Sunbury – including land to the west of Queen Mary Reservoir within Reservoir Aggregates authorised landfill site, termed 'Queen Mary Quarry'.
- Homers Farm, Bedfont – a permitted mineral working, from which the extraction of sand and gravel commenced in summer 2018

15.8.159 In addition, there is a conveyor link due to be established via a tunnel under Ashford Road between Manor Farm, Laleham and Queen Mary Quarry to transport minerals for processing at existing plant.

15.8.160 In terms of soil quality, there are small areas of Grade 2 agricultural land in Section H to the southwest of Queen Mary Reservoir.

15.8.161 In respect of land contamination, table 1.6 in ES Chapter 11, Appendix 11.1 Soils and Geology Supporting Information identifies 21 sites in Section H which are potentially contaminated.

15.8.162 ES Chapter 11 Soils and Geology considers that all soils identified within the Order Limits will be affected, such that Agricultural Land Classification grades/subgrades, 2 (high value), 3a (medium value), 3b (medium value) and 4 (low value) will be affected.

15.8.163 ES Chapter 11 Soils and Geology concludes that a minor adverse impact will occur across the range of soil receptors in Section H. This is can be considered to be a temporary impact because the quality of the soils should will recover over the short term. Good practice measures such as, a soil management plan, are set out in the REAC, and will be secured through the DCO requirements such as the contractor's CEMP secured in Requirement 6.

15.8.164 As a result, no additional mitigation measures have been identified and there will be no significant residual impacts predicted to any soils or geology during construction or operation.

Land Contamination

15.8.165 There are 21 contaminated sites that have been assessed. The potential exists for gas/vapour to pose a risk to construction workers and adjacent land users if not managed appropriately.



- 15.8.166 Good practice measures such as, a contaminated land risk assessment, methodology for construction through contaminated land and reporting of actions taken, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the Contaminated Land and Ground Water Requirement 10.

Impacts on Geology (Including Minerals)

- 15.8.167 With respect to Queen Mary Reservoir and the gravel conveyor, mineral workings will not be disrupted. In terms of Homers Farm, extraction commenced in summer 2018 and is expected to have ceased before installation of the pipeline reaches the site.
- 15.8.168 The Order Limits also intersects medium value Mineral Consultation Areas and Mineral Safeguarding Areas in Section H. The presence of the pipeline will restrict access to mineral resources during operation, due to the easement and requirement for safe working methods in proximity to the pipeline. The proportion of potential resources affected is minor in all cases since the county-wide safeguarded areas are very large and also include substantial buffers around the minerals. A small magnitude of change is predicted from long-term sterilisation of a minor part of the resources, such that a minor impact will occur.

Summary

- 15.8.169 With respect to Section H, ES Chapter 11 Soils and Geology concludes there will be no significant residual impacts on soils and geology during construction or operation, and therefore the project complies with the requirements of section 5.3 of NPS EN-1 section 2.23 of NPS EN-4.

Traffic and Transport

- 15.8.170 In accordance with section 5.13 of NPS EN 1, the project has assessed the traffic and transport implications of the proposals. ES Appendix 13.1 Traffic and Transport Technical Note sets out the potential traffic and transport impacts of the project and residual effects. The ES has been informed by a separate Transport Assessment submitted as part of the application for development consent (**application document 7.4**). Furthermore, paragraphs 7.4.300 to 7.4.311 of Chapter 7 Planning Statement Assessment: Project-wide provides a project-wide overview of any traffic and transport impacts that the project is likely to have, together with identifying the management that will be implemented to manage these impacts.
- 15.8.171 To reduce impacts, the project has embedded design measures such as the use of trenchless crossings for trunk roads, motorways and railways.
- 15.8.172 In addition, in order to minimise the disruption to traffic flows and highway safety there are measures such as a construction traffic management plan which would consider how traffic generated by construction vehicles would be managed which will be secured by requirement 7 of the DCO.



- 15.8.173 For walking, cycling and equestrians, this will be managed by ensuring that pedestrian access to and from residential, commercial, community and agricultural land uses would be maintained throughout the construction period, including retention of vehicular access to be maintained where practicable which will be secured through requirement 7 of the DCO.
- 15.8.174 There are no Public Rights of Way (PRoW) that cross the project Order Limits in Section H that require a temporary Diversion. All PRoWs in Section H will remain open and useable during construction. There will be no impact on PRoWs during the operation of the pipeline.
- 15.8.175 With the use of embedded design measures and the project commitments secured by the DCO, the level of disruption to travel and transport will be limited. The project has, however, considered the impact on traffic and travel in the roads where works would exceed four weeks. Four weeks was chosen for the assessment based on good practice from other projects. Based on this, the two roads affected in Section H will be:
- B377 Ashford Road; and,
 - Woodthorpe Road.
- 15.8.176 In terms of traffic flow, along with collision and safety, there would not be any increase from the project compared to the future traffic flow levels and collisions and safety that would otherwise have occurred without this project in relation to these two roads.
- 15.8.177 There will, however, be some impact on journey times on both of these roads. For private vehicles, the sensitivity is described as Low and the magnitude is as small, with the overall the significance of the impact being negligible. For bus users, the sensitivity is described as High and the magnitude is described as small, with the overall significance of the impact being Minor. The impact will be negligible to minor because of the short-term duration of the works.
- 15.8.178 In terms of the Brett Aggregates, Littleton Lane, Logistic Hub, the increase in the annual average daily traffic would be 1%. Only where the percentage increase would be 30% or greater would a further assessment be required. Therefore, there will be no significant impacts experienced on the roads as a result of this logistics hub.

Summary

- 15.8.179 There will not be any significant impacts on traffic and transport for the two roads and in all other respects, while there will inevitably be some disruption during construction, embedded design measures and mitigation will be put in place to reduce this impact. As such, the project complies with section 5.13 of NPS EN-1.

Waste Management

- 15.8.180 In accordance with NPS EN-1 section 5.14, ES Chapter 16 Environmental Management and Mitigation, the development of a Site Waste Management Plan (SWMP) prior to construction will be produced as set out in paragraphs 7.4.312 to



7.4.317 of Chapter 7 Planning Assessment: Project-wide. The SWMP will be secured through the DCO requirement for a CEMP (DCO Requirement 6).

15.8.181 Good practice measures such as, a Site Waste Management Plan are set out in the REAC and will be secured through the DCO requirements such as the CoCP secured in Requirement 5. Section H of the project complies with the requirements of section 5.14 of NPS EN-1 with respect to waste management.

Water Quality and Resources

15.8.182 In accordance with section 5.15 of NPS EN-1, ES Chapter 8 Water provides a detailed assessment of the water quality impacts of the project. Furthermore, Chapter 7 Planning Assessment: Project-wide (paragraphs 7.4.318 to 7.4.330) provide a project-wide overview of any water quality impacts that the project is likely to have, together with identifying the mitigation that will be implemented to manage these impacts.

15.8.183 This section sets out any specific impacts that have been identified for the LP project in Section H on:

- existing quality of waters;
- existing water resources;
- existing physical characteristics of the water environment; and,
- any impacts on water bodies or protected areas under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) around potable groundwater abstractions.

15.8.184 The application pipeline route does not directly impact on any existing water bodies, the route passes close to existing gravel pits which have been restored by creating open water. These water bodies provide recreation and biodiversity resources.

Water Quality

Groundwater

15.8.185 The groundwater environment in Section H is defined as the following:

- Superficial sand and gravel deposits dominate the section which form Principal aquifers from Chertsey South to the West London Terminal (Groundwater Study Area D (GWSA-D))
- In the south of the section (up to the Queen Mary Reservoir Intake Channel) bedrock deposits comprise the Bagshot Formation and the Claygate Member which form Secondary A aquifers. To the north of this, the London Clay is present which is defined as Unproductive strata.

15.8.186 The groundwater environment in Section H is identified as being of high value. Groundwater monitoring at the nearest point to Section H at Chertsey shows the groundwater to be of good quality with low concentrations of metals. However, groundwater quality is impacted on as a result of the urbanised nature of the area



and the presence of various landfills and backfilled gravel pits through which the Order Limits run. Monitoring data from landfills shows elevated concentrations of certain chemicals and metals.

15.8.187 A number of possible effects on groundwater quality in Section H are identified in ES Chapter 8 Water and the associated Appendix 8.5. Minor or negligible groundwater quality impacts have been identified for the following receptors during construction;

- groundwater in the superficial Principal superficial aquifer over most of Section H;
- SPZ3; and
- licensed private water supplies (PWS).

15.8.188 It is recognised that groundwater in the superficial gravel aquifer is of high value. Good practice measures such as, good housekeeping measures and pollution controls, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5 and the contractor's CEMP Requirement 6. These measures are set out in Table 8.12 of ES Chapter 8 – Water.

15.8.189 There are nine licensed groundwater abstractions (high value) identified within Section H which could potentially be impacted by the project (see ES Appendix 8.5 Potential Effects on Groundwater). These abstractions are located in the area where contamination is potentially widespread, due to the urbanised nature of the area including landfills. Changes to groundwater quality due to discharges along the trench during construction are unlikely to change the groundwater quality for these abstractions. As such, the potential impact to abstractions from construction of the pipeline is considered to be minor.

15.8.190 The impact to these abstractions from leaks and spills from chemicals, fuels and oils from plant or materials used in the construction of the pipeline are assessed as being negligible.

15.8.191 As set out in ES Chapter 3 Project Description, the pipeline design provides operational integrity through a range of measures (e.g. corrosion protection), and as such, the pollution risks arising from the operation of the pipeline are considered to be negligible. The specific impacts on groundwater quality are set out in ES Appendix 8.5 Potential Effects on Groundwater.

Surface Water

15.8.192 Two of the most important considerations in relation to surface water quality are potential impacts on aquatic ecology and any downstream surface water abstractions. ES Appendix 8.6 WFD Impact Assessment a summary of watercourse sensitivity from an aquatic ecology perspective.

15.8.193 In Section H, River Ash has been assessed as having High sensitivity for aquatic ecology and surface water quality. The remainder of the watercourses crossed by Section H have been assessed as having Low/Negligible sensitivity for aquatic ecology and surface water quality.



- 15.8.194 A single licensed surface water abstraction is located on the River Ash approximately 3.5km downstream of the proposed pipeline crossing.
- 15.8.195 The main potentially significant adverse effects anticipated with the construction phase are:
- discharge of sediment in surface water run off as a result of site clearance;
 - increased sediment load as a result of in- or near-channel working; and,
 - pollutant discharge from trenchless crossings as a result of dewatering activities.
- 15.8.196 The River Ash is to be crossed using Horizontal Directional Drilling (HDD) trenchless technique, therefore no significant impacts will likely be associated in-channel working.
- 15.8.197 HDD trenchless techniques require shallow (less than 2m) launch and reception pits. These will not require any significant dewatering activities; therefore, no significant impact is anticipated.
- 15.8.198 Impacts relating to discharge of sediment in surface water will not be significant with the implementation of measures identified in the CoCP are adhered to. Good practice measures such as, the control of runoff, restricting internal discharge of waste waters, compliance with discharge conditions and the production of an erosion and sediment control plan, are set out in the REAC, and will be secured through the DCO requirements such as the CoCP secured in Requirement 5, the contractor's CEMP in Requirement 6 and the Surface and Foul Water Requirement 9.
- 15.8.199 These measures will apply to both watercourse crossings, and also to the operation of logistics hubs of which one (Littleton Lane Hub) is contiguous with the Order Limits through Section H.
- 15.8.200 As a result, it has been assessed that construction impacts are unlikely to have a significant effect on surface water quality in Section H.
- 15.8.201 No operational impacts have been identified in Section H.

Water Resources

- 15.8.202 Public water supply boreholes are present within Section H associated with Affinity Water's Chertsey abstraction. Within Section H the Order Limits pass through SPZ3 (low value) associated with this abstraction. The Chertsey abstraction pumps water from gravel superficial deposits.
- 15.8.203 There are eight additional licensed groundwater abstractions (high value) and three unlicensed PWSs (low value) identified within Section H which could potentially be impacted by the project are considered to not be at risk from potential shallow dewatering (see ES Appendix 8.5 Potential Effects on Groundwater).



Physical Characteristics of the Water Environment

- 15.8.204 The groundwater flood susceptibility map shows there is the potential for groundwater flooding of below ground property and at the surface for much of the length of the route in GWSA-D. It is therefore anticipated that shallow groundwater levels will be encountered for almost the entire length of the Order Limits in Section H.
- 15.8.205 Potential impacts to groundwater flow due to the presence of the pipeline in Section H are largely considered to be negligible as sub-surface flows are not expected to be altered, due to the design of stanks at right angles to the pipeline. Stanks are part of the embedded mitigation, with the purposes of preventing the movement of groundwater through the pipe trench.
- 15.8.206 No impacts from changes in groundwater flow are identified in Section H, due to the negligible magnitude of the change in flow.

Water Bodies or Protected Areas under the Water Framework Directive (WFD) and Source Protection Zones (SPZs) around Potable Groundwater Abstractions

- 15.8.207 There are two surface water bodies WFD bodies identified in Section H:
- Thames (Egham to Teddington) – Poor Potential; and
 - Surrey Ash – Moderate Potential.
- 15.8.208 Thames (Egham to Teddington) WFD water body is considered to have Poor Ecological Potential, whilst Surrey Ash WFD water body is considered to have Moderate Ecological Potential. Both water bodies are considered Heavily Modified Water Bodies.
- 15.8.209 Two WFD groundwater bodies identified in Section H:
- Chobham Bagshot Beds; and
 - Lower Thames Gravel.
- 15.8.210 Both groundwater WFD water bodies are considered as having Good Ecological Status.
- 15.8.211 Impacts of the project components will be localised and likely to be negligible or low for WFD water bodies. As a result, it is unlikely that the current status of the WFD water bodies will be compromised by the project. The project will also not compromise the ability of each WFD water body to achieve Good Overall Potential in the future. As such, the project is considered compliant with WFD objectives.
- 15.8.212 As noted above, Section H passes through SPZ3 (outer protection zone) for public water supply boreholes at Chertsey. However, the abstraction boreholes themselves are outside of Section H and impacts on the abstraction in relation to the operation of the pipeline in Section H are considered to be negligible.



Summary

15.8.213 Through the good practice measures secured through the DCO Requirements, Section H of the project complies with the requirements of section 5.15 of NPS EN-1 and section 2.22 of NPS EN-4 with respect to water quality and resources.

15.9 Conclusions on Planning Assessment of Section H

15.9.1 The proposed pipeline route between M3 to the West London Terminal storage facility has been the subject of a detailed optioneering and design iteration process to arrive at a proposal which seeks to avoid and then reduce potential temporary and permanent impacts.

15.9.2 The construction of a pipeline at Section H starting after the crossing of the M3 motorway and to the West London Terminal storage facility is highly constrained by the urban form of the area and the impact of the mineral extraction activity.

15.9.3 Section H passes through the Metropolitan Green Belt, as an engineering operation, the replacement pipeline is not considered to be inappropriate development in the Green Belt. The pipeline is underground with the exception of the Valve 14 compound and pipeline markers, these are not considered to impact on the openness of the Green Belt, and, therefore, the whole development remains appropriate for a Green Belt location. The temporary logistics hub at Brett Aggregates, Littleton Lane, and the six construction compounds inappropriate development and will have a temporary effect on the openness of the Metropolitan Green Belt.

15.9.4 The large water bodies, strategic and local transport networks and tight residential areas has limited the options for routing the pipeline. The route seeks to reduce impacts on residents and local businesses, it follows open spaces where possible and limits the use of residential roads. The route may impact on trees within Section H which are important landscape features, this is reflected by the presence of Tree Preservation Orders. Impacts of construction on important trees will be kept to a minimum through the commitments in the CoCP.

15.9.5 However, there will be temporary impacts from the construction of the pipeline particularly for those residents affected by street works. Impacts on public rights of way and walking routes, open spaces and schools will be reduced through careful construction scheduling to utilise school holidays and periods of low use such as during the winter. These will be secured through the project commitments in the CoCP through Requirement 5 and the CEMP through Requirement 6 of the DCO.

15.9.6 The construction impacts will be temporary and not significant, once in place and operational there will be no impacts on the local residents and no permanent effects on the wider environment such as to outweigh the benefit of the provision of this nationally significant fuel pipeline.

15.9.7 The impacts arising from the project in Section H should be considered in relation to the overall planning balance of the project, which is set out in Chapter 18 Overall Planning Balance and Conclusions.

16 Open Space

Key points:

- The replacement pipeline passes through a number of open spaces and recreation areas along the application route.
- The impact on open spaces during construction of the pipeline will be reduced and managed through the adoption of project commitments as detailed in Table 16.6.
- The operation of the pipeline will have no impact on the use or function of the open spaces or recreation areas.

16.1 Overview

- 16.1.1 Esso Petroleum Company, Limited (Esso) intends to replace 90km of its 105km aviation fuel pipeline that runs from its Fawley refinery near Southampton to its West London Terminal storage facility in Hounslow. The replacement pipeline is 97km long.
- 16.1.2 This chapter addresses the issue of impact of the installation of the replacement pipeline on open spaces as defined below.
- 16.1.3 Open space is defined in the Town and Country Planning Act 1990 as “*land laid out as a public garden, or used for the purposes of public recreation, or land which is a disused burial ground*”. However, in applying the policies in this section, open space should be taken to mean all open space of public value, including not just land, but also areas of water such as rivers, canals, lakes and reservoirs which offer important opportunities for sport and recreation and can also act as a visual amenity.
- 16.1.4 This assessment is fundamentally about the impact of the project on the use and function of open spaces and does not consider the issue of acquisition of land rights, which is addressed in Chapter 17 Special Category Land.

16.2 Policy context

- 16.2.1 As a Nationally Significant Infrastructure Project, the application for this project will be decided in accordance with the policies contained in the relevant National Policy Statement (NPS). The assessment of the impact of the project on open spaces is guided by the policy text contained within the Overarching National Policy Statement for Energy (NPS EN-1) which states:

‘5.10.1 An energy infrastructure project will have direct effects on the existing use of the proposed site and may have indirect effects on the use, or planned use, of land in the vicinity for other types of development. Given the likely locations of



energy infrastructure projects there may be particular effects on open space³ including green infrastructure.

5.10.2 The Government's policy is to ensure there is adequate provision of high quality open space (including green infrastructure) and sports and recreation facilities to meet the needs of local communities. Open spaces, sports and recreational facilities all help to underpin people's quality of life and have a vital role to play in promoting healthy living. Green infrastructure in particular will also play an increasingly important role in mitigating or adapting to the impacts of climate change.

...

5.10.6 Applicants will need to consult the local community on their proposals to build on open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal. Applicants should use any up-to-date local authority assessment or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreational buildings and land is surplus to requirements.

5.10.14 The IPC [Examining Authority] should not grant consent for development on existing open space, sports and recreational buildings and land unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements or the IPC determines that the benefits of the project (including need), outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities. The loss of playing fields should only be allowed where applicants can demonstrate that they will be replaced with facilities of equivalent or better quantity or quality in a suitable location.

5.10.19 Although in the case of much energy infrastructure there may be little that can be done to mitigate the direct effects of an energy project on the existing use of the proposed site (assuming that some at least of that use can still be retained post project construction) applicants should nevertheless seek to minimise these effects and the effects on existing or planned uses near the site by the application of good design principles, including the layout of the project.

5.10.21 The IPC [Examining Authority] should also consider whether mitigation of any adverse effects on green infrastructure and other forms of open space is adequately provided for by means of any planning obligations, for example

³ Open space is defined in the Town and Country Planning Act 1990 as land laid out as a public garden, or used for the purposes of public recreation, or land which is a disused burial ground. However, in applying the policies in this section, open space should be taken to mean all open space of public value, including not just land, but also areas of water such as rivers, canals, lakes and reservoirs which offer important opportunities for sport and recreation and can also act as a visual amenity.



exchange land and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness and quality and, where possible, at least as accessible. Alternatively, where Sections 131 and 132 of the Planning Act 2008 apply, replacement land provided under those sections will need to conform to the requirements of those sections.

16.2.2 The revised National Planning Policy Framework published in February 2019 provides relevant guidance and policy context, it states in paragraphs 96 and 97:

'96. Access to a network of high quality open spaces and opportunities for sport and physical activity is important for the health and well-being of communities. Planning policies should be based on robust and up-to-date assessments of the need for open space, sport and recreation facilities (including quantitative or qualitative deficits or surpluses) and opportunities for new provision. Information gained from the assessments should be used to determine what open space, sport and recreational provision is needed, which plans should then seek to accommodate.

97. Existing open space, sports and recreational buildings and land, including playing fields, should not be built on unless:

a) an assessment has been undertaken which has clearly shown the open space, buildings or land to be surplus to requirements; or

b) the loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location; or

c) the development is for alternative sports and recreational provision, the benefits of which clearly outweigh the loss of the current or former use.

16.2.3 Each Planning Authority along the route of the project has local planning policies seeking to protect open spaces in their area. The local policies vary in terms of their current status; some local plans are considered to be up to date and are supported by up to date Open Space Assessments, while others are in the process of being updated. See Table 16.1 below.

Table 16.1 Local Authority Open Space Assessments and Local Plan Status

Local Planning Authority	Local Plan Status	Title of the Open Space Assessment	Date Published
Eastleigh Borough Council	Eastleigh Borough Local Plan review (2001 - 2011) – Adopted	Eastleigh Borough Open Space Needs Assessment 2017	February 2017
	Eastleigh Emerging Local Plan 2016 – 2031 (Examination - submitted to the Secretary of State October 2018)	Eastleigh Borough Council Sports Facility Needs Assessment & Playing Pitch Strategy Update	March 2017
Winchester City Council	Winchester District Local Plan Part 1 – Joint Core Strategy – Adopted	Open Space Strategy	September 2015
		Winchester Playing Pitch Strategy	April 2018



Local Planning Authority	Local Plan Status	Title of the Open Space Assessment	Date Published
	Winchester District Local Plan Part 2 – Development Management and Site Allocations – Adopted Winchester District Local Plan Review (2006) Saved Policies – Adopted		
South Downs National Park Authority	South Downs Emerging Local Plan 2017 (Examination - submitted to the Secretary of State April 2018)	Open Space, Sports and Recreation Background Paper	November 2017
		Access Network and Natural Greenspace Study	2013
		Open Space Assessment for East Hampshire District Council	December 2018
		East Hampshire – Open Space, Sport and Recreation Needs and Opportunities Assessment 2018-2028: Playing Pitches	April 2018
		East Hampshire Green Infrastructure Strategy 2011 – 2028	July 2013
		Winchester Open Space, Sports and Recreation Study	2008
		Winchester Open Space Strategy	September 2015
East Hampshire District Council	East Hampshire District Local Plan: Joint Core Strategy - Adopted 2014 East Hampshire District Local Plan: Housing and Employment Allocations – Adopted 2016	East Hampshire District Council: Green Infrastructure Strategy 2011 – 2028: Part 1 – Main Strategy	July 2013
		East Hampshire District Council: Green Infrastructure Strategy 2011 – 2028: Part 2 – Supporting Information	
		East Hampshire Green Infrastructure Strategy interim report 2018	December 2018
		East Hampshire – Open Space, Sport and Recreation Needs and Opportunities Assessment 2018 – 2028: Playing Pitches	April 2018
		Open Space Assessment for East Hampshire District Council	December 2018
Hart District Council	Hart District Local Plan and First Alterations (Replacement) 1996-2006 – Adopted Hart District Local Plan and First Alterations (Replacement) 1996-	Hart Green Infrastructure Strategy	July 2017
		Hart Open Space Study	October 2016
		Hart Playing Pitch Strategy 2015 to 2032	July 2018



Local Planning Authority	Local Plan Status	Title of the Open Space Assessment	Date Published
	2006 – Adopted Hart District Draft Local Plan Strategy and Sites 2016-2032 – Proposed Submission Version – February 2018		
Rushmoor Borough Council	Rushmoor Plan – Core Strategy – Adopted October 2011	Rushmoor open space, sport and recreation study Volume 1: Main Report	December 2014
	Rushmoor Local Plan 2014 to 2032 – Adopted February 2019	Topic Paper 11: Open Space and Green Infrastructure	January 2018
		Playing Pitch Strategy 2014 – 2020	November 2014
Surrey Heath Borough Council	Surrey Heath District Core Strategy and Development Management Policies – Adopted February 2012	Surrey Heath Borough Council Open Space Assessment Report	September 2016
		Surrey Heath Borough Council Open Space Standards	2016
		Surrey Heath Playing Pitch Strategy Assessment Report	2016
		Surrey Heath Playing Pitch Strategy and Action Plan	2016
		Surrey Heath Local Plan 2016-2032 Background Paper: Green Space Site Survey	2018
Runnymede Borough Council	Runnymede Local Plan 2001 (2007 Saved Policies) – Adopted	Runnymede 2035: Open Space Study	March 2016 and February 2017
	Runnymede Submission Local Plan 2030 (July 2018) - Emerging	Runnymede 2030: Local Green Space Assessment	December 2017
Spelthorne Borough Council	Spelthorne Borough – Core Strategies and Policies Development Plan Document (February 2009) – Adopted	Assessment of Open Space, Sport and Recreation Provision in Spelthorne	September 2005
		Open Space and Leisure study	(currently being prepared)
London Borough of Hounslow	London Borough of Hounslow Local Plan 2015-2030 – Adopted	Open Space Background Paper	April 2013 (updated March and August 2014)
		PPG17 Study Open Space Volume	2011
		PPG17 Study Sports Facilities Volume	2010
		Hounslow Allotment Strategy 2007-2012	2007

16.2.4 In general terms, local planning policy relating to open spaces is consistent across all the local authorities in seeking to protect open space provision and to increase the supply of open spaces alongside new development, particularly in response to existing deficits in provision.



- 16.2.5 The project carried out a Statutory Consultation on the preferred route for the replacement pipeline from 6 September to 19 October 2018 and a design refinements consultation from 21 January to 19 February 2019. During this consultation activity, only one concern was raised regarding the replacement pipeline impact on any public open space or recreation space, this related to the Peter Driver Sports Ground in Church Crookham. The concern is in regard to the timing of the work and the potential impact on the use of the football pitches by local clubs.
- 16.2.6 The project is for a replacement underground pipeline and there will be no above ground infrastructure located on any open spaces along the replacement pipeline route. Therefore, the only impacts on open spaces are temporary during construction and installation of the pipeline. There will be no permanent loss of open space as a result of the project, once installed the open spaces will be restored and continue to function as open space with no impact from the operation of the underground pipeline.
- 16.2.7 In the case of the project, there are no increased demands or impacts on open spaces as a result of the operation of the underground pipeline and therefore the local policies relating to open space provision are not considered to impact on the project and the policies do not have an effect. However, it is acknowledged that during construction there will be a temporary impact on the availability and function of some key open spaces along the pipeline route. Therefore, an assessment of the impact on these key sites has been undertaken.

16.3 Methodology

- 16.3.1 The project commissioned external specialist consultants to complete an assessment of the impacts of the project on the main open spaces impacted along the replacement pipeline route, focusing on open space land within the Order Limits and the potential impacts during construction. The methodology used for this assessment is outlined as follows:
- Identification of areas of open space from existing available data sets based on Local Planning Policy designations, consistent with NPS EN-1 (Energy) guidance and assessment requirements.
 - Identification of priority sites that require a site visit based on the extent to which the replacement pipeline route intersects with the open space, and where design and construction techniques indicate that there is the potential for an impact that may require bespoke mitigation to comply with the general policy set out in the NPS EN-1.
 - Impact assessment, based on the assessments of sites across each of the pipeline sections, taking into account local authority Planning Policy Guidance in the NPPF 2019⁴ assessments taking account of deficiencies or surpluses in provision.

⁴ Further advice and guidance for this assessment is contained within PPG17 Planning for Open space, Sport and Recreation.

- Identification of potential mitigation measures where the assessment indicates that these need to be considered.

16.3.2 The findings of the above stages will inform the content of the report found in appendix 16.1. The report is structured around each of the priority sites working from south to north along the pipeline alignment, with consolidated mitigation and enhancement tables.

16.4 Planning Assessment

Priority Sites

16.4.1 Following the design development of the replacement pipeline route, the main impacts potentially caused by the project on open spaces were assessed. The criteria used to select the sites were based on:

- the scale of the space;
- the proportion of the space impacted;
- the function and use of the space; and
- the likely impact and mitigation requirements.

16.4.2 Where construction has the potential to impact on the function of the space, the location was added to the priority list. Where the space will be able to continue in use and function without impact, it was judged that it will not be materially affected by the project, and therefore no further assessment was required.

16.4.3 A short list of 17 priority open spaces, where construction of the replacement pipeline was considered to have potential impacts needing detailed assessment, are listed in Table 16.2 below.

Table 16.2 Priority Sites for Assessment

Site Reference	Location	Local Authority	Local Plan Designation	PPG17 Typology	Potential Impact
1	Quetta Park	Hart District Council	Park and Garden	Natural and semi-natural green space	Construction compound associated with construction
2	Peter Driver Sports Ground	Hart District Council	Not designated in the local plan	Outdoor sports facility	Order Limits cross part of both football pitches.
3	Southwood Sports Pitches	Rushmoor District Council	Recreation ground	Outdoor sports facility	Order Limits impact on current markings for football pitch and close to the boundary of the cricket ground
4	West Heath Road	Rushmoor District Council	Open space	Natural and semi-natural green space	Construction compound proposed in linear park with circular footpath
5	Queen Elizabeth Park	Rushmoor District Council	Common	Natural and semi-natural green space	Order Limits impact on an equipped children's play area, car parking area and

Site Reference	Location	Local Authority	Local Plan Designation	PPG17 Typology	Potential Impact
					runs through the southern part of the park
6	Farnborough Gate Sports Ground	Rushmoor District Council	Not designated	Outdoor sports facility	Whole pitch within the Order Limits, needed for trenchless crossing
7	Balmoral Drive (west)	Surrey Heath Borough Council	Amenity green space	Natural and semi-natural green space	Order Limits run along part of roadside green space
8	Balmoral Drive (East)	Surrey Heath Borough Council	Amenity green space	Natural and semi-natural green space	Order Limits include green space
9	SC Johnson	Surrey Heath Borough Council	Urban Green space	Natural and semi-natural green space and outdoor recreation	Private sports ground to be used for a construction compound/replacement car park
10	Salesian School	Runnymede Borough Council	Not designated	Outdoor sports facility	Proposed replacement playing fields fall within Order Limits
11	Salesian School	Runnymede Borough Council	Not designated	Outdoor sports facility	Existing playing fields fall within Order Limits
12	Abbey Rangers Football Club	Runnymede Borough Council	Not designated	Outdoor sports facility	Five pitches within Order Limits
13	Fordbridge Park	Spelthorne Borough Council	Amenity Space	Formal Park	Order Limits pass through park
14	Woodthorpe Road	Spelthorne Borough Council	Amenity Space	Natural and semi-natural green space	Order Limits pass through amenity space and equipped play area
15	Woodthorpe Road/ Bronzefield Prison entrance	Spelthorne Borough Council	Amenity Space	Natural and semi-natural green space	Order Limits pass through amenity space
16	Woodthorpe Road (disused recreation area)	Spelthorne Borough Council	Not designated	Natural and semi-natural green space	Construction compound located on green space
17	Ashford Sports Club	Spelthorne Borough Council	Not designated	Outdoor sports facility	Order Limits impact on car park and close to the boundary of the cricket ground

Site 1 Quetta Park

- 16.4.4 The site is not well used for informal recreation; the surfaced paths and equipped play area are not impacted by the project. The Neighbourhood Equipped Area for Play (NEAP) in this case a 'Kick Wall', the Local Equipped Area for Play (LEAP) a children's playground, footpath, potential pitch areas and dedicated parking area adjacent to Leipzig Barracks would be unaffected by the project. The project



proposes to site a temporary construction compound on land to the northeast of the car park and community facility. The replacement pipeline route runs along Naishes Lane. The remaining open space, some 3ha will be retained and available for use during construction, this space is capable of supporting the local community demands for recreation during construction to compensate for the small area of 3500m² temporarily impacted by the construction compound within the Order Limits required for the construction of the replacement pipeline.

- 16.4.5 Therefore, the use of this open space for a temporary construction compound will not have an impact on the wider function or use of Quetta Park as a whole. As a result, no site-specific action is required in addition to the project-wide measures secured through the Code of Construction Practice (CoCP) which is secured through DCO Requirement 5 for the restoration of the site post installation. There is no loss of open space from the operation of the pipeline once installed.

Site 2 Peter Driver Sports Ground

- 16.4.6 This sports ground is used by football teams during the football season and by an athletics club for cross-country running and training. The athletics club uses Aldershot athletics track for competition. The site has two full size adult pitches, a 3G 5-A-side pitch and a multi-use games area (MUGA)
- 16.4.7 The Order Limits for the construction of the replacement pipeline extend through approximately 35% of the playing field, taking in a significant proportion of both grass football pitches (including penalty boxes) and the current position of the street snooker court. Even with turfing of the pitches the recovery time required could impact on home fixtures of clubs playing in the Aldershot and District and Aldershot and Camberley Sunday Leagues, and any other football users.
- 16.4.8 Although lost home fixtures would impact on the income received by the Parish Council in the short term, it is considered likely that the two football clubs operating from the site could find alternative pitches to play on whilst the works are undertaken. In this regard, the Hart District Council Playing Pitch Strategy 2015-2032 identifies nine adult-sized pitches at six sites across the borough as having capacity to accommodate increased levels of use. Therefore, the football teams could be temporarily relocated to alternative venues during construction.
- 16.4.9 Construction of the pipeline is proposed to be by open trench with narrow working areas as secured through commitment NW10 in the CoCP secured through requirement 5 and is shown on the works plans submitted as part of the DCO. Reinstatement could be achieved more quickly by re-turfing, than by reseeding the playing surface. The local authority's open space assessment indicates that the drainage on this sports ground is sub-standard, however, our assessment has concluded that the pitches are in 'reasonable' condition. Therefore, the reinstatement of the playing surface will secure the restoration of the pitches includes the repair of drainage to their current condition, this will be secured through commitments in the CoCP by Requirement 5, the CEMP in Requirement 6 of the DCO, hedgerows and trees in Requirement 8 of the DCO and the Landscape and Ecological Management Plan(LEMP) in Requirement 12 of the DCO.



- 16.4.10 The project will continue to work with the landowner, Church Crookham Parish Council to plan the construction to reduce the impact on the use of the football pitches by the resident clubs. There are other seasonal environmental constraints on the construction programme nearby which may limit the opportunity to focus the construction of the pipeline outside the football season between mid-April and the first week of September. The length of open cut trench impacting on the pitches is approximately 200m and therefore could be completed and restored within the construction window. The impact on the function and use of these pitches will be temporary and because there is alternative provision if the pitches are not available for play, there is no overall material impact.
- 16.4.11 The street snooker (MUGA) will also be reinstated post construction, there is no particular seasonality to the use and function of this facility. The replacement of this feature will be secured through the CoCP under requirement 5 of the DCO.
- 16.4.12 Aside from the commitments detailed above, no site-specific mitigation is required in addition to the project-wide measures to secure the reinstatement of the facilities detailed in the CoCP which is secured through DCO Requirement 5. There is no loss of open space from the operation of the pipeline once installed.

Site 3 Southwood Sports Pitches and Cove Cricket Club

- 16.4.13 The football pitches marked out in the winter at Southwood are not impacted by the proposed Order Limits, nor is the cricket pitch that is marked out in the summer. The location and markings for the football pitches may alter seasonally, but there is capacity to mark the pitches and to use them safely without conflict with the construction of the proposed pipeline. The cricket square is in a fixed location and the outfield closest to the proposed pipeline will not conflict with construction.
- 16.4.14 The proposed Order Limits will impact on access to Cove Cricket Club (CCC) as the access is proposed to be used during construction. The access passes behind the existing cricket nets. The Order Limits and limits of deviation for the pipeline itself do not impact on the cricket club. CCC has proposals to extend the existing cricket nets when funding is available. It is assumed that the proposed additional cricket net will be located alongside the existing nets, and, therefore, there will be no conflict with the proposed Order Limits.
- 16.4.15 It is possible that part of the CCC's car park would be removed whilst the DCO works are undertaken. Whilst this could impact on parking provision at CCC's permanent cricket pitch, the independent assessment considers there to be more than adequate parking provision adjacent to the football pitches to meet match day requirements.
- 16.4.16 On this basis there will be no significant impact on the use or function of Cove Cricket Club or Southwood sports pitches. To secure that there is no conflict between the construction activity and the use of these sports facilities the project has made commitments to secure access to community facilities are retained and the safe management of the movement of vehicles, these are secured through the CoCP by requirement 5 of the DCO and the Construction Traffic Management



Plan (CTMP) by requirement 7 of the DCO. There is no loss of open space from the operation of the pipeline once installed.

Site 4 West Heath Road Farnborough

- 16.4.17 This site occupies the southern part of a linear park which links to Blunden Road Park to the north. The park is used by pedestrians and forms part of a circular walk (Cove Brook Path) enjoyed by local people, mainly dog walkers. The location of the proposed construction compound will temporarily impact on the southern element of the circular walk. An alternative route will be signposted using Glebe Road to ensure retention of the circular walking route during construction this will be secured through a commitment in the CoCP as secured by Requirement 5 of the DCO. Due to the location of the construction compound, the southernmost part of this linear park will not be available for public use during construction.
- 16.4.18 South of West Heath Road, Cove Brook Path continues as a well-used link to the footpath that runs along the toe of the railway embankment. This route will not be available during construction due to the location of a trenchless construction compound within this area. Once the pipeline is installed, and the construction compound reinstated, the footpath will be reopened.
- 16.4.19 There will be some impact on the use and function of this site during construction, but this is kept to a minimum by providing an alternative circular pedestrian route; and through the selected construction technique avoiding any impact on the surface of the footpath beside the railway, avoiding the need for additional reinstatement. This embedded measure is considered to reduce the impact on these open spaces significantly. There is sufficient alternative space available to compensate for the temporary impact of construction. There is no loss of open space from the operation of the pipeline once installed.

Site 5 Queen Elizabeth Park

- 16.4.20 Part of this site provides a Neighbourhood Equipped Area for Play (NEAP). This is a play area specifically designated, laid out and equipped mainly for older children. There is an under-provision of NEAP spaces in the locality, the nearest alternative being located 1.7km from the site compared to the standard provision of within 600m. The existing NEAP sits across the proposed Order Limits. The space will be used for a trenchless construction compound for between approximately six and 12 months. This is necessary in order to construct using trenchless techniques along the toe of the railway embankment without disruption or impact on the railway. Alternatives such as constructing along West Heath Road itself will not avoid an impact on the Queen Elizabeth Park.
- 16.4.21 There is a project commitment for narrow working across this park, this is secured by a commitment in the CoCP through requirement 5 of the DCO. The route through the park is using an existing path to reduce the impact on the mature trees and to align with the route through Farnborough Hill School grounds, again reducing the impact of construction on the wider community. However, this area of the park will be fenced and closed to the public during construction, including the existing car park vehicle accessed from Cabrol Road.



- 16.4.22 The park is broadly flat, with numerous secondary paths and well-worn naturalistic areas that are already used by people walking, walking dogs, jogging and for general recreational purposes. There is scope to identify an alternative main pedestrian and cycle route through the park, potentially by joining together existing paths where possible.
- 16.4.23 Localised works may be required to more clearly define path surfaces and/or mark out routes through signage or low marker posts. The alignment of this route should be as direct as possible to match the function of the existing route, connecting the southwest corner of the park to the A325 Farnborough Road in the southeast.
- 16.4.24 In order to achieve this, safe pedestrian and cycle access from Cabrol Road will be maintained throughout the duration of the works. The proposed alignment of the pipeline indicates that it will not be possible to maintain the existing pedestrian and cycle access to A325 Farnborough Road in the southeast corner of the park. Consideration will be given to providing an alternative pedestrian and cycle access to the north of the construction route this will be secured through a commitment in the CoCP under requirement 5 of the DCO.
- 16.4.25 The existing under-provision of NEAPs in Farnborough, and the distance to the nearest alternative site, means that a reduction in provision would be undesirable. The project will seek to provide a temporary equipped children's play area (NEAP) within the Order Limits in the vicinity of the existing NEAP for use while the existing NEAP is out of commission during construction.
- 16.4.26 It is proposed that the NEAP should be relocated close to the southern car park. This could be accommodated within the Order Limits, by rerouting the proposed haul road closer to the compound, thereby creating space to the north. The existing NEAP will be reinstated post construction this is secured through a commitment in the CoCP and delivered under Requirement 5 of the DCO.
- 16.4.27 Alternatively, as Rushmoor Council have plans to replace equipment in the existing NEAP there may be an opportunity to negotiate a contribution towards the provision of a new NEAP elsewhere in Queen Elizabeth Park before the installation works commence. The project will continue discussions with the council to explore the feasibility and deliverability of this option.
- 16.4.28 It is proposed that vehicular access to the park is maintained through the existing car park and entrance to the northeast off Farnborough Road (A325), with pedestrian access only maintained at the south via Cabrol Road. The majority of the park is unaffected by the construction of the pipeline and will continue to provide effective informal recreation opportunities, including alternative pedestrian routes through the park.
- 16.4.29 The proposed Order Limits will result in the removal of some mature trees alongside the existing path through the park. The Forestry Commission and Rushmoor Borough Council have indicated that the removal of the dense canopy over the path will be welcome and will make the park more inviting for users. There is a potential to re-use this timber to create a woodland trail through the park as an additional play facility.



- 16.4.30 It has been assessed that the construction of the pipeline along the southern path through the park does not impact on the capacity of the park for informal recreation.
- 16.4.31 In recognition that the existing NEAP at Queen Elizabeth Park will be impacted by the pipeline construction, the project will reinstate the existing NEAP as soon as practicable after construction. The project will seek to provide an alternative NEAP for use while the existing NEAP is out of commission. The alternative NEAP will either be provided by the project within the Order Limit in the vicinity of existing NEAP or will be provided in collaboration with Rushmoor BC in accordance with the details agreed. There will be no impact on the use and function of Queen Elizabeth Park during construction. These commitments are secured by the CoCP through Requirement 5 of the DCO. There is no loss of open space from the operation of the pipeline once installed.

Site 6 Farnborough Gate Sports Ground

- 16.4.32 The construction of a trenchless crossing from Farnborough to Frimley across the North Downs railway, the A331, the River Blackwater and the Ascot to Guildford railway line, requires a construction compound. This is located on the Farnborough Gate sports ground. This football pitch is not used by any established clubs and a site visit indicates that there is little evidence of organised football activity. There is suitable alternative provision and capacity locally on other nearby sports fields.
- 16.4.33 The construction of the pipeline will occupy the whole of the pitch for the period of the installation of the pipeline, in this location this will be for a prolonged period of time because of the long trenchless crossing required for the Blackwater Valley. Following completion of the installation of the pipeline, the pitch will be reinstated to an appropriate standard, including the reinstatement of the drainage. This will be secured through the CoCP secured through Requirement 5 of the DCO, the CEMP through Requirement 6 of the DCO, through the hedgerow and trees Requirement 8 of the DCO and the LEMP in Requirement 12 of the DCO. Access to the car park, adjoining cemetery and bowls club will be retained throughout construction this will be secured through a commitment the CEMP under Requirement 6 of the DCO. Therefore, during construction the removal of this pitch will not have an impact. Aside from the commitments above, no site-specific mitigation is required in addition to the project-wide measures for the reinstatement of the land secured through the CoCP through DCO Requirement 5. There is no loss of open space from the operation of the pipeline once installed.

Site 7 Balmoral Drive (West)

- 16.4.34 The proposed replacement pipeline Order Limits include Balmoral Drive and the green verges either side of the road. The area to the south of the road is a grass verge with a tree-lined bank between the road and the residential properties. To the north of Balmoral Drive there is a wide linear park with a community centre and woodland paths linking the housing area to the north with Balmoral Drive.
- 16.4.35 Access will be retained to the community centre and linear park to the north during construction, by temporary short diversions as required, this will be secured through a commitment in the CEMP under Requirement 6 of the DCO. The



installation of the pipeline will be by open trench construction, this could run in the road or along the verge on one side. The impact of construction on the character of this road and the open spaces is considered to be temporary and will only impact on one side of the road. No site-specific mitigation is required in addition to the project-wide measures secured through the CoCP through DCO Requirement 5. There is no loss of open space from the operation of the pipeline once installed.

Site 8 Balmoral Drive (East)

- 16.4.36 The eastern part of Balmoral Drive is more open with wider grassed areas. An area of open grass to the south of Balmoral Drive between Sandringham Way entrances is identified for a temporary construction compound. The compound will occupy approximately one third of the open space area, will not impact on any of the pathways across this space, or the wooded stream. This space is of local importance for informal recreation and adds to the visual character of the area. The use of part of the area for a compound for a temporary period will not result in an impact on the use or function of this open space.
- 16.4.37 The route of the proposed replacement pipeline then passes in front of the church within the verge. This will not impact on access to the church or the footpath along the frontage. The trees and low hedges along the car park frontage by the shops will be unaffected by the installation of the pipeline and therefore there is no impact on the open space or character of this part of Balmoral Drive. No site-specific mitigation is required in addition to the project-wide measures to ensure the reinstatement of the land which is secured through the CoCP through DCO Requirement 5. There is no loss of open space from the operation of the pipeline once installed.

Site 9 SC Johnson

- 16.4.38 As the pipeline crosses the Blackwater Valley in a long trenchless crossing, there is a need to provide a stringing out area for the pipeline to be welded together on the surface, tested and then pulled through under the Blackwater Valley. The stringing out area will cut across the main car park for SC Johnson and will be in place for approximately eight to 12 weeks. There is, therefore, a need to secure alternative car parking to compensate for any loss of parking spaces. The area to the north of the SC Johnson factory building is a possible alternative car park location.
- 16.4.39 This land is currently used by staff at SC Johnson as a private recreation facility, including a football pitch, two floodlit tennis courts and a nine-hole mini golf course. Not all of this area will be required for the replacement temporary car park and there are extensive areas of hardstanding within the SC Johnson site that could also be used for temporary car parking without impact on the recreation spaces.
- 16.4.40 The football pitch on site is poorly drained. At the time of the site visit, the pitch was not marked up nor were there any nets on the goal posts or signs of use. However, the tennis courts have their own score hut and there was evidence of use. The nine-hole mini golf course was in good condition with evidence of recent

dressing on the greens, indicating that this course is valued and used by the staff community.

- 16.4.41 The temporary replacement car park will not need to utilise more space than the football pitch, leaving the other spaces available for use during construction. There is local provision for alternative informal football activity. Should the pitch be needed for car parking, the surface of the pitch and any damage will be reinstated through a commitment in the CoCP and secured by requirement 5 of the DCO. As a result of this assessment, there is no material impact as a result of the proposal to use this area for temporary replacement car parking. Aside from the commitment to turf protection if required, no site-specific mitigation is required in addition to the project-wide measures for reinstatement secured through the CoCP through DCO Requirement 5. There is no loss of open space from the operation of the pipeline once installed.

Site 10 Salesian School Replacement Pitches

- 16.4.42 This site is currently undulating agricultural land, however, planning permission was granted (RU.18/1279) in December 2018 for the construction of a football pitch and a full-size rugby pitch together with a new pavilion. These facilities are to replace the school's existing pitches which are on land to be redeveloped for housing under planning permission RU.18/1280.
- 16.4.43 The project anticipates that these pitches will be in place and in use prior to the installation of the replacement pipeline, therefore the project would impact on the full-size rugby pitch and the use of the new pavilion during construction. It is proposed to use open cut construction through this site before using a trenchless technique to cross the main school campus and the M25 motorway.
- 16.4.44 The Runnymede Playing Pitch Strategy suggests that there is spare capacity in outdoor sports, therefore should the works result in the rugby pitch being unavailable for the school to use for home matches, there is alternative provision available. However, to reduce this potential impact, the project will consult with the school to co-ordinate where practicable the construction timetable to reduce impacts, on this basis works may be timed to take place during the summer holidays with the intention of the pitch being available for use early in the autumn term. This commitment to consult with the school is secured through the CEMP under Requirement 6 of the DCO.

Site 11 Salesian School Existing Playing Fields

- 16.4.45 This site is used solely by Salesian School, and has capacity for two youth pitches, either for football or rugby. However, at the time of the assessment neither pitch had been prepared for use and both were poorly maintained. This reflects the current plans to relocate these facilities as discussed above.
- 16.4.46 The project has assumed that these pitches will no longer be in use by the time installation of the pipeline takes place. The site will form part of the proposed housing development granted under planning permission RU.18/1280, work on the houses is due to commence in 2020.



- 16.4.47 Therefore, the proposed pipeline will have no impact on recreational or sports pitch provision when crossing this site.

Site 12 Abbey Rangers Football Club

- 16.4.48 Abbey Rangers football club occupies a ground that is leased from Runnymede Borough Council. The ground comprises seven football pitches including a Football Association standard Match Pitch (FA Match Pitch) with floodlighting and spectator stands. The club operates 38 teams across all age ranges for men and women. One pitch to the north of the Order Limits is also used by Chertsey High School, this pitch has planning permission to be replaced by an AstroTurf pitch with multiple sports uses.
- 16.4.49 The Order Limits impact on three full size football pitches and three junior or five-a-side pitches. There is not capacity in the local area to accommodate the displacement of this number of football teams. The existing pipeline runs across five of the existing pitches including the FA Match Pitch.
- 16.4.50 The proposed construction of the replacement pipeline initially proposed an open trench construction around the boundary of the FA Match Pitch and then open trench across the remaining pitches. However, even if this work could be completed outside the main football season, the football club holds a tournament during July for 200 teams which will significantly shorten the potential construction window and it is unlikely that full restoration of the playing surface will be completed and suitable for play in time for the new season.
- 16.4.51 Therefore, an alternative construction process has been considered. This involves a trenchless crossing underneath the playing surface of the FA Match Pitch (OP15), leaving the pitch untouched and available throughout the construction period. This will impact on the existing five-a-side pitch to the west of this pitch as it will be needed to provide a launch pit for the drill both to cross the Chertsey Road and to cross the FA Match Pitch. The loss of this five-a-side pitch can be compensated by the use of the proposed artificial turf pitch which can be used by two five-a-side teams simultaneously.
- 16.4.52 The remaining route through the Abbey Rangers Club will be open trench following the southern and eastern boundary of the site. This avoids any impact on the playing surface of the two remaining full-size pitches. The easternmost junior pitch may require re-marking further north than its current position. A small five-a-side pitch will be temporarily removed; this pitch's unavailability will be compensated for by the use of the proposed artificial turf pitch. The project is committed to narrow working across these pitches, this reduces the width of the working area and will reduce the impact on the pitches and the amount of repair post installation. This is secured by a commitment to narrow working through this site in the CoCP through Requirement 5 of the DCO.
- 16.4.53 The project will continue to work with the club and the local council to select a suitable time for the works to reduce the impact of the installation of the replacement pipeline. This may be after the summer tournament but during the school holidays to avoid impact on Chertsey High School, but this may mean that



the full number of pitches will not be full restored in time for the beginning of the new season.

- 16.4.54 The surface will be reinstated to FA/Sport England Performance Quality Standards (PQS), with appropriate reseeding/turf laying techniques and regular irrigation, to secure that the playing surface is enhanced and returned to use as soon as possible. The project will work with the club to secure an experienced playing pitch contractor with a proven track record in sports development to secure the correct surveys are undertaken and appropriate design specifications are applied. The pitches impacted will be restored to their current condition under a commitment secured through the CoCP under Requirement 5, the CEMP under Requirement 6, hedgerows and trees in Requirement 8 of the DCO and the LEMP in Requirement 12 of the DCO.
- 16.4.55 On this basis, the embedded design measures together with the careful timing of construction will reduce the impact of the project to an acceptable level. Aside from the commitment to the timing of works, no additional site-specific mitigation is required in addition to the project-wide measures for the restoration of the pitches secured through the CoCP through DCO Requirement 5. There is no loss of open space from the operation of the pipeline once installed.

Site 13 Fordbridge Park.

- 16.4.56 This is a well-used local park with some formal recreation facilities which are unaffected by the replacement pipeline Order Limits. There are a number of 'memorial trees' which have been planted by local people to commemorate the people or events that are important locally. The park has a number of paths that provide circular walks through the open space.
- 16.4.57 The proposed replacement pipeline Order Limits have been set to allow for flexibility to avoid 'memorial trees'. The final route of the pipeline is identified by the Order Limits and the Limits of Deviation show where the pipeline may be located, this allows for flexibility to construct the pipeline reducing the impact on the memorial trees. The Park will also accommodate the launch/receiving pits for two trenchless crossings, one across from Ashford Road and Kingston Road into the south of the park and a second from the north of the park across the Staines By-pass across to Woodthorpe Road. These pits will be contained within small compounds by may be in place for a number of weeks. Access for the southern trenchless pit will be from Ashford Road, and limited heavy plant access. The northern pit will be accessed for light vehicles from Celia Crescent. The footpaths impacted by the pipeline route will be managed with signed crossing points to secure access to and around the park is maintained during construction this will be secured through a commitment in the CoCP and secured through Requirement 5 of the DCO.
- 16.4.58 Once construction is completed, any paths impacted will be restored and the surface reseeded. Therefore, the temporary impact of the construction of the pipeline on Fordbridge Park is minimal and not material. No additional site-specific mitigation is required in addition to the project-wide measures to secure reinstatement of the land secured through the CoCP through DCO Requirement 5. There is no loss of open space from the operation of the pipeline once installed.



Site 14 Woodthorpe Road Play Area

- 16.4.59 The Order Limits include the location of an existing LEAP which is used by local children. There is no surfaced path to this play area and in the winter the area is under-used as access is inappropriate for small children. The application proposes to temporarily relocate this LEAP to another area within the Order Limits on the same open space during construction to secure access to a LEAP facility. Post construction the LEAP will be reinstated either in the original position with an improved surface for the access or the temporary facility will be retained permanently this will be secured through a commitment in CoCP under Requirement 5 of the DCO. This is particularly important in light of the recognised deficiency in Children and Young People provision noted in the 2005 Open Space Assessment.
- 16.4.60 On this basis, the construction of the replacement pipeline will not have an effect on the provision and use of the LEAP in this area of Woodthorpe Road. Aside from the commitment to re-provision, no site-specific mitigation is required in addition to the project-wide measures for the reinstatement of the land secured through the CoCP through DCO Requirement 5. The operation of the pipeline has no impact on the use or function of the open space and LEAP.

Site 15 Woodthorpe Road Open Space by Bronzefield Prison

- 16.4.61 This space is informal open space, the application Order Limits run along the eastern edge of the space along Woodthorpe Road. This alignment leaves the majority of the space closest to the residential properties unaffected.
- 16.4.62 The space is large and the area unaffected is substantial and will continue to function as an informal open space during construction. No site-specific mitigation is required in addition to the project-wide measures secured through the CoCP which is secured through DCO Requirement 5. The operation of the pipeline will have no impact on the use or function of the space, post reinstatement.
- 16.4.63 Therefore, there will be no significant impact on the open space in Woodthorpe Road from the construction of the replacement pipeline and no impact on the use and function of the space by the operation of the pipeline.

Site 16 Unused Plot on Woodthorpe Road

- 16.4.64 This area is identified in the project Order Limits for a construction compound. The past use of this plot has been for sport and recreation as part of Ashford Sports Club. The ground is overgrown grassland with a worn pathway across it. However, this use has been abandoned following the relocation of the football and cricket pitches to Stanwell. The land shows evidence of informal and possible unauthorised access.
- 16.4.65 There is a surplus of alternative open space for informal recreation in the immediate area of Woodthorpe Road. The use of this site for a construction compound will not result in reduced opportunity for informal recreation in the area during construction. Once the streetworks in Woodthorpe Road and construction in the Ashford and Laleham area are complete, this construction compound will be



removed and the land reinstated. No site-specific mitigation is required in addition to the project-wide measures for the reinstatement of the land secured through the CoCP through DCO Requirement 5.

Site 17 Ashford Sports Club

- 16.4.66 Ashford Sports Club is a private community-based sport club, providing tennis at its Woodthorpe Road base, and cricket, football and hockey at the Stanwell location. The facility is served by a substantial club house, groundsman's hut, scoring pavilion and car park.
- 16.4.67 The Order Limits do not impact on either the hockey or football pitches. However, the route along the eastern side of Short Lane will cross the car park for the club with the potential to reduce the capacity of the car park by approximately 45 out of 90 spaces. Construction activity will close off the eastern circulation access, therefore, car park users will need to use only the western access to the remaining car parking spaces.
- 16.4.68 The Order Limits also cross the main access to the club. This will be open trench construction and will be managed to secure access to the club premises is maintained, with the exception of a few hours while the trench is excavated, and the pipe is laid in the trench. The project will commit to securing access is maintained to the sports club and its car park during construction through a commitment securing access to community facilities is maintained in the CEMP under Requirement 6 of the DCO.
- 16.4.69 The route of the proposed Order Limits then passes behind the groundsman's hut and scoring pavilion associated with the cricket pitch before following the outer boundary of the cricket ground parallel to Short Lane. This route lies outside the cricket pitch boundary and therefore will not interfere with the use of the cricket ground if in use at the same time as construction. Fencing will be required to ensure that the construction area is protected from cricket balls.
- 16.4.70 On this basis the impact on Ashford Sports Club is minimal and will be managed in agreement with the operation of the club to avoid any significant inconvenience during construction. Aside from this commitment, no site-specific mitigation is required in addition to the project-wide measures to secure the reinstatement of the land through the CoCP secured through DCO Requirement 5. The operation of the pipeline will not have any impact on the use or function of this open space.

Golf Courses

- 16.4.71 Construction of the project will lead to temporary impacts on golf courses that lie within the Order Limits. The impacts will be direct (temporary fencing-off of parts of the golf course within working area), and/or indirect (such as noise or other indirect impacts, restrictions on golfers and maintenance-access routes within the wider golf course, or restricted access and car parking within the wider golf course).
- 16.4.72 Potential impacts on the operation of the golf course may be capable of being reduced in their physical extent or duration through the detailed construction



methodology that is employed during the construction of the project, and the timing and details of the reinstatement proposals.

- 16.4.73 The project will continue to discuss the details of the construction and agree these with the golf course operators as part of the acquisition of rights negotiations through the land owner agreements secured under the DCO. This may include, but not be limited to the seasonality and timing of working, maximum and minimum working widths (within the defined Order Limits), alignment and materials to be used for temporary haul roads, temporary fencing, topsoil stripping, spoil storage, temporary drainage and any dewatering.
- 16.4.74 Where the construction of the project affects the operation of the golf course, temporary measures may be capable of being employed to reduce impacts. This could include measures such as the seasonality and timing of construction works (to reduce impacts on competitions); use of temporary tees and greens (to shorten holes so as to avoid the project working route); temporary closure of holes (to enable construction of the project to take place over a shorter period of time); use of temporary fencing and 'ground under repair' rules (to enable holes to remain in use during construction; re-routing of golfers and maintenance access routes (to avoid the project working route); or temporary routes through or across the project working route, with banksmen (to maintain access across working areas).
- 16.4.75 The construction of the project impacts will be temporary in nature and affected land will be reinstated on completion of the construction works and removal of any haul roads. Reinstatement of the golf course will be secured through commitments in the CoCP under Requirement 5 of the DCO, the CEMP under Requirement 6 of the DCO, hedgerows and trees in Requirement 8 of the DCO and the LEMP in Requirement 12 of the DCO.
- 16.4.76 It is considered that, with appropriate and detailed construction methodologies and reinstatement proposals, the temporary impacts on golf courses will be reduced such that a material recreational impact can be avoided. Potential financial impacts on the golf course operation arising during construction of the project, will be addressed through the compensatory mechanisms included within the Lands Agreement between Esso and the landowner/lessee.

Table 16.3: Schedule of affected golf courses within Order Limits

Section	Golf Course	Nature of impact	Comments
B	Four Marks	Temporary impacts on holes 1, 2, 3 and 4. Project commitment to narrow working (NW2)	Nine-hole course, small membership with pay and play
D	Oak Park, Crodall	Temporary impacts on 18-hole golf course (holes 2, 3, and 17). Project commitment to narrow working (NW7)	18-hole and nine-hole courses. Membership and pay and play
D	Southwood Golf Course	No impact – golf course closed. In the process of being converted to SANG	
E	Pine Ridge Golf Course	Temporary impact on four holes (holes 1, 4, 5 and 6 plus the Driving Range). Project commitment to narrow working (NW20)	18 hole members and pay and play golf club
F	Windlemere Golf Course	No impact – course closed and undergoing conversion to SANG	
F	Foxhills Country Club and Resort	Temporary impact on up to 13 holes across both 18-hole courses (Longcross course holes L2, L3, L5, L6, L12, L15, L16, L17). Bernard Hunt Course holes B2, B3, B14, B17 and B13. Project commitment to narrow working (NW26)	36-hole championship golf course (two 18-hole courses) plus a nine-hole course, hotel and country club., Bi-annual PGA amateur tournament held at this course.
G	Abbey Moor Golf Club	Temporary impact on a minimum of two holes (holes 6 and 7). Project commitment to narrow working (NW27)	Nine-hole golf course, membership and pay and play

Suitable Alternative Natural Greenspaces

- 16.4.77 Suitable Alternative Natural Greenspaces (SANGs) is the name given to the green spaces of a quality and type suitable for use as mitigation in the context of the Thames Basin Heaths Special Protection Area (TBH SPA). Its role is to provide alternative open space to divert visitors from visiting TBH SPA. The land is allocated to provide alternative informal recreation space for residents, thereby reducing the pressure on the TBH SPA biodiversity areas from recreational activity. In particular, this protects the heathland habitat for ground nesting birds and reduces erosion and damage caused by overuse of these fragile environments.
- 16.4.78 SANG is allocated by Local Planning Authorities in line with housing allocations to facilitate the provision of new housing without additional demand and harm to the TBH SPA. SANG areas are required to be made available and laid out for informal recreation before new housing can be delivered. These allocations fall under policies: NBE4 Hart District Draft Local Plan Strategy and Sites 2016-2032 proposed submission February 2018; CP13 in the Surrey Heath District Core Strategy and Development Management Policies adopted in February 2012; CP13 in the Rushmoor Plan – Core Strategy adopted October 2011; NE1 in the Rushmoor submission draft Local Plan 2014-2032 Therefore, where the proposed replacement pipeline crosses SANG, it is essential to maintain access to this land during the construction, this is secured through a commitment in the CoCP secured through Requirement 5 of the DCO.



16.4.79 The proposed replacement pipeline crosses the following areas of existing and proposed SANG as detailed in Table 16.4 below.

Table 16.4: Areas of Existing and Proposed SANG

Section	SANG	Nature of Impact	Management measures
D	Crookham Park	Order Limits cross the SANG	To allow access across the working area
D	Southwood	Order Limits cross the SANG	To allow access across the working area
F	Windlemere	Order Limits cross the SANG	To allow access across the working area
G	Chertsey Meads	Order Limits cross the SANG	To allow access across the working area

16.4.80 It is not possible to estimate the number of people whose recreational activity could be displaced into the SPA as a result of construction works within SANGs. However, given the short duration and limited extent of the works within these sites, it is not predicted that sufficient numbers of people to generate significant levels of disturbance would be displaced. Any effects that may arise due to disturbance via this pathway are therefore likely to be insignificant. The HRA Report (**application document 6.5**) section 5.7 provides more detail.

School Playing Fields

16.4.81 The replacement pipeline route seeks to avoid residential areas where possible. In the more built-up areas such as Farnborough and through Surrey, the route passes through the grounds of a number of schools. Utilising the school grounds and playing fields to accommodate the replacement pipeline reduces the need for street works and the attendant disruption to the local road network during construction. The impact is temporary during the construction of the pipeline, and the operation of the pipeline has no impact on the use of the ground above for school sport and recreation.

16.4.82 Potential impacts on the operation of a school will be capable of being reduced in their physical extent or duration through the detailed construction methodology that is employed during the project construction, and the timing and details of the reinstatement proposals. The potential impact of the construction of the pipeline on school activities will be reduced by focusing the construction activity in the school holidays mainly during the summer.

16.4.83 The details for the installation of the pipeline will be discussed with each education facility within the Order Limits to coordinate where practicable the timetable for construction to reduce impact on the operation of the school. This consultation with each school to secure a suitable timing for construction is secured through a commitment in the CEMP through Requirement 6 of the DCO. This will include, but not be limited to the seasonality and timing of working, maximum and minimum working widths (within the defined Order Limits), alignment and materials to be used for temporary haul roads, temporary fencing, topsoil stripping, spoil storage, temporary drainage and any dewatering.

16.4.84 Construction impacts will be temporary in nature and affected land will be reinstated on completion of the construction works and removal of any haul roads. Reinstatement methodologies will be discussed and agreed with the school prior to construction works commencing.

Table 16.5: Schedule of affected schools within the Order Limits

Section	School	Nature of Impact	Mitigation
E	Farnborough Hill School	The Order Limits run within the boundary of the school grounds from the south of the school, around the eastern boundary to the north on to Ship Lane. Project commitment to narrow working (NW18)	The timing of the works in the school grounds will be agreed with the school leadership. The preference will be to construct during the summer holidays. This will be secured through the CoCP.
F	Salesian School	The Order Limits impact on two playing pitches; trenchless drill under the main school campus	The two pitches will be temporarily unavailable; drainage and surface restoration will be agreed with the school and in place before the pitches are needed in the autumn term. This will be secured through the CoCP.
G	Chertsey High School	The Order Limits impact on the southern entrance to the school; and impact on Abbey Rangers Football Club may increase use of the school's Astro Turf pitch	The preference for the timing of the works will be to construct during the summer holidays. This will be secured through the CoCP.
G	Philip Southcote School	The Order Limits cut across the corner of the school field; this area may be required to avoid a direct impact on the FA Pitch at Abbey Rangers.	The preference for the timing of the works will be to construct during the summer holidays. This will be secured through the CoCP.
H	Clarendon School	The Order Limits include the playing field and school access to facilitate the construction of two trenchless crossings.	The preference for the timing of the works will be to construct during the summer holidays. This will be secured through the CoCP.
H	St James' School	The Order Limits pass along the eastern boundary of the school playing fields, impacting on the cricket field and grass athletics track in summer, and rugby pitches in winter.	The timing of the works in the school grounds will be agreed with the school leadership. The preference for the timing of the works will be to construct during the summer holidays. This will be secured through the CoCP.
H	Thomas Knyvett College	The Order Limits run along the eastern edge of the playing field, as currently marked, one junior five-a-side football pitch would be affected, however, there is significant space within the school playing fields to relocate this pitch without impacting on the operation of the school.	Agree with the school the relocation of the junior pitch affected. This will be secured as part of the land rights agreement.



Informal open spaces

- 16.4.85 The project Order Limits impact on a number of green verges along the route, a proportion of which are identified as urban green spaces. These are linear features running along either side of highways. They provide a feeling of openness and green space within otherwise built-up areas. Examples of these are Ashford Road in Section H and Red Road in Section F.
- 16.4.86 The construction of the pipeline has a temporary impact involving the erection of temporary fencing for security and safety, the excavation of an open trench and the installation of the pipeline. Once the trench is backfilled, the topsoil will be replaced, and the turf reinstated or reseeded. These spaces are not used for any recreational purpose, and the construction of the pipeline will not impact on the long-term function of these spaces. However, there will be a temporary visual impact due to the construction activity. This will be temporary in nature and once reinstated there will be no impact on the function of these linear green spaces.
- 16.4.87 No site-specific mitigation is required in addition to the project-wide measures for the reinstatement of the land secured through the CoCP which is secured through the DCO Requirement 5. The operation of the pipeline beneath these spaces does not impact on their use or function as green spaces and verges.

Commitments

Table 16.6: Priority Sites Project Commitments

Site	Commitment
Site 2 Peter Driver Sports Ground	Working width reduced to 15m (NW10) to reduce impacts on the football pitches at Peter Driver Sports Ground over an approximate distance of 190m. (Grid ref: SU8199551755 to SU8218751789) This will be secured in the CoCP by Requirement 5 of the DCO. The reinstatement of the playing surface will ensure the restoration of the pitches including the repair of drainage together with the reinstatement of the Street Snooker (MUGA) this will be secured through commitment G87, G88 and G94 in the CoCP by Requirement 5 of the DCO, the CEMP through Requirement 6 of the DCO, hedgerows and trees in Requirement 8 of the DCO and LEMP in Requirement 12 of the DCO.
Site 3 Cove Cricket Club	To secure no conflict between the construction activity and the use of the sports facilities commitment G111 required the safe management of the movement of vehicles, this is secured the Construction Traffic Management Plan (CTMP) by Requirement 7 of the DCO.
Site 4 West Heath Road	An alternative walking route through West Heath linear park will be signposted using Glebe Road to retain a circular walking route during construction. This will be secured through the CoCP as secured by Requirement 5 of the DCO.



Site	Commitment
<p>Site 5 Queen Elizabeth Park</p>	<p>Commitment to narrow working (NW17)</p> <p>In recognition that the existing NEAP at Queen Elizabeth Park will be impacted by the pipeline construction, the project will reinstate the existing NEAP as soon as practicable after construction (G94). The project will seek to provide an alternative NEAP for use while the existing NEAP is out of commission. The alternative NEAP will either be provided by the project within the Order Limit in the vicinity of existing NEAP or will be provided in collaboration with Rushmoor BC in accordance with details agreed. (OP06).</p> <p>The existing walking and cycling route to the north of the Order Limits from Cabrol Road through Queen Elizabeth Park will be signposted as an alternative to the route within Order Limits. This will be secured through the CoCP as secured by Requirement 5 of the DCO.</p>
<p>Site 6 Farnborough Gate</p>	<p>The pitch will be reinstated to a good standard, including the reinstatement of the drainage. This will be secured through commitments G87, G88 and G94 in the CoCP and secured through Requirement 5 of the DCO the CEMP through requirement 6 of the DCO hedgerows and trees through Requirement 8 of the DCO and the LEMP in Requirement 12 of the DCO.</p> <p>Access to the car park, adjoining cemetery and bowls club will be retained throughout construction this will be secured through commitment G79 in the CEMP under Requirement 6 of the DCO and the construction traffic (CTMP) in Requirement 7 of the DCO.</p>
<p>Site 7 of Balmoral Drive (West)</p>	<p>Access will be retained to the community centre and linear park to the north during construction, by temporary short diversions as required, this will be secured through commitment G79 in the CEMP under requirement 6 of the DCO and the construction traffic (Construction traffic management plan) under requirement 7 of the DCO.</p>
<p>Site 9 SC Johnson</p>	<p>Should the pitch be needed for car parking, the surface of the pitch and any damage will be reinstated through commitment G94 in the CoCP and secured by Requirement 5 of the DCO.</p>
<p>Site 10 Salesian School Replacement Pitches</p>	<p>The project will consult with educational facilities within the Order Limits to co-ordinate where practicable the construction timetable to reduce impacts, on this basis works may be timed to take place during the summer holidays with the intention of the pitch being available for use early in the autumn term. This commitment is secured through G173 in the CEMP under Requirement 6 of the DCO.</p>
<p>Site 12 Abbey Rangers Football Club</p>	<p>To use trenchless construction techniques to cross the FA Match Pitch in order to reduce the potential impact on the playing surface and allow for this pitch to be used throughout the construction period (OP15). TBC</p> <p>The pitches impacted will be restored to their current condition under commitment G87, G88 and G94 and secured through the CoCP under Requirement 5 of the DCO, the CEMP under Requirement 6 of the DCO, hedgerows and trees under Requirement 8 of the DCO and LEMP in Requirement 12 of the DCO.</p> <p>Working width reduced to 15m (NW28) to reduce impacts on the football pitches at Abbey Rangers Football Club over an approximate distance of 500m. (Grid ref: TQ0496265815 to TQ0526166064) This will be secured in within the CoCP a secured by Requirement 5 of the DCO.</p>
<p>Site 13 Fordbridge Park</p>	<p>Principal pedestrian footpaths within Fordbridge Park crossing the working area would be managed with access only closed for short periods while construction activities occur. Additional signage for diversions on to alternative existing paths will be utilised as appropriate. This will be secured through the CoCP and secured</p>



Site	Commitment
	through Requirement 5 of the DCO.
Site 14 Woodthorpe Road	Post construction the LEAP will be reinstated either in the original position with an improved surface for the access or the temporary facility will be retained permanently this will be secured through commitment G94 in CoCP under Requirement 5 of the DCO.
Site 17 Ashford Road Sports Club	The project will commit to securing access is maintained to the sports club and its car park during construction through commitment G79 in the CEMP under Requirement 6 of the DCO.
Golf Courses	Reinstatement of the golf course will be secured through commitment G87, G88 and G94 in the CoCP under Requirement 5 of the DCO, the CEMP secured through the DCO under Requirement 6 of the DCO, hedgerows and trees in Requirement 8 of the DCO and the LEMP in Requirement 12 of the DCO.
SANGs	Principal pedestrian routes within SANGs crossing the working area would be managed with access only closed for short periods while construction activities occur. Additional signage for diversions on to alternative existing paths will be utilised as appropriate. This will be secured through the CoCP and secured through Requirement 5 of the DCO.
Schools	The details for the installation of the pipeline will be discussed with each education facility within the Order Limits to coordinate where practicable the timetable for construction to reduce impact on the operation of the school. This is secured through commitment G173 in the CEMP and secured through Requirement 6 of the DCO.

16.5 Conclusion

- 16.5.1 In order to demonstrate accordance with the policy requirements in the NPS EN-1, an independent assessment of the priority open spaces has been carried out. Through the careful routing and the project commitments described above, there will be only temporary impacts and no significant impact on any public open space or recreation area during the construction of the replacement pipeline.
- 16.5.2 The operation of the proposed replacement pipeline does not result in any additional demand for open space, nor will it impact on the function or use of any open spaces impacted, therefore the operation of the pipeline will be in accordance with the policy detailed in the NPS EN-1.

17 Special Category Land

Key points:

- National Trust Land included in Order Limits;
- The Order Limits cross Common Land;
- The replacement pipeline includes installation on Open Space; and
- Once installed all land is restored to its previous use without impact during operation.

17.1 Introduction

- 17.1.1 This chapter addresses the issue of special category land in respect of the Project. The issues dealt with in this chapter are legal and separate from the policy matters in respect of open space that were addressed in the previous chapter. This section sets out the definitions of the various types of special category land, and the next section sets out the land in each category that Esso believes, following diligent inquiry, to be affected by the project.
- 17.1.2 Special category land is defined in Regulation 2 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (“The APFP Regs”) as “*land identified as forming part of a common, open space, National Trust land or fuel or field garden allotment*”. The definition goes on to indicate that Special Category land should be shown on the Land Plans that accompany the application for Development Consent. In this case Special Category Land is shown on “Special Category Land Plans” (**Application Document 2.3**).
- 17.1.3 The Statement of Reasons (**Application Document 4.1**) sets out the justification for seeking compulsory purchase powers within the DCO.

National Trust Land

- 17.1.4 Section 130 of the Planning Act 2008, as amended, (“The 2008 Act”) refers to National Trust land. It relates to land that is held by the National Trust inalienably. It indicates that an order granting development consent is subject to special parliamentary procedure (defined below), to the extent that the order authorises the compulsory acquisition of National Trust land, subject to certain criteria. These criteria can be summarised as being that the National Trust needs to make a representation before the close of the examination into the application for development consent, and that representation includes an objection to the compulsory acquisition of the land, and that representation has not been withdrawn.
- 17.1.5 The application for development consent has two route sub-options in the Hinton Ampner area, A2a and A2b. Some of the land in sub-option A2a is National Trust



land which is held inalienably by the National Trust. The inclusion of alternative options in an application for development consent is in principle acceptable, providing both options have been assessed in the Environmental Statement, as they have been in this case. The Hinkley Point C Grid connection and M20 Junction 10A applications for development consent contained two options and in the first case the Examining Authority were asked to recommend which option they would be prepared to recommend for consent. In this case it is not proposed to request that the Examining Authority or the Secretary of State makes a decision on alternative options, but rather that the applicant will deselect one of the route sub-options prior to or during the Examination.

Special Parliamentary Procedure

- 17.1.6 Special Parliamentary Procedure (SPP) is a process that dates back hundreds of years and addresses proposals to compulsorily acquire land in which there is a public interest, and the landowner has objected to the proposal and not withdrawn their objection. Thus, in cases relating to the 2008 Act, it can be applied to proposals to compulsorily acquire rights to National Trust land that is held inalienably, open space and fuel or field garden allotments.
- 17.1.7 SPP is a complex parliamentary process involving a committee of both houses of parliament being specially convened to consider the order. The process can only begin when the Secretary of State has completed his/her consideration of the application. The process has the potential to take around 12 months, delaying the date that the Development Consent Order would come into force significantly and even risking a different decision being made. It is rational for the project to seek to avoid SPP.

Common Land

- 17.1.8 Sections 131 and 132 of the 2008 Act apply to the compulsory acquisition of common land, open space, or fuel or field garden allotments, or in the case of s132 where rights are sought in respect of that land.
- 17.1.9 “Common land” has the same meaning as in Section 19 of the Acquisition of Land Act 1981 –that it “includes any land subject to be enclosed under the Inclosure Acts 1845 to 1882, and any town or village green”.
- 17.1.10 In the case of common land, an order granting development consent that creates a new right over common land is subject to SPP unless one of the following applies:
- 1) following consent, the land will be “no less advantageous” than it was before to the following persons -
 - a. the persons in whom it is vested,
 - b. other persons, if any, entitled to rights of common or other rights, and
 - c. the public.
 - 2) Replacement land has been or will be given in exchange for the order right, and the replacement land has been or will be vested in the persons in whom the order land is vested and subject to the same rights, trusts and incidents as attach to the order land (ignoring the order granting development consent).

- 3) The order land does not exceed 200 square metres in extent or the order right is required in connection with the widening or drainage of an existing highway or in connection partly with the widening and partly with the drainage of such a highway and the giving of other land in exchange for the order right is unnecessary, whether in the interests of the persons, if any, entitled to rights of common or other rights or in the interests of the public.

17.1.11 “Order land” is defined as follows:

- 1) Section 131(3) provides that special parliamentary procedure applies to the extent that the DCO authorises the compulsory acquisition of land to which this section applies.
- 2) This section (i.e. s. 131) applies only to land forming part of a common, open space or fuel or field allotment (s. 131(1)).
- 3) The reference to “the land authorised to be compulsorily acquired” in s. 131(12) must therefore mean land forming part of a common, open space or fuel or field allotment which is authorised to be compulsorily acquired, in terms of ss. 131(1) and (3).

Open Space

17.1.12 All the tests in respect of SPP that apply to common land also apply to open space.

17.1.13 Open space is defined in the Act as “*any land laid out as a public garden, or used for the purposes of public recreation, or land which is a disused burial ground;*” Whilst public gardens and burial grounds are relatively simple terms to define, the definition of “public recreation” is less well defined. We set out below our approach to defining “public recreation”.

17.1.14 In addition to the tests for common land, two additional tests may apply to land that is open space and not also a common or allotment.

- 1) There is no suitable land available to be given in exchange for the order land, or any suitable land available to be given in exchange is available only at prohibitive cost, and it is strongly in the public interest for the development for which the order grants consent to be capable of being begun sooner than is likely to be possible if the order were to be subject (to any extent) to special parliamentary procedure, or
- 2) This subsection applies if the order land is being acquired for a temporary (although possibly long-lived) purpose.

Fuel or Field Garden Allotments

17.1.15 The tests for Fuel and Field Garden Allotments are the same as for Common Land.

17.1.16 “Fuel and Field Garden Allotments” has the same meaning as in Section 19 of the Acquisition of land Act 1981. That is “any allotment set out as a fuel allotment, or a field garden allotment, under an Inclosure Act”.



Crown Land

- 17.1.17 While not Special Category Land, Crown land also requires careful analysis. Section 135 of the 2008 Act in effect indicates that rights over Crown Land can only be acquired if the owner consents. The Crown includes:
- a) the Duchy of Lancaster;
 - (b) the Duchy of Cornwall;
 - (c) the Speaker of the House of Lords;
 - (d) the Speaker of the House of Commons;
 - (e) the Corporate Officer of the House of Lords;
 - (f) the Corporate Officer of the House of Commons
- 17.1.18 Section 227 of the 2008 Act also clarifies that a Crown interest includes
- (a) an interest belonging to Her Majesty in right of the Crown or in right of Her private estates;
 - (b) an interest belonging to a government department or held in trust for Her Majesty for the purposes of a government department.

17.2 Identifying Special Category Land

National Trust Land

- 17.2.1 National Trust Land has been identified through land referencing, and liaison with the National Trust. At our non-statutory Pipeline Corridor consultation, the National Trust identified to us that we were interfacing in two locations with their land. One of these locations was not within either of the corridor options selected which formed the preferred corridor.
- 17.2.2 The proposed order limits cross National Trust land at Hinton Ampner that we interface with and it is held inalienably. This land is within sub-option A1a within Section A of the route, which may or may not be chosen. The National Trust Land within the order limits is plots 296 and 299.

Common Land

- 17.2.3 We have identified Common Land through several desktop research processes, including the Commons Registers supplied by the relevant local authorities, site visits and reviews of aerial photography were also employed.
- 17.2.4 This has identified plots 1572-1605 inclusive as being Common Land.

Open Space

- 17.2.5 The project team has undertaken a detailed assessment of the land within order limits to determine if it is open space. In doing so it has adopted a precautionary approach.
- 17.2.6 It established a long list of potential sites from a range of data sources that included potential locations containing allotments, cemeteries, common land, community centres, golf courses, heathland, parks, sports pitches, recreation grounds, reservoirs and schools. Data was obtained from local authority open space studies as well as our own analysis of maps and publicly available databases. Internal workshops were held and also in cases of uncertainty a site visit was undertaken.
- 17.2.7 In applying our precautionary approach, we took a wide definition of “outdoor recreation”. If the evidence was that those in whom the land is vested, or who have rights, or the public could access the land for the purposes of outdoor recreation then it was open space and therefore special category land. The application order limits cross a number of parks, which are clearly special category land, such as Queen Elizabeth Park in Farnborough and Fordbridge Park in Ashford.
- 17.2.8 We have included a number of areas of open land where there is no obstacle to the public using the open land, and it is clear that they do. This includes some areas that are open land on housing developments, such as the land at Briar Avenue, Lightwater.
- 17.2.9 We interface with a number of sports facilities. Often, but not always, we only interact with the setting of the sporting facility, but not the sports pitch itself. Examples would be, Cove Cricket Club and Southwood Pavilion, where the order limits are some way from the playing field. In other cases, such as Peter Driver Sports Ground (also known as Church Crookham Football Field) and Abbey Rangers Football Ground Club where the order limits do cross the playing surface.
- 17.2.10 Also, although it appears we interact with two community centres, this is within the grounds of the community centres, not the buildings. While it is assumed that the majority of any recreational use of the community centre would be inside the building we felt that we could not assume that there was no community use of the grounds. The sites are Ashford Community Centre and Frimley Community Centre.
- 17.2.11 We have an interface with seven golf courses. Two of these (Southwood golf course and Windlemere Golf course) are in the process of becoming Suitable Alternative Natural Greenspace (SANG). As such they will remain as Special Category Land as the public will have the right of access to them for recreation. At the time of writing neither SANG is open and hence we still refer to the sites as golf courses.
- 17.2.12 We have considered if playing golf is outdoor recreation. A number of the courses are pay and play courses and we therefore consider that as the public can play without membership it is outdoor recreation. Some of the other courses have high



membership fees and there clearly comes a point where the restrictions on public access become too onerous for it to be possible to say that the facility is still available for public recreation. However, applying our precautionary approach we have included all golf courses.

- 17.2.13 We interface with a number of wooded areas that have no obvious restrictions on their use, many of which have clear footpaths that are not public rights of way, thereby indicating that they are used for outdoor recreation such as walking. On a precautionary basis we have included this land.

Field or Fuel Garden Allotments

- 17.2.14 Despite the order limits going through land named on the base mapping as “Frimley Fuel Allotments” this is not in fact a Fuel Allotment. The area is managed by a charity. Their solicitors have advised us that “the right of the public to collect wood was removed many decades ago.” This area is special category land as it is also part of Pine Ridge golf course.
- 17.2.15 Allotments were identified through a request to the relevant local authorities. The order limits include one allotment plot. This is land to the South of Cabrol Road, in Farnborough. The Plot number in the Book of Reference is 1163 (**Application Document 4.3**).

Crown Land

- 17.2.16 There are extensive interfaces with land belonging to the Ministry of Defence.
- 17.2.17 Part 4 of the Book of Reference identifies the plots within which the Crown has an interest. Land identified as Crown land is also shown on the Crown Land Plans (**Application Document 2.4**).
- 17.2.18 Esso are in active discussions with The Defence Infrastructure Organisation and Ministry of Justice in relation to an agreement to acquire the necessary interests in land.
- 17.2.19 It is accepted that s135 of the 2008 Act applies and that the consent of the crown will be required to acquire rights in this land.

17.3 Applying the Tests in Section 130

- 17.3.1 Route sub-option A2a runs through National Trust property and sub-option A2b does not. It is anticipated that as negotiations with the National Trust progress we will be able to deselect one of these options before or during the examination and ask that the decision on the application is made on the basis of the remaining option. We aim to do this as early in the application process as possible.
- 17.3.2 Should sub-option A2a be dropped then we will not engage S130 as there will be no National Trust land within the order limits. Should sub-option A2a remain in the application that would only be if voluntary agreement had been reached with the National Trust, in which case there would be no objection to the compulsory



acquisition of the land rights from the National Trust and Special Parliamentary Procedure would, therefore, not be required.

17.4 Applying the Tests in Section 131

- 17.4.1 Section 131 relates to the permanent acquisition of land. Of all the plots of Special Category Land that the project is interfacing with there is only one plot on which permanent rights are sought. This is valve 8 which is located on Crown land South of Bourley Road, Church Crookham.
- 17.4.2 This land is a paddock to the South of Tweseldown Race Course to which it may first seem that the public have no obvious access, and no members of the public have been observed on the land. However, the land is within the land covered by the Aldershot and District Military Land Bylaws 1976 and the public are "*permitted to use all parts of the Military Lands not specially enclosed or the entry to which is not shown by notice as being restricted or prohibited....for the purpose of open air recreation at all times when the Military Lands are not being used for military purposes for which they were appropriated*". There is no notice on the entry to these lands so therefore, on a precautionary basis, we have assumed that the land is available for outdoor recreation and is therefore Special Category Land. That view is further supported by the identification of the land in the Hart open space, sport and recreation study. Volume 1: Main Report as open space.
- 17.4.3 The land in question is identified as parcel 917 in the book of reference and is on land Plans 31 and 102 and Special Category Land Plans 31 and 102.
- 17.4.4 The parcel of land is under 200 square metres. It is proposed to locate within that area a valve compound. The maximum area of that compound is 35 square metres.
- 17.4.5 Applying the tests from S 131 of the Act we can see that subsection (5) applies as "the order land does not exceed 200 square metres in extent"; Esso also considers that the giving of exchange land is unnecessary as the landowner will receive financial compensation for the loss of this small area and it will not interrupt the overall use of the land as a paddock.
- 17.4.6 Given that subsection (5) applies there is no need to apply any other test and hence, provided that the Secretary of State certifies that subsection (5) applies, Special Parliamentary Procedure is not required in respect of this parcel of land.
- 17.4.7 The land is also Crown Land, so although we refer to "permanent acquisition" of the land S135 applies and the appropriate Crown authority needs to consent to its acquisition. Discussions with the Crown are ongoing, but at the present time it is our understanding that the Crown is willing to consider granting a long lease for the land.

17.5 Applying the Tests in Section 132

- 17.5.1 Section 132 relates to the acquisition or rights in land and this will apply where the line will be buried under the land.



- 17.5.2 As noted above S132(3) of the 2008 Act (as amended) applies if the order land, when burdened with the order right, will be no less advantageous than it was before to the persons in whom the land was vested, other persons, of any, entitled to rights of common or other rights over than land and the general public.
- 17.5.3 All of the plots of land that we have identified as Special Category Land, are identified in Section 5 of the Book of Reference). There are too many plots to list here.
- 17.5.4 Once the works to construct the pipeline are complete the land will be available to the owners, users, and the public to use as before. Although there would have been temporary interference to the use of the land, which in some cases is simply for access, in the longer term the open space, common or allotment will be capable of being continued as before. Access to the land will not be affected and with the exception of the small area of land for the valve south of Bourley Road, Church Crookham mentioned above, the existing use of the land will not change as a result of the project.
- 17.5.5 It is clear that the open space, common and allotment land, when burdened with the rights sought under the DCO, will be no less advantageous to the persons in whom it is vested and to any persons entitled to rights over the land, or the public's enjoyment of that land. Accordingly, the test in section 132(3) is satisfied and the DCO is not therefore subject to Special Parliamentary Procedure.

18 Overall Planning Balance and Conclusions.

18.1 Introduction

- 18.1.1 As set out in Chapter 6 of this document, which sets out the planning policy context for the project, Section 104 of the 2008 Act sets out the statutory framework for determining applications for development consent where a relevant National Policy Statement is in place.
- 18.1.2 Section 104(2) establishes the primacy of the relevant National Policy Statements (NPS's). As set out in Chapter 1 these are the Overarching National Policy Statement for Energy (EN-1) and Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) in this instance.
- 18.1.3 Section 104(3) further states that applications must be decided in accordance with any relevant NPS, except where the Secretary of State is satisfied that the adverse impact of the proposed development would outweigh its benefits. There are certain other criteria, such as the decision leading to the UK being in breach of any of its international obligations, but we have no reason to believe that any of those are engaged in this case. In particular, a Habitats Regulations Assessment (HRA) Report has been prepared (**application document 6.5**) which identifies potential significant effects on the Thames Basin Heaths Special Protection Area (SPA) and the Thursley, Ash, Pirbright and Chobham Special Area of Conservation (SAC) prior to the application of good practice measures. The HRA Report concludes that with the implementation of seasonal working constraints there will be no adverse effects on the integrity of the Thames Basin Heaths SPA and through pipeline route selection, use of trenchless construction techniques, and good practice measures, adverse effects to the integrity of the SAC will be avoided. Natural England have seen a draft of this report and suggested two minor changes.
- 18.1.4 As set out in Chapter 6 based on the relative level and urgency of need for energy projects, paragraph 4.1.2 of NPS EN-1 states that the decision maker should “*start with a presumption in favour of granting consent to applications for energy NSIPs*”. Also, paragraph 3.9.8 of NPS EN1 states that the Planning Inspectorate “*should expect to receive a small number of significant applications for oil pipelines and start its assessment from the basis that there is a significant need for this infrastructure to be provided*”.
- 18.1.5 There is therefore a presumption in favour of consent and assessment of the application should start from the basis that there is a significant need for this infrastructure to be provided.

18.2 The Balance of Benefits and Adverse Effects

- 18.2.1 Notwithstanding the presumption in favour of consent Chapter 2 of this document sets out the need for the replacement pipeline.
- 18.2.2 It is important to recognise that the application proposal is for a replacement of an existing pipeline. The existing pipeline was built between 1969 and 1972 and was originally constructed to transport a type of oil used by large industrial sites and oil-



fired power stations. This type of oil had to be kept above 50° C. Since the 1980's it has been used to transport aviation fuel. The existing pipeline is working adequately but the need for inspections and maintenance is increasing. If the existing line were to be decommissioned without replacement, around 100 road tanker journeys⁵ would be required every day which clearly gives rise to other logistical and environmental considerations in addition to the resilience impact on national infrastructure.

- 18.2.3 The replacement pipeline will transfer aviation fuel from the Esso refinery and import facility at Fawley in Hampshire, to the West London Terminal storage facility near Heathrow. Unlike the existing pipeline, the replacement pipeline has a proposed connection to the existing Alton pumping station, providing additional flexibility in Esso's pipeline operations, with onward connection to Gatwick and Esso's Purfleet storage facility
- 18.2.4 The key benefit of the pipeline is that it will increase the resilience of the fuel supply to those airports, and to Esso's West London and Purfleet storage facilities, consistent with Government policy.
- 18.2.5 The provision of the replacement pipeline is an important part of the protection against supply interruptions elsewhere affecting fuel supplies. Underground pipelines are necessarily resilient to road transport delays, adverse weather or industrial action by tanker drivers, all of which can affect road or rail transport. Experience has also shown, as was the case with the Buncefield explosion and fire, that it is essential that there are a number of alternative supplies of fuel (in this case aviation fuel), in case any individual supply route is not available.
- 18.2.6 There are clear benefits to the UK economy as a whole through increasing the resilience of significant oil pipelines (including aviation fuel supply to the country's largest airports).
- 18.2.7 As we have undertaken the assessment of the project against the policies in the NPS in chapters 7-15 we have taken great care to assess, first project wide and then section by section, the application proposal against the policy tests in the relevant NPSs. Given that the project crosses some 97km of southern England this has necessitated detailed analysis.
- 18.2.8 The application route is close to that of the existing pipeline for significant parts of its length, but there have been many new policy and environmental designations since the existing pipeline was consented and also new developments that have required routing the replacement away from the existing pipeline in places.
- 18.2.9 In many cases routing has been selected to avoid sensitive designations. Given the geographical constraints the route of the replacement pipeline has to cross the South Downs National Park (SDNP) if it is not to take a very long detour, and a number of other sensitive designations such as a SPA and SAC. As set out in Chapter 5 there are a number of control mechanisms that include measures to

⁵ Based on Esso's 2015 data for its existing pipeline.



mitigate any adverse effects that have been identified and compliance with these is secured through the draft DCO.

- 18.2.10 Given that the application route crosses the SDNP the decision maker must have regard to the statutory purposes of the national park. This links through to the enjoyment of the special qualities of the national park. NPS EN-1 indicates that development consent in national parks may be granted in exceptional circumstances. This test applies to all NSIPs and it is important to bear in mind that in this case the project is an underground pipeline and the majority of the impacts are temporary during construction.
- 18.2.11 In this case the exceptional circumstances that justify the route interacting with the national park are as follows:
- In terms of need, and, having regard to the presumption in favour of granting consent, there is the substantial benefit to the UK of maintaining resilient supplies of aviation fuel to the country's largest airports.
 - The cost and other impacts of diverting around the national park, which would mean longer routing to the west of Winchester, would be substantial. The scope for going around the national park is also limited as such a route would have involved additional infrastructure crossings, passing through environmentally sensitive areas including a additional and sensitive SSSI and SAC, a Groundwater Source Protection Zone 1, risk impacting on cultural heritage features to the north east of Winchester and to the north of Alton, as well as conflicting with emerging housing allocations in Eastleigh Borough.
 - There would not be significant effects on the environment, the landscape or recreational opportunities of the national park.

It is important to note that SDNP accepted that a corridor around the national park was not feasible in their response to the non-statutory consultation.

- 18.2.12 The Environmental Statement (ES) identifies a number of potential significant effects of the project before mitigation. One is identified in the Landscape and Visual chapter of the ES and is associated with the collective loss of trees protected by a Tree Preservation Order (TPO) in post construction year 15. While this is clearly important we do note that paragraph 5.9.8 of NPS EN1 indicates "*Virtually all nationally significant energy infrastructure projects will have effects on the landscape*". The project has been designed carefully, and, having regard to siting constraints the potential harm to the landscape has been addressed through the provision of reasonable mitigation where possible and appropriate.
- 18.2.13 The remaining residual effects (after mitigation) are related to the temporary noise disturbance impacts which have the potential to be significant during construction. The commitment to agreeing a Noise and Vibration Management Plan with the relevant planning authority would provide appropriate noise and vibration mitigation during the works.
- 18.2.14 Given that, post construction, the development will be an underground pipeline with a small number of above ground installations, the long-term land-use and



other impacts are minor when compared with the scale of the project and its importance to maintain infrastructure resilience.

- 18.2.15 There are additional temporary impacts during construction. Given the proposed mitigation and temporary nature of these construction impacts the need for the project clearly outweighs these effects.
- 18.2.16 Extensive mechanisms (both good practice and additional mitigation) have been put in place to mitigate these impacts, including measures that require the approval of the local planning authorities prior to the commencement of development.
- 18.2.17 The project accords as far as is relevant and practicable with Government policy set out in the two NPSs relevant to the project
- 18.2.18 Having regard to the above it is, therefore, a simple balancing exercise to conclude that the need for the project significantly outweighs the adverse impacts and conclude that development consent should be granted.

18.3 Conclusions

- 18.3.1 It is clear that the Southampton to London Pipeline is a project of national significance. The project helps to ensure the resilience of the supply of aviation fuel to the country's largest airports for many years to come. Implementation of the project is supported in principle by the relevant NPSs.
- 18.3.2 Against this background any adverse effects of the project would need to be very considerable if they were to challenge the benefits and justify a decision that was not in accordance with the relevant NPSs.
- 18.3.3 The Environmental Statement has only identified one permanent adverse effect of any significance being the collective loss of protected trees, which is notable for a project of this scale. The construction-related adverse effects are by their very nature temporary, only construction noise has the potential to be significant and great care has been taken to identify and provide measures to mitigate all construction related impacts.
- 18.3.4 The overall balance between benefits and adverse impacts, therefore, lies strongly in favour of the grant of development consent for the Southampton to London Pipeline.



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Appendix 7.1 – NPS Accordance Tables

1. Accordance with Part 2

Table 1. Accordance with Part 2 of the Overarching National Policy Statement for Energy (EN-1)

References to NPS paragraphs	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2	GOVERNMENT POLICY ON ENERGY AND ENERGY INFRASTRUCTURE DEVELOPMENT			
2.1	Introduction			
2.1.2	Energy is vital to economic prosperity and social well-being and so it is important to ensure that the UK has secure and affordable energy. Producing the energy the UK requires and getting it to where it is needed necessitates a significant amount of infrastructure, both large and small scale. The energy NPSs consider the large scale infrastructure that play a vital role in ensuring we have the secure energy supplies we need.	The Southampton to London Pipeline Project ("Project") will replace 90 km of an existing 105 km fuel pipeline used by Esso Petroleum Company Limited ("Esso") to transport fuel from between Boorley Green to the Esso West London Terminal storage facility in Hounslow via the Esso pumping station at Alton in Hampshire. Esso has already replaced 10 km of pipeline between Hamble and Boorley Green in Hampshire. The Project seeks to ensure that Britain's airports can be reliably supplied with fuel for years to come. The design has been produced taking into consideration the UK's future demand of fuel to Britain's airports.	Planning Statement Application Document 7.1 Chapter 4 Project Description	
2.2	The road to 2050			
2.2.1	We are committed to meeting our legally binding target to cut greenhouse gas emissions by at least 80% by 2050, compared to 1990 levels. Analysis done on possible 2050 pathways shows that moving to a secure, low carbon energy system is challenging, but achievable. It requires major investment in new technologies to renovate our buildings, the electrification of much of our heating, industry and transport, prioritisation of sustainable bioenergy and cleaner power generation. And it requires major changes in the way energy is used by individuals, by industry, and by the public sector.	The Project will use tried and tested technology and construction techniques to appropriately and effectively minimise impacts and local inconvenience. The route options have considered the use of best suited and most appropriate construction techniques to deliver the project.	Planning Statement Application Document 7.1 Chapter 4 Project Description	
2.2.3	The 2010 Annual Energy Statement outlined DECC's programme in four key areas to support the transition to a secure, safe, low carbon, affordable energy system in the UK: <ul style="list-style-type: none"> • saving energy (through the Green Deal) and supporting vulnerable consumers; • delivering secure energy on the way to a low carbon energy future; • managing our energy legacy responsibly and cost-effectively; and • driving ambitious action on climate change at home and abroad. 	Esso has considered alternative ways of transporting fuel, particularly by road. This pipeline will keep around 100 road tankers off the road every day (an estimate based on the volume of fuel transferred from the Fawley Refinery to the West London Terminal via pipeline in 2015). The Project will use tried and tested technology and construction techniques to appropriately and effectively minimise impacts and local inconvenience. The route options have considered the use of best suited and most appropriate construction techniques to deliver the project. As a responsible operator, Esso is committed to safe operations that include maintaining, repairing and, where appropriate, replacing pipelines. To produce the long list of corridor and route options, a set of creation criteria was developed covering engineering, constructability, environmental, social, planning, costs and programme. This list was refined to a shortlist for non-statutory consultation which guided the selection of the preferred route. The proposed pipeline will deliver a cost-effectively and environmentally responsible project. The pipeline itself is replacing an existing pipeline and to fulfil existing obligations for fuel delivery, so there will be no change to operational impacts in relation to climate change.	Planning Statement Application Document 7.1 Chapter 3 Scheme Development	

References to NPS paragraphs	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.2.4	Not all aspects of Government energy and climate change policy will be relevant to IPC decisions or planning decisions by local authorities, and the planning system is only one of a number of vehicles that helps to deliver Government energy and climate change policy. The role of the planning system is to provide a framework which permits the construction of whatever Government – and players in the market responding to rules, incentives or signals from Government – have identified as the types of infrastructure we need in the places where it is acceptable in planning terms. It is important that, in doing this, the planning system ensures that development consent decisions take account of the views of affected communities and respect the principles of sustainable development.	The route options have been produced in accordance with the National Policy Statement EN-1 and EN-4, the processes set out in the Planning Act 2008 (as amended) (the ‘2008 Act’) and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (the ‘EIA regs’). The corridor and route options were reviewed taking into consideration published adopted and emerging Local Development Plan policy allocations and committed development proposals. The Project seeks to provide stakeholders with the opportunity to contribute and influence the project. Non-statutory consultations have been held in Spring 2018, which provided the opportunity for all stakeholders to comment and influence the project corridor and route proposals. Statutory consultation took place in September/October 2018 for the preferred replacement pipeline route. Outcomes from the consultation lead to further route refinement and additional targeted statutory consultation where there was a material change in the alignment. This second statutory consultation took place in January/February 2019 and led to the finalisation of the proposed replacement pipeline.	Planning Statement Application Document 7.1 Chapter 3 Scheme Development	
	The transition to a low carbon economy			
2.2.5	The UK economy is reliant on fossil fuels, and they are likely to play a significant role for some time to come. Most of our power stations are fuelled by coal and gas. The majority of homes have gas central heating, and on our roads, in the air and on the sea, our transport is almost wholly dependent on oil.	The project will replace the existing 10inch pipeline with a new 12inch pipeline to facilitate a quick response to both seasonal and shorter term changes in fuel demand. The project seeks to ensure the reliable supply of fuel to major airports in the South East meeting current and future demand.	Planning Statement Application document 7.1 Chapter 4 Project Description	
2.2.6	However, the UK needs to wean itself off such a high carbon energy mix: to reduce greenhouse gas emissions, and to improve the security, availability and affordability of energy through diversification. Under some of the illustrative 2050 pathways, electricity generation would need to be virtually emission-free, given that we would expect some emissions from industrial and agricultural processes, transport and waste to persist. By 2050, we can expect that fossil fuels will be scarcer, but will still be in demand, and that prices will therefore be far higher. Further, the UK’s own oil and gas resources will be depleting and, worldwide, the costs and risks of extracting oil in particular will increase.	The replacement of the existing pipeline avoids the use of an alternative method of transporting fuel which would be by road. Transport by road could result in the use of over 100 more truckloads of fuel on the road network each day (based on the volume of fuel transferred from the Fawley Refinery to the West London Terminal via pipeline in 2015). The pipeline is a safe, low-impact and secure way of transporting fuel to Britain’s airports.	Planning Statement Application Document 7.1 Chapter 3 Scheme Development	
2.2.7	Continuation of global emissions, including greenhouse gases like carbon dioxide, at current levels could lead average global temperatures to rise by up to 6°C by the end of this century. This would make extreme weather events like floods and droughts more frequent and increase global instability, conflict, public health-related deaths and migration of people to levels beyond any recent experience. Heat waves, droughts, and floods would affect the UK.	Climate change has been considered in a number of different chapters within the Environmental Statement (ES). The risk of flooding is included within the Chapter 8, Water of the ES. The effect of gas emissions to the atmosphere are considered within Appendix 13.2 Technical Note on Air Quality. The pipeline itself is replacing an existing pipeline and to fulfil existing obligations for fuel delivery, the impacts of construction are assessed in the ES, however, as a replacement pipeline there would be no change to operational impacts in relation to climate change.	Environmental Statement Application Document 6.2 & 6.4 Chapters 3 Project description and Chapter 8 Water Air Quality Technical Note Appendix 13.2	
2.2.8	To avoid the most dangerous impacts of climate change, the increase in average global temperatures must be kept to no more than 2°C, and that means global emissions must start falling as a matter of urgency. To drive the transition needed the Government has put in place the world’s first ever legally binding framework to cut emissions by at least 80% by 2050, that will deliver emission reductions through a system of five year carbon budgets that will set a trajectory to 2050.	The replacement of the existing pipeline avoids the use of an alternative method of transporting fuel which would be by road. Transport by road could result in the use of over 100 more truckloads of fuel on the road network each day (based on the volume of fuel transferred from the Fawley Refinery to the West London Terminal via pipeline in 2015). The pipeline is a safe, low-impact and secure way of transporting fuel to the Britain’s airports.	Planning Statement Application Document 7.1 Chapter 3 Project Development	
2.2.9	To prepare for the impacts of climate change, the Climate Change Act 2008 also sets out a statutory framework for adapting to climate change, with the Government committed to producing a statutory climate change adaptation programme in 2012 (which will be updated on five-yearly cycles). To lead and co-ordinate work in preparation for this, the Government has established the Adapting to Climate Change Programme, which includes: <ul style="list-style-type: none"> • undertaking a UK Climate Change Risk Assessment; and • using the “Adaptation Reporting Power” to require certain public bodies and statutory undertakers to set out the risks to their work from a changing climate and 	Climate change has been considered in a number of different chapters within the Environmental Statement (ES). The risk of flooding is included within the Chapter 8, Water of the ES. The effect of gas emissions to the atmosphere are considered within Appendix 13.2 Technical Note on Air Quality. The pipeline itself is replacing an existing pipeline and to fulfil existing obligations for fuel delivery, the impacts of construction are assessed in the ES, however, as a replacement pipeline, there would be no change to operational impacts in relation to climate change.	Environmental Statement Application Document 6.2 & 6.4 Chapters 3 Project description and Chapter 8 Water Air Quality Technical Note Appendix 13.2	

References to NPS paragraphs	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
	what they are doing to manage these risks.			
2.2.10	Alongside this, the Government is committed to ensuring that adaptation needs are built into planning and risk management now to ensure the continued and improved success of businesses and new energy NSIPs.	Climate change has been considered in when designing and selecting the route option. The risk of flooding, effect of gas emissions to the atmosphere, embedded carbon have been considered as part of mitigations on climate change and design of the pipeline.	Environmental Statement Application Document 6.2 & 6.4 Chapters 3 Project description and Chapter 8 Water, Air Quality Technical Note Appendix 13.2	
2.2.11	This NPS also sets out how the energy sector can help deliver the Government's climate change objectives by clearly setting out the need for new low carbon energy infrastructure to contribute to climate change mitigation.	The replacement of the existing pipeline avoids the use of an alternative method of transporting fuel which would be by road. Transport by road could result in the use of over 100 more truckloads of fuel on the road network each day (based on the volume of fuel transferred from the Fawley Refinery to the West London Terminal via pipeline in 2015). The pipeline itself is replacing an existing pipeline and to fulfil existing obligations for fuel delivery, the impacts of construction are assessed in the ES, however, as a replacement pipeline, there would be no change to operational impacts in relation to climate change.	Planning Statement Application Document 7.1 Chapter 3 Project Development	
Security of energy supplies				
2.2.23	The UK must therefore reduce over time its dependence on fossil fuels, particularly unabated combustion. The Government plans to do this by improving energy efficiency and pursuing its objectives for renewables, nuclear power and carbon capture and storage. However some fossil fuels will still be needed during the transition to a low carbon economy.	The Project will replace the existing pipeline, which has an internal diameter of about 25 cm (10 inches), with a new 12inch pipeline with an internal diameter of about 30 cm. This increased pipeline diameter will enable a quick response to both seasonal and shorter term changes in fuel demand. This would also reduce the need to use the remaining multifuel pipeline which mixes fuel types. Mixing fuel types was raised as a specific concern in DECC's (2014) review of the refining and fuel import sectors. Replacement of the pipeline will maintain the dedicated supply of fuel for years to come. As a responsible operator, Esso is committed to safe operations that include maintaining, repairing and, where appropriate, replacing pipelines.	Planning Statement Application Document 7.1 Chapter 4 Project Description	
2.2.25	The UK faces two main security of supply challenges during our transition to a low carbon economy: <ul style="list-style-type: none"> increasing reliance on imports of oil and gas as North Sea reserves decline in a world where energy demand is rising and oil and gas production and supply is increasingly politicised; and the requirement for substantial and timely private sector investment over the next two decades in power stations, electricity networks and gas infrastructure. 	The proposed replacement pipeline will not impact adversely on the security of the supply of fuel to the airports in the South East of England, the investment in the replacement pipeline and the separate investment in Fawley refinery confirm the confidence Esso has in the use and secure supply of fuel for essential aviation transport.	Planning Statement Application Document 7.1 Chapter 1 Introduction	
Delivering Government's wider objectives				
2.2.27	The Government's wider objectives for energy infrastructure include contributing to sustainable development and ensuring that our energy infrastructure is safe. Sustainable development is relevant not just in terms of addressing climate change, but because the way energy infrastructure is deployed affects the well-being of society and the economy. For example, the availability of appropriate infrastructure supports the efficient working of the market so as to ensure competitive prices for consumers. The regulatory framework also encourages the energy industry to protect the more vulnerable.	The Project will replace the existing pipeline, which has an internal diameter of about 25 cm (10 inches), with a new 12inch pipeline with an internal diameter of about 30 cm. This increased pipeline diameter will enable a quick response to both seasonal and shorter term changes in fuel demand. As a responsible operator, Esso is committed to safe operations that include maintaining, repairing and, where appropriate, replacing pipelines. The design of the replacement pipeline has been developed in accordance with Esso design standards for fuel pipelines, relevant industry codes of practice and standards, Requirements of the Pipeline Safety Regulations 1996, and health and safety legislation. Once the pipeline is operational, Esso will carry out a programme of inspection and maintenance in accordance with the Pipeline Safety Regulations 1996. The ES submitted as part of this application comprises the full assessment of the significant impacts on the environment, communities and economy, including impacts on climate change and the well-being of society. Mitigation measures are included to address the potential impacts on relevant receptors. Consultation and engagement has been undertaken in order to understand the concerns of the stakeholders and community in relation to the project. This has influenced the selection of the preferred route and the detailed design of the proposed replacement pipeline.	Planning Statement Application Document 7.1 Chapter 4 Project Description	



References to NPS paragraphs	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.2.28	The planning framework set out in this NPS and the suite of energy NPSs takes full account of the objective of contributing to the achievement of sustainable development and this has been tested through the AoS. The AoS has examined whether the NPS framework for the development of new energy infrastructure projects is consistent with the objectives for sustainable development, including consideration of other Government policies such as those for the environment, economic development, health and transport.	The route design has been refined and optimised to offer options best serving the Project Objectives and recognising the Project Guiding Principles and complying with the policies of the EN-1 and EN-4 NPS. The Project Objectives and Guiding Principles includes engineering, environmental and socio-economic performance, planning, operations and cost and programme considerations to achieve a sustainable development. The Project has been also developed in accordance with the EIA Regs.	Planning Statement Application Document 7.1 Chapter 3 Scheme Development	

Notes:

IPC = Examining Authority which means The Planning Inspectorate

The NPS predates the National Planning Policy Framework which supersedes all Planning Policy Guidance Notes

Department of Energy & Climate Change (DECC) became part of Department for Business, Energy & Industrial Strategy in July 201

2. Accordance with Part 3

Table 2. Accordance with Part 3 of the Overarching National Policy Statement for Energy (EN-1)

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	Stage 2 How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
3	The need for new nationally significant energy infrastructure projects			
3.1	IPC decision making			
3.1.1	The UK needs all the types of energy infrastructure covered by this NPS in order to achieve energy security at the same time as dramatically reducing greenhouse gas emissions.	Completed in 1972, the existing pipeline initially carried a type of oil used for large industrial sites and oil-fired power stations. Since the 1980s it has been used to supply fuel to some of the UK's busiest airports. Esso is now looking to update this key piece of infrastructure to maintain the supply of fuel for years to come. The alternative to installing the replacement pipeline would either be in-line renewal of the existing pipeline or to transport the fuel by tanker. To replace in line would interrupt the flow of fuel for a significant number of months, and it has been estimated that it would require 100 tankers per day to deliver the required quantity (based on Esso's 2015 data for its existing pipeline), which would lead to greater carbon emissions than pipeline transport. The replacement pipeline is a safe, low-impact and secure way of transporting fuel to the Britain's airports.	Planning Statement Application Document 7.1 Chapter 1 Introduction and Chapter 2 needs Case	
3.1.2	It is for industry to propose new energy infrastructure projects within the strategic framework set by Government. The Government does not consider it appropriate for planning policy to set targets for or limits on different technologies.	The project relates to the replacement of the existing pipeline which was initially designed to supply a type of oil used for large industrial sites and oil-fired power stations and now is supplying fuel to major airports in the south east of England. The Project will use tried and tested technology and construction techniques to appropriately and effectively minimise impacts and local inconvenience in order to secure the supply of fuel to the major airports in the south east of England.	Planning Statement Application Document 7.1 Chapter 1 Introduction	
3.1.3	The IPC should therefore assess all applications for development consent for the types of infrastructure covered by the energy NPSs on the basis that the Government has demonstrated that there is a need for those types of infrastructure and that the scale and urgency of that need is as described for each of them in this Part.	The project relates to the replacement of the existing pipeline which was initially designed to supply a type of oil used for large industrial sites and oil-fired power stations. With the growth of air travel, the pipeline was then used to transport fuel. Currently, the existing pipeline is working adequately, but the need for inspections and maintenance is increasing. The new pipeline will be constructed as a replacement pipeline, because the existing pipeline cannot be taken out of operation for more than short periods, to ensure secure supplies to customers. Replacement of the pipeline will maintain the supply of fuel for years to come. As a responsible pipeline operator, Esso is committed to safe operations that includes maintaining, repairing and, when appropriate, replacing pipelines. The replacement of the pipeline is important to maintain the safe and secure movement of fuel to the West London Terminal storage facility and to secure the fuel supply to major airports in the South East of England.	Planning Statement Application Document 7.1 Chapter 1 Introduction	
3.1.4	The IPC should give substantial weight to the contribution which projects would make towards satisfying this need when considering applications for development consent under the Planning Act 2008.	As a responsible pipeline operator, Esso is committed to safe operations that includes maintaining, repairing and, when appropriate, replacing pipelines. The replacement of the pipeline is essential to maintain the safe and secure movement of fuel to the West London Terminal storage facility and to secure the fuel supply to major airports in the South East of England.	Planning Statement Application Document 7.1 Chapter 1 Introduction	
3.2	Introduction			

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	Stage 2 How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
3.2.1	Energy underpins almost every aspect of our way of life. It enables us to heat and light our homes; to produce and transport food; to travel to work, around the country and the world. Our businesses and jobs rely on the use of energy. Energy is essential for the critical services we rely on – from hospitals to traffic lights and cash machines. It is difficult to overestimate the extent to which our quality of life is dependent on adequate energy supplies. The major types of energy that we use are: for generating electricity – fossil fuels, renewable energy and nuclear; for heating and industry – fossil fuels used directly; and for transport – oil-based fuels.	The Southampton to London Pipeline Project ("Project") will replace 90km of an existing 105km fuel pipeline used by Esso Petroleum Company Limited ("Esso") to transport fuel from between Boorley Green to the Esso West London Terminal storage facility in Hounslow. Esso has already replaced 10km of pipeline between Hamble and Boorley Green in Hampshire. The Project seeks to ensure that Britain's airports can be reliably supplied for years to come. The design has been produced taking into consideration the UK's future demand of fuel.	Planning Statement Application Document 7.1 Chapter 1 Introduction	
3.2.2	As we move towards 2050 the ways in which we use energy will be transformed. We need to become less dependent on some forms of energy, as new and innovative low carbon technologies and energy efficiency measures are taken up. We also shall become more dependent on others – for example, demand for electricity will increase if we electrify large parts of transport, heating and industry.	The Southampton to London Pipeline Project ("Project") will replace 90km of an existing 105km fuel pipeline used by Esso Petroleum Company Limited ("Esso") to transport fuel from between Boorley Green to the Esso West London Terminal storage facility in Hounslow. Esso has already replaced 10km of pipeline between Hamble and Boorley Green in Hampshire. The Project seeks to ensure that Britain's airports can be reliably supplied for years to come. The design has been produced taking into consideration the UK's future demand of fuel.	Planning Statement Application Document 7.1 Chapter 1 Introduction	
3.2.3	This Part of the NPS explains why the Government considers that, without significant amounts of new large-scale energy infrastructure, the objectives of its energy and climate change policy cannot be fulfilled. However, it will not be possible to develop the necessary amounts of such infrastructure without some significant residual adverse impacts. This Part also shows why the Government considers that the need for such infrastructure will often be urgent. The IPC should therefore give substantial weight to considerations of need. The weight which is attributed to considerations of need in any given case should be proportionate to the anticipated extent of a project's actual contribution to satisfying the need for a particular type of infrastructure.	The Project seeks to ensure that Britain's airports can be reliably supplied for years to come. The potential effects and related mitigation measures from the project on the environment, communities and economy and well-being have been identified. The full assessment of impacts and related mitigation measures are described in the ES submitted as part of this application. The existing pipeline is working adequately, but the need for inspections and maintenance is increasing, therefore, the replacement of the existing pipeline is necessary.	Environmental Statement Application Document 6.2 Chapter 1 Introduction	
Petroleum product distribution				
3.9.4	Finished petroleum products are distributed from the refineries to around 50 major distribution terminals in the UK by pipeline (51%) and by sea via coastal tankers (34%) or rail (15%). Some of the coastal terminals also import finished products from abroad. Onward distribution to customers is mostly by road tanker, but some of the larger customers have pipeline connections.	The Esso Petroleum Company, Limited (Esso) is looking to replace 90km of an existing 105km fuel pipeline that runs from the Fawley Refinery near Southampton, to the Esso West London Terminal storage facility in Hounslow. The replacement of the existing pipeline avoids the use of an alternative method of transporting fuel which would be by road. Transport by road could result in the use of over 100 more truckloads of fuel on the road network each day (based on the volume of fuel transferred from the Fawley Refinery to the West London Terminal via pipeline in 2015). The replacement pipeline is a safe, low-impact and secure way of transporting fuel to the Britain's airports.	Planning Statement Application Document 7.1 Chapter 4 Project Description	



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	Stage 2 How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
3.9.5	<p>There is an extensive network of private and Government owned pipelines in the UK, with around 4,800km of pipeline currently in use. The 2,400km of privately owned UK pipeline network carries a variety of oil products from road transport fuels to heating oil and aviation fuel. The network provides an efficient and robust distribution system across the UK and directly provides jet fuel for some of the UK's main airports. The Government also operates a separate oil pipeline system – the Government Pipeline and Storage System (GPSS), supplying a number of MoD airfields and with connections to some non-MoD sites (for example, Stansted Airport).</p>	<p>The Esso Petroleum Company, Limited (Esso) is looking to replace 90km of an existing 105km fuel pipeline that runs from the Fawley Refinery near Southampton, to the Esso West London Terminal storage facility in Hounslow. The project relates to the replacement of the existing pipeline which was initially designed to supply a type of oil used for large industrial sites and oil-fired power stations. With the growth of air travel, the pipeline was then used to transport fuel to Britain's airports. Currently the existing pipeline is working adequately, but the need for inspections and maintenance is increasing. The new pipeline will be constructed as a replacement pipeline, because the existing pipeline cannot be taken out of operation for more than short periods, to ensure secure supplies to customers. Replacement of the pipeline will maintain the supply of fuel for years to come. As a responsible pipeline operator, Esso is committed to safe operations that includes maintaining, repairing and, when appropriate, replacing pipelines. The replacement of the pipeline is important to maintain the safe and secure movement of fuel to the West London Terminal storage facility and to secure the fuel supply to major airports in the South East of England. There are two other below ground pipelines which run close to the existing pipeline. These are a gas pipeline and another Esso pipeline that carries a variety of fuels. They were consented together by the Esso Petroleum Act 1961.</p>	<p>Planning Statement Application Document 7.1 Chapter 4 Project Description</p>	
3.9.6	<p>The drivers for new downstream oil infrastructure such as pipelines include:</p> <ul style="list-style-type: none"> • meeting increasing demand by end users, particularly for diesel and aviation fuel; • compliance with EU and International Energy Agency obligations for compulsory oil stocking, which are set to increase as North Sea resources decline; • meeting requirements for sulphur-free diesel and petrol blended with biofuels (including ethanol distribution), which are set to increase; • increasing imports of refined products (due to changing demand patterns); • emerging planning, safety and environmental protection requirements; and • market requirements to improve supply resilience in order to meet demand in full in a timely fashion under credible emergency scenarios. 	<p>Esso is now looking to update this key piece of infrastructure to maintain the supply of fuel to Britain's airports for years to come. Transporting such large quantities of fuel by road on a daily basis would be uneconomic and have long term environmental and social consequences. This is compared to the mainly short term construction-related effects associated with the proposed replacement pipeline. The alternative option of transporting the fuel by road has therefore been rejected by the project as unacceptable.</p> <p>The project will:</p> <ul style="list-style-type: none"> • Meet increasing demand by end users; • Meet planning, safety and environmental protection requirements by reducing the need for ongoing intrusive maintenance and the risk of pipeline failure; and • Improve resilience of supply of fuel to Britain's airports. 	<p>Planning Statement Application Document 7.1 Chapter 1 Introduction</p>	
3.9.7	<p>New pipeline infrastructure could require associated works including oil processing plant to pump or filter blend products, storage tanks for bulk storage and product settling, road handling facilities for discharge into road tankers and jetties for loading and offloading sea tankers.</p>	<p>The project requires associated works including new above ground infrastructure (AGI) constructed close to the start point of the replacement pipeline near Boorley Green. This incorporates a new pigging station to allow inspection of the replacement 305mm (12 inch) pipeline, using inspection vehicles known as Pipeline Inspection Gauges (PIGs). The new pigging station will also include a PIG receiver to accommodate PIGs used to inspect the section of the previously replaced 250mm (10 inch) pipeline between Hamble and Boorley Green. The replacement pipeline would end at an existing pigging station located at West London Terminal storage facility, which would be upgraded as part of the project to accommodate the 305mm (12 inch) replacement pipeline. Fourteen automatic valves would be installed along the route of the replacement pipeline to allow sections of the pipeline to be isolated prior to maintenance or in case of emergency. Each valve would be installed within a sub-surface chamber located within a small fenced enclosure. A Cathodic Protection (CP) system would be used to protect the pipeline against corrosion. The CP system is buried underground with the exception of approximately six CP transformer rectifier cabinets, each of which would be located within a small above ground cabinet. This is existing infrastructure that is already in place.</p>	<p>Planning Statement Application Document 7.1 Chapter 4 Project Description</p>	



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	Stage 2 How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
3.9.8	In the light of the above, the IPC should expect to receive a small number of significant applications for oil pipelines and start its assessment from the basis that there is a significant need for this infrastructure to be provided.	Most of the existing fuel pipeline for the project was built between 1969 and 1972 and is now reaching the end of its economic life, with the exception of a 10km (6 miles) section between Hamble and Boorley Green in Hampshire which was replaced with a 250mm (10 inch) internal diameter pipeline in 2002. The replacement pipeline would have a design life of 60 years and will secure fuel supplies from Fawley Refinery to the West London Terminal storage facility and provide resilience and flexibility to Esso's fuel supply network for decades to come.	Planning Statement Application Document 7.1 Chapter 2 Needs Case	

3. Accordance with Part 4

Table 3. Accordance with Part 4 of the Overarching National Policy Statement for Energy (EN-1)

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4	ASSESSMENT PRINCIPLES			
4.1	General Points			
4.1.3	<p>In considering any proposed development, and in particular when weighing its adverse impacts against its benefits, the IPC should take into account:</p> <ul style="list-style-type: none"> its potential benefits including its contribution to meeting the need for energy infrastructure, job creation and any long-term or wider benefits; and its potential adverse impacts, including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts. 	<p>The wider benefits of the Project include:</p> <ul style="list-style-type: none"> The pipeline is a safe, low-impact and secure method of transporting fuel compared to transporting fuel by road, which would result in the use of over 100 truckloads of fuel on the road network each day; the Project would contribute to our local and national economy, helping to maintain over a thousand jobs at the UK's largest refinery in Fawley and in the surrounding community. The refinery is vital in supporting secure supplies of fuel and other petroleum products for UK consumers; The Project seeks to ensure that Britain's airports can be reliably supplied into the future. The design for the replacement pipeline has sought to minimise the impact of the proposal and where possible mitigation would be developed as part of the EIA process to further reduce the impact of the scheme. The majority of impacts occur during the construction of the pipeline, once in place the operation of the pipeline has no lasting long term significant impacts. These impacts are assessed and recorded in the ES. Mitigation measures would be secured through the commitment log in the REAC, and compliance secured through the CoCP under Requirement 5 and outline CEMP under Requirement 6 of the DCO. 	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Schedule of Environmental Commitments and Appendix 16.1 Code of Construction Practice (CoCP)</p>	
4.1.4	<p>In this context, the IPC should take into account environmental, social and economic benefits and adverse impacts, at national, regional and local levels. These may be identified in this NPS, the relevant technology-specific NPS, in the application or elsewhere (including in local impact reports).</p>	<p>The design of the replacement pipeline has been produced in accordance with the National Policy Statement EN-1 and EN-4, the processes set out in the Planning Act 2008 and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. The pipeline route was assessed taking into consideration of published adopted and emerging Local Development Plan policy allocations and committed development proposals. The Project has provided stakeholders with the opportunity to contribute and influence the project. The ES submitted as part of the application provides a full assessment of the impacts and benefits and related mitigation measures associated with the project, including environmental, social and economic impacts and benefits.</p>	<p>Planning Statement Application Document 7.1 Chapters 3 Scheme Development and Chapter 6 Planning Policy</p>	
4.1.5	<p>The policy set out in this NPS and the technology-specific energy NPSs is, for the most part, intended to make existing policy and practice of the Secretary of State in consenting nationally significant energy infrastructure clearer and more transparent, rather than to change the underlying policies against which applications are assessed (or therefore the "benchmark" for what is, or is not, an acceptable nationally significant energy development). Other matters that the IPC may consider both important and relevant to its decision-making may include Development Plan Documents or other documents in the Local Development Framework. In the event of a conflict between these or any other documents and an NPS, the NPS prevails for purposes of IPC decision making given the national significance of the infrastructure. The energy NPSs have taken account of relevant Planning Policy Statements (PPSs) and older-style Planning Policy Guidance Notes (PPGs) in England and Technical Advice Notes (TANs) in Wales where appropriate.</p>	<p>The design of the replacement pipeline has been produced in accordance with the National Policy Statement EN-1 and EN-4 and the processes set out in the Planning Act 2008. The pipeline route was assessed taking into consideration of published adopted and emerging Local Development Plan policy allocations and committed development proposals.</p>	<p>Planning Statement Application Document 7.1 Chapter 6 Planning Policy and Chapter 7 Planning Assessment Project-wide</p>	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.1.7	The IPC should only impose requirements in relation to a development consent that are necessary, relevant to planning, relevant to the development to be consented, enforceable, precise, and reasonable in all other respects. The IPC should take into account the guidance in Circular 11/95, as revised, on "The Use of Conditions in Planning Permissions" or any successor to it.	The Project is classified as a Nationally Significant Infrastructure Project (NSIP) and will require a Development Consent Order (DCO) to give consent to install the pipeline, under the 2008 Act. The project also falls within the EIA Regs, which require an Environmental Statement (ES) to be prepared and submitted with the application for development consent. The draft Development Consent Order is submitted as part of this Development Consent application.	Planning Statement Application Document 7.1 Chapter 1 Introduction	
4.1.8	The IPC may take into account any development consent obligations that an applicant agrees with local authorities. These must be relevant to planning, necessary to make the proposed development acceptable in planning terms, directly related to the proposed development, fairly and reasonably related in scale and kind to the proposed development, and reasonable in all other respects.	Engagement with local authorities has been undertaken prior to the submission of this Development Consent Order application in order to manage potential planning obligations related to the project in accordance with the Consultation strategy and report. Draft Statements of Common Ground have been produced as part of the application process which detail any areas of agreement and disagreement, with the Local Authorities and other relevant stakeholders.	Consultation Report Application Document 5.1 Environmental Statement Application Document 6.2 Chapter 5 Consultation and Scoping	
4.1.9	In deciding to bring forward a proposal for infrastructure development, the applicant will have made a judgement on the financial and technical viability of the proposed development, within the market framework and taking account of Government interventions. Where the IPC considers, on information provided in an application, that the financial viability and technical feasibility of the proposal has been properly assessed by the applicant it is unlikely to be of relevance in IPC decision making (any exceptions to this principle are dealt with where they arise in this or other energy NPSs and the reasons why financial viability or technical feasibility is likely to be of relevance explained).	The design of the replacement pipeline has considered the practicalities of engineering, implementation and costs of the project as indicated by the Project Objectives and Guidance Principles. Chapter 2 of the Planning Statement details the need for the scheme and a funding statement which accompanies this application.	Planning Statement Application Document 7.1 Chapter 2 Needs Case and Funding Statement Application Document 4.2	
4.2	Environmental Statement			
4.2.1	All proposals for projects that are subject to the European Environmental Impact Assessment Directive must be accompanied by an Environmental Statement (ES) describing the aspects of the environment likely to be significantly affected by the project. The Directive specifically refers to effects on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. The Directive requires an assessment of the likely significant effects of the proposed project on the environment, covering the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects at all stages of the project, and also of the measures envisaged for avoiding or mitigating significant adverse effects.	The ES prepared for this DCO application, was preceded by a Preliminary Environmental Information Report, in accordance with the EIA Regulations and the NPS. An EIA Scoping Report was prepared and submitted to the Planning Inspectorate and a Scoping Opinion received which agreed the scope of the EIA and how it is reported in the ES which accompanies this application. This assessment met the requirements of the EIA regulations in terms of the assessed effects and mitigation.	Environmental Statement Application Document 6.2 Chapter 2 Regulation and Policy Context, Chapter 4 Design Evolution, Chapter 5 Consultation and Scoping	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.2.2	To consider the potential effects, including benefits, of a proposal for a project, the IPC will find it helpful if the applicant sets out information on the likely significant social and economic effects of the development, and shows how any likely significant negative effects would be avoided or mitigated. This information could include matters such as employment, equality, community cohesion and well-being.	Potential social and economic effects of the Project on human populations (i.e. people and communities) within the study area has been assessed and included in Chapter 13 of the ES. The effects identified are linked to the way in which people live, work, play, relate to one another, organise to meet their needs and generally operate as members of society. The socio-economic assessment for the Project considered matters relating to employment, economy, tourism, effects on communities, and public safety. It has been identified that the project would contribute to the local and national economy, helping to maintain over a thousand jobs at the UK's largest refinery in Fawley and in the surrounding community. The refinery is vital in supporting secure supplies of fuel and other petroleum products for UK consumers. It has been identified that potential effects of the Project are likely and but none of these are significant with respect to socio-economic effects. Further assessment of the significant impacts have been undertaken and are reported in the ES.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities	
4.2.3	For the purposes of this NPS and the technology-specific NPSs the ES should cover the environmental, social and economic effects arising from pre-construction, construction, operation and decommissioning of the project. In some circumstances (for example, gas pipe-lines) it may be appropriate to assess effects arising from commissioning infrastructure once it is completed but before it comes into operation. Details of this and any other additional assessments are set out where necessary in sections on individual impacts in this NPS and in the technology-specific NPSs. In the absence of any additional information on additional assessments, the principles set out in this Section will apply to all assessments.	An ES has been prepared and submitted as part of this application. The ES assesses all significant environmental, social and economic effects arising from all phases of the project. Mitigation measures, controls and further assessment if required are included in the ES. The ES complies with national and local policies, legislations, regulations, standards and guidance. It follows the principles set out in the NPS and includes any considerations and concerns raised by the relevant stakeholders.	Environmental Statement Application Document 6.2 Chapter 2 Regulation and Policy Context	
4.2.4	When considering a proposal the IPC should satisfy itself that likely significant effects, including any significant residual effects taking account of any proposed mitigation measures or any adverse effects of those measures, have been adequately assessed. In doing so the IPC should also examine whether the assessment distinguishes between the project stages and identifies any mitigation measures at those stages. The IPC should request further information where necessary to ensure compliance with the EIA Directive.	Following the submission of an EIA Scoping Opinion to the Planning Inspectorate and a Scoping Report received. An ES accompanies this application for Development Consent submitted to the Planning Inspectorate, this has assessed the potential impacts and related mitigation measures for different project stages. Both Scoping Report and the ES complies with the EIA Regs.	Environmental Statement Application Document 6.2 Chapter 4 Design Evolution	
4.2.5	When considering cumulative effects, the ES should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence). The IPC may also have other evidence before it, for example from appraisals of sustainability of relevant NPSs or development plans, on such effects and potential interactions. Any such information may assist the IPC in reaching decisions on proposals and on mitigation measures that may be required.	A full assessment of the cumulative effects of the project with other projects have been assessed. The assessment has taken into account the Planning Inspectorate Advice Note 17 'Cumulative Effects Assessment'. The full assessment, details and related mitigation measures are reported in Chapter 15 Cumulative Effects of the ES submitted with this application.	Environmental Statement Application Document 6.2 Chapter 15 Cumulative effects	
4.2.6	The IPC should consider how the accumulation of, and interrelationship between, effects might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place.	The accumulation of, and inter-relationship between, environmental, community and socio-economic effects has been assessed and is included in Chapter 15, 'Cumulative Effects Assessment' of the ES, including cumulative effects on observed receptors.	Environmental Statement Application Document 6.2 Chapter 15 Cumulative effects	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.2.7	In some instances it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is the case, the applicant should explain in its application which elements of the proposal have yet to be finalised, and the reasons why this is the case.	Any details that have not been finalised before the submission of the application, are clearly explained in the Planning Statement and reflected in the ES.	Planning Statement Application Document 7.1 and Environmental Statement Application Document 6.1 – 6.4	
4.2.8	Where some details are still to be finalised the ES should set out, to the best of the applicant's knowledge, what the maximum extent of the proposed development may be in terms of site and plant specifications, and assess, on that basis, the effects which the project could have to ensure that the impacts of the project as it may be constructed have been properly assessed.	The Order Limits and 'Limits of Deviation' for the final anticipated location of the pipeline, are set out in the plans submitted with the DCO application and are the basis for the assessment reported in the ES. The ES has assessed the 'reasonable worst case' within the Order Limits and the Limits of Deviation, and assumptions on the construction methodologies, equipment and specifications, form the basis for assessing the environmental effects of the project.	Environmental Statement Application Document 6.2 Chapter 3 Project Description and Chapter 4 Design Evolution	
4.2.9	Should the IPC determine to grant development consent for an application where details are still to be finalised, it will need to reflect this in appropriate development consent requirements. Clearly, if development consent is granted for a proposal and at a later stage the developer wishes for technical or commercial reasons to construct it in such a way that its extent will be greater than has been provided for in the terms of the consent, it may be necessary to apply for a change to be made to the development consent, and the application to change the consent may need to be accompanied by further environmental information to supplement the original ES.	The application for development consent has ensured all relevant specifications and designs for construction, operation and decommissioning of the pipeline are included in the ES and other application documents in order to avoid any requirement for material amendment of the DCO.	Environmental Statement Application Document 6.2 Chapter 3 Project Description	
4.2.10	To help the IPC consider thoroughly the potential effects of a proposed project in cases where the EIA Directive does not apply and an ES is not therefore required, the applicant should instead provide information proportionate to the scale of the project on the likely significant environmental, social and economic effects. References to an Environmental Statement in this NPS should be taken as including a statement which provides this information, even if the EIA Directive does not apply.	Given the length of the Project, the proposed replacement pipeline exceeds the indicative threshold of 5km, and sections of the pipeline pass through environmentally sensitive locations, it is considered that an EIA is required to accompany this application for the Secretary of State for this Project. Therefore, a Screening Opinion has not been provided. The Secretary of State has been notified of the intention to submit an ES for the Project.	Environmental Statement Application Document 6.2 Chapter 4 Design Evolution	
4.2.11	In this NPS and the technology-specific NPSs, the terms 'effects', 'impacts' or 'benefits' should be understood to mean likely significant effects, impacts or benefits.	The terms 'effects', 'impacts' or 'benefits' mentioned in the ES and any other document submitted as part of the application would mean likely significant effects, impacts or benefits.	Environmental Statement Application Document 6.2 Chapter 1 Introduction	
4.3	Habitats and Species Regulations			

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.3.1	Prior to granting a development consent order, the IPC must, under the Habitats and Species Regulations, (which implement the relevant parts of the Habitats Directive and the Birds Directive in England and Wales) consider whether the project may have a significant effect on a European site, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects. Further information on the requirements of the Habitats and Species Regulations can be found in a Government Circular. Applicants should also refer to Section 5.3 of this NPS on biodiversity and geological conservation. The applicant should seek the advice of Natural England and/or the Countryside Council for Wales, and provide the IPC with such information as it may reasonably require to determine whether an Appropriate Assessment is required. In the event that an Appropriate Assessment is required, the applicant must provide the IPC with such information as may reasonably be required to enable it to conduct the Appropriate Assessment. This should include information on any mitigation measures that are proposed to minimise or avoid likely effects.	A Habitats Regulations Assessment Scoping (HRA) Report has been prepared and submitted as an Appendix to the EIA scoping request. Advice of Natural England has been sought for the project to assess any likely significant effects on European nature conservation sites as a result of the proposal. An HRA Appropriate Assessment (HRA Stage 2) report has been prepared. These reports have been submitted to Natural England and the Planning Inspectorate as part of the DCO and included in the ES.	Habitats Regulations Assessment Application Document 6.5	
4.4	Alternatives			
4.4.1	As in any planning case, the relevance or otherwise to the decision-making process of the existence (or alleged existence) of alternatives to the proposed development is in the first instance a matter of law, detailed guidance on which falls outside the scope of this NPS. From a policy perspective this NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option.	A large number of options for the route of the new pipeline were identified and considered, and a sifting process carried out based on environmental, planning and engineering factors. The number of corridor options has been reduced to a single preferred corridor, within which a route for the replacement pipeline has been identified. Consultations with the local authorities, relevant stakeholders and community have been carried out to assist in selecting the preferred corridor and route options. The Environmental Statement would include a full assessment of reasonable alternatives setting out the scheme's option appraisal, and environmental, social and economic considerations in choosing a preferred option. The application Order Limits are based on a refinement of the preferred route.	Planning Statement Application Document 7.1 Chapter 3 Scheme Development	
4.4.2	However: <ul style="list-style-type: none"> applicants are obliged to include in their ES, as a matter of fact, information about the main alternatives they have studied. This should include an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility; in some circumstances there are specific legislative requirements, notably under the Habitats Directive, for the IPC to consider alternatives. These should also be identified in the ES by the applicant; and in some circumstances, the relevant energy NPSs may impose a policy requirement to consider alternatives (as this NPS does in Sections 5.3, 5.7 and 5.9). 	The EIA Regs 2017 now refer to the ES being required to include 'a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment'. The project notes the NPS also requires the ES to describe how the social and economic effects, as well as environmental effects, to be taken into account in the applicant's choice between alternatives. The Environmental Statement Chapter 4 Design Evolution, therefore includes a full assessment of the reasonable alternatives identified and considered setting out the scheme's option appraisal [section 4.3], and environmental, social and economic considerations in choosing a preferred option taking account of the other legal requirements and detailed policy requirements in the NPS.	Environmental Statement Application Document 6.2 Chapter 4 Design Evolution	
4.4.3	Where there is a policy or legal requirement to consider alternatives the applicant should describe the alternatives considered in compliance with these requirements. Given the level and urgency of need for new energy infrastructure, the IPC should, subject to any relevant legal requirements (e.g. under the Habitats Directive) which indicate otherwise, be guided by the following principles when deciding what weight should be given to alternatives: <ul style="list-style-type: none"> the consideration of alternatives in order to comply with policy 	The ES Chapter 4 Design Evolution for the project provides a full description of alternatives considered for the replacement pipeline, including the 'do nothing' scenario, alternative routing, technologies and systems [section 4.3]. The ES takes into account environmental, social, economic, commercial aspects and technical feasibility as well as legal requirements and detailed policy requirements in the NPS. The corridor and route selection process included considerations of engineering, environmental and socio-economic performance, planning (including compliance with the NPS and other relevant national policy), operations and cost and programme, in addition to the Project Objectives and Guidance Principles.	Environmental Statement Application Document 6.2 Chapter 4 Design Evolution	



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
	<p>requirements should be carried out in a proportionate manner;</p> <ul style="list-style-type: none"> • the IPC should be guided in considering alternative proposals by whether there is a realistic prospect of the alternative delivering the same infrastructure capacity (including energy security and climate change benefits) in the same timescale as the proposed development; • where (as in the case of renewables) legislation imposes a specific quantitative target for particular technologies or (as in the case of nuclear) there is reason to suppose that the number of sites suitable for deployment of a technology on the scale and within the period of time envisaged by the relevant NPSs is constrained, the IPC should not reject an application for development on one site simply because fewer adverse impacts would result from developing similar infrastructure on another suitable site, and it should have regard as appropriate to the possibility that all suitable sites for energy infrastructure of the type proposed may be needed for future proposals; • alternatives not among the main alternatives studied by the applicant (as reflected in the ES) should only be considered to the extent that the IPC thinks they are both important and relevant to its decision; • as the IPC must decide an application in accordance with the relevant NPS (subject to the exceptions set out in the Planning Act 2008), if the IPC concludes that a decision to grant consent to a hypothetical alternative proposal would not be in accordance with the policies set out in the relevant NPS, the existence of that alternative is unlikely to be important and relevant to the IPC's decision; • alternative proposals which mean the necessary development could not proceed, for example because the alternative proposals are not commercially viable or alternative proposals for sites would not be physically suitable, can be excluded on the grounds that they are not important and relevant to the IPC's decision; • alternative proposals which are vague or inchoate can be excluded on the grounds that they are not important and relevant to the IPC's decision; and • it is intended that potential alternatives to a proposed development should, wherever possible, be identified before an application is made to the IPC in respect of it (so as to allow appropriate consultation and the development of a suitable evidence base in relation to any alternatives which are particularly relevant). Therefore, where an alternative is first put forward by a third party after an application has been made, the IPC may place the onus on the person proposing the alternative to provide the evidence for its suitability as such and the IPC should not necessarily expect the applicant to have assessed it. 			
4.5	Criteria for 'good design' for Energy Infrastructure			

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.5.1	The visual appearance of a building is sometimes considered to be the most important factor in good design. But high quality and inclusive design goes far beyond aesthetic considerations. The functionality of an object — be it a building or other type of infrastructure — including fitness for purpose and sustainability, is equally important. Applying “good design” to energy projects should produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible. It is acknowledged, however that the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area.	The Project uses best available technology, industry standards and construction techniques to appropriately and effectively minimise impacts and local inconvenience. The route options have considered the use of best suited and appropriate construction techniques to deliver the project and thus ensuring that fuel supplies are secured for decades to come. The design development process included the identification of mitigation commitments, both for mitigation embedded in the design and also good practice mitigation.	Planning Statement Application Document 7.1 Chapter 4 Project Description	
4.5.2	Good design is also a means by which many policy objectives in the NPS can be met, for example the impact sections show how good design, in terms of siting and use of appropriate technologies can help mitigate adverse impacts such as noise.	The Project uses best available technology, industry standards and construction techniques to appropriately and effectively minimise impacts and local inconvenience. The route options have considered the use of best suited and appropriate construction techniques to deliver the project and thus ensuring that fuel supplies are secured for decades to come. The design development process included the identification of mitigation commitments, both for mitigation embedded in the design and also good practice mitigation.	Planning Statement Application Document 7.1 Chapter 4 Project Description	
4.5.3	In the light of the above, and given the importance which the Planning Act 2008 places on good design and sustainability, the IPC needs to be satisfied that energy infrastructure developments are sustainable and, having regard to regulatory and other constraints, are as attractive, durable and adaptable (including taking account of natural hazards such as flooding) as they can be. In so doing, the IPC should satisfy itself that the applicant has taken into account both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in which it would be located) as far as possible. Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, landform and vegetation. Furthermore, the design and sensitive use of materials in any associated development such as electricity substations will assist in ensuring that such development contributes to the quality of the area.	The design of the replacement pipeline has been developed in accordance with Esso design standards for fuel pipelines, relevant industry codes of practice and standards and the requirements of the Pipeline Safety Regulations 1996. The Project uses best available technology, industry standards and construction techniques to appropriately and effectively minimise impacts and local inconvenience. The route options have considered the use of best suited and appropriate construction techniques to deliver the project and thus ensuring that fuel supplies are secured for decades to come. The design development process included the identification of mitigation commitments, both for mitigation embedded in the design and also good practice mitigation, this is secured through the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, the construction traffic controlled through Requirement 7, hedgerows and trees managed through Requirement 8, surface and foul water through Requirement 9, contaminated land and ground water through Requirement 10, archaeology through Requirement 11, the Landscape and Ecological Management Plan in Requirement 12, protected species in Requirement 13 and construction hours are controlled through Requirement 14 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	
4.5.4	For the IPC to consider the proposal for a project, applicants should be able to demonstrate in their application documents how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected. In considering applications the IPC should take into account the ultimate purpose of the infrastructure and bear in mind the operational, safety and security requirements which the design has to satisfy.	As part of the design development process, the route of the pipeline has been influenced by the desire to reduce potential likely effects on the environment and communities. For example, the route seeks to avoid residential buildings and ancient woodland. The preferred route has been selected because it performed more strongly overall than any other options. During consultation and engagement there was strong representation from respondents that the replacement pipeline should be located near to the existing pipeline, due to existing positive relationships with landowners and the opportunity to use land and land access routes along the existing pipeline. Further details of the design evolution can be found in Chapter 4 Design Evolution of the ES.	Environmental Statement Application Document 6.2 Chapter 4 Design Evolution	
4.5.5	Applicants and the IPC should consider taking independent professional advice on the design aspects of a proposal. In particular, Design Council CABE can be asked to provide design review for nationally significant infrastructure projects and applicants are encouraged to use this service.	The replacement pipeline is below ground with limited above ground infrastructure (AGI). There will be a single pigging station located towards the southern end of the pipeline, 14 remotely operated valves installed within a sub-surface chamber with small AGI consisting of a fenced compound, cathodic protection transformer rectifier cabinets and some above ground connection at the West London Terminal. None of the AGI would be significant in terms of their visual prominence and impact. Therefore, there has been no input from a design panel.	Planning Statement Application Document 7.1 Project Description	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.5.6	Further advice on what the IPC should expect applicants to demonstrate by way of good design is provided in the technology-specific NPSs where relevant.	REFER TO EN-4 Section 2.3	Planning Statement Application Document 7.1 Project Description	
4.8	Climate Change Adaptation			
4.8.1	Part 2 of this NPS covers the Government's energy and climate change strategy, including policies for mitigating climate change. This part of the NPS sets out how applicants and the IPC should take the effects of climate change into account when developing and consenting infrastructure. While climate change mitigation is essential to minimise the most dangerous impacts of climate change, previous global greenhouse gas emissions have already committed us to some degree of continued climate change for at least the next 30 years. If new energy infrastructure is not sufficiently resilient against the possible impacts of climate change, it will not be able to satisfy the energy needs as outlined in Part 3 of this NPS.	Climate change has been considered when designing and selecting the route option. The risk of flooding, effect of greenhouse gas emissions to the atmosphere, and embedded carbon have been considered as part of the design and assessment of impact and mitigation. The EIA Scoping Report set out the proposed approach to assessing the effects of climate change on the pipeline development (adaptation/resilience), and vice versa (mitigation), including in relation to the water environment, soils, and resilience to accidents/disasters including extreme weather. The assessment indicates that the scheme would not result in any significant impacts, therefore the ES will report this at a high level and climate resilience in Chapters 8 Water [section 8.2], Chapter 11 Soils and Geology [section 11.6 - 11.7] and Chapter 14 Major Accidents [section 14.6 and section 14.7].	Environmental Statement Application Document 6.2 Chapter 3 Project Description, Chapter 8 Water, Chapter 11 Soils and Geology, Chapter 14 Major Accidents	
4.8.2	Climate change is likely to mean that the UK will experience hotter, drier summers and warmer, wetter winters. There is a likelihood of increased flooding, drought, heatwaves and intense rainfall events, as well as rising sea levels. Adaptation is therefore necessary to deal with the potential impacts of these changes that are already happening.	Mitigation measures dealing with climate change have been considered when assessing potential impacts on flood risk, greenhouse gas emissions, waste management and biodiversity. The design of the pipeline has considered those measures to make the pipeline more resilient and safer to climate change, there are no significant impacts on climate change resulting from the laying of this pipeline.	Environmental Statement Application Document 6.2 Chapter 3 Project Description	
4.8.3	To support planning decisions, the Government produces a set of UK Climate Projections and is developing a statutory National Adaptation Programme. In addition, the Government's Adaptation Reporting Power will ensure that reporting authorities (a defined list of public bodies and statutory undertakers, including energy utilities) assess the risks to their organisation presented by climate change. The IPC may take into account energy utilities' reports to the Secretary of State when considering adaptation measures proposed by an applicant for new energy infrastructure.	The UK Climate Impact Programme has been considered when assessing potential impacts on groundwater and surface water. The ES takes into consideration the risks to groundwater and surface water presented by climate change.	Environmental Statement Application Document 6.2 Chapter 3 Project Description and Chapter 8 Water	
4.8.4	In certain circumstances, measures implemented to ensure a scheme can adapt to climate change may give rise to additional impacts, for example as a result of protecting against flood risk, there may be consequential impacts on coastal change (see Section 5.5).	Mitigation measures dealing with climate change have been considered when assessing potential impacts elsewhere originated from the development. The ES Chapter 8 Water [section 8.2], Chapter 11 Soils and Geology [section 11.6 - 11.7] and Chapter 14 Major Accidents [section 14.6 and section 14.7] contain the assessment and mitigation measures relating to climate change, these measures are identified in Chapter 16 Environmental Management and Mitigation and Appendix 16.1 the REAC, mitigation measures are secured through the Code of Construction Practice by Requirement 5 and the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 Chapter 3 Project Description, Chapter 8 Water, Chapter 11 Soils and Geology, Chapter 14 Major Accidents and Chapter 16 Environmental Management and Mitigation	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.8.5	New energy infrastructure will typically be a long-term investment and will need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the impacts of climate change when planning the location, design, build, operation and, where appropriate, decommissioning of new energy infrastructure. The ES should set out how the proposal will take account of the projected impacts of climate change. While not required by the EIA Directive, this information will be needed by the IPC.	The expected life of the pipeline would be in excess of 60 years. Therefore, it is not practical to assess the effects of decommissioning at this stage, as the methodology and good practice mitigation measures will not be defined until closer to the time, likely to be at least 60 years from now. The design of the pipeline has assessed potential impacts on the climate change and incorporated adaptation/resilience and mitigation to climate change, including in relation to the water environment, soils, and resilience to accidents/disasters including extreme weather. The ES Chapter 8 Water [section 8.2], Chapter 11 Soils and Geology [section 11.6 - 11.7] and Chapter 14 Major Accidents [section 14.6 and section 14.7] contain the assessment and mitigation measures relating to climate change relating to construction and operation of the pipeline, these measures are identified in Chapter 16 Environmental Management and Mitigation and Appendix 16.1 the REAC, mitigation measures are secured through the Code of Construction Practice by Requirement 5 and the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 Chapter 3 Project Description, Chapter 8 Water, Chapter 11 Soils and Geology, Chapter 14 Major Accidents and Chapter 16 Environmental Management and Mitigation.	
4.8.6	The IPC should be satisfied that applicants for new energy infrastructure have taken into account the potential impacts of climate change using the latest UK Climate Projections available at the time the ES was prepared to ensure they have identified appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure. Should a new set of UK Climate Projections become available after the preparation of the ES, the IPC should consider whether they need to request further information from the applicant.	The UK Climate Impact Programme has been considered when assessing potential impacts on groundwater and surface water. The Scoping Report takes into consideration the risks to groundwater and surface water presented by climate change. The ES Chapter 8 Water [section 8.2], Chapter 11 Soils and Geology [section 11.6 - 11.7] and Chapter 14 Major Accidents [section 14.3 and section 14.7] also considers the UK Climate Impact Programme.	Environmental Statement Application Document 6.2 Chapter 3 Project Description, Chapter 8 Water, Chapter 11 Soils and Geology, Chapter 14 Major Accidents	
4.8.7	Applicants should apply as a minimum, the emissions scenario that the Independent Committee on Climate Change suggests the world is currently most closely following – and the 10%, 50% and 90% estimate ranges. These results should be considered alongside relevant research which is based on the climate change projections.	The pipeline itself would not produce any greenhouse gas emissions, the renewal of the pumps at Fawley/Alton provides pumping capacity of multiple pipelines not just this replacement pipeline and have been assessed and provide more efficient and effective operation of the pipeline. The construction of a steel pipeline will result in less greenhouse gas emissions when compared to running a fleet of 100 tankers a day to carry the same volume of fuel from Fawley to West London Terminal. Careful construction through any made up land will not result in the release of significant greenhouse gases and therefore this has been scoped out of the EIA assessment. Therefore, despite the emissions generated during the production of the steel pipe itself, over the 60 year lifetime of the pipeline would result in reduced emission of greenhouse gasses.	Environmental Statement Application Document 6.2 Chapter 3 Project Description	
4.8.8	The IPC should be satisfied that there are not features of the design of new energy infrastructure critical to its operation which may be seriously affected by more radical changes to the climate beyond that projected in the latest set of UK climate projections, taking account of the latest credible scientific evidence on, for example, sea level rise (for example by referring to additional maximum credible scenarios – i.e. from the Intergovernmental Panel on Climate Change or EA) and that necessary action can be taken to ensure the operation of the infrastructure over its estimated lifetime.	The replacement pipeline is below ground with limited above ground infrastructure (AGI). This design limits the impact of severe weather events or extreme temperature on the operation of the pipeline.	Environmental Statement Application Document 6.2 Chapter 3 Project Description	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.8.9	Where energy infrastructure has safety critical elements (for example parts of new fossil fuel power stations or some electricity sub-stations), the applicant should apply the high emissions scenario (high impact, low likelihood) to those elements. Although the likelihood of this scenario is thought to be low, it is appropriate to take a more risk-averse approach with elements of infrastructure which are critical to the safety of its operation.	The potential risk of major incidents resulting from extreme weather events are assessed in the ES Chapter 14 Major Accidents [section 14.2].	Environmental Statement Application Document 6.2 Chapter 14 Major Accidents	
4.8.10	If any adaptation measures give rise to consequential impacts (for example on flooding, water resources or coastal change) the IPC should consider the impact of the latter in relation to the application as a whole and the impacts guidance set out in Part 5 of this NPS.	The impact of any adaptation measures are considered across the following chapters within the ES Chapter 8 Water, Chapter 11 Soils and Geology [section 11.5 - 11.7], Chapter 14 Major Accidents [section 14.6] to reflect the need to consider consequential impacts.	Environmental Statement Application Document 6.2 Chapter 3 Project Description, Chapter 8 Water, Chapter 11 Soils and Geology, Chapter 14 Major Accidents	
4.8.11	Any adaptation measures should be based on the latest set of UK Climate Projections, the Government's latest UK Climate Change Risk Assessment, when available and in consultation with the EA.	Noted		
4.8.11	Adaptation measures can be required to be implemented at the time of construction where necessary and appropriate to do so. However, where they are necessary to deal with the impact of climate change, and that measure would have an adverse effect on other aspects of the project and/or surrounding environment (for example coastal processes), the IPC may consider requiring the applicant to ensure that the adaptation measure could be implemented should the need arise, rather than at the outset of the development (for example increasing height of existing, or requiring new, sea walls).	Noted		
4.8.13	The generic impacts advice in this NPS and the technology specific advice on impacts in the other NPSs provide additional information on climate change adaptation.	The project has considered the advice in this NPS and the technology specific NPS when selecting and designing the route option. There would be no significant impact on climate changes as a result of this project, further details of related mitigation measures are detailed in the ES Chapter 8 Water [section 8.2], Chapter 11 Soils and Geology [section 11.6 - 11.7] and Chapter 14 Major Accidents [section 14.6 and section 14.7].	Environmental Statement Application Document 6.2 Chapter 3 Project Description, Chapter 8 Water, Chapter 11 Soils and Geology, Chapter 14 Major Accidents	
4.10	Pollution Control and other Environmental Regulatory Regimes			
4.10.1	Issues relating to discharges or emissions from a proposed project which affect air quality, water quality, land quality and the marine environment, or which include noise and vibration may be subject to separate regulation under the pollution control framework or other consenting and licensing regimes.	The project will comply with all required regulations under the pollution control framework or other consenting and licensing regimes. An outline Construction Environmental Management Plan will be produced by the contractor and will outline the actions and measures that should be implemented to control the risk of a pollution incident this will be secured through Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.10.2	The planning and pollution control systems are separate but complementary. The planning system controls the development and use of land in the public interest. It plays a key role in protecting and improving the natural environment, public health and safety, and amenity, for example by attaching conditions to allow developments which would otherwise not be environmentally acceptable to proceed, and preventing harmful development which cannot be made acceptable even through conditions. Pollution control is concerned with preventing pollution through the use of measures to prohibit or limit the releases of substances to the environment from different sources to the lowest practicable level. It also ensures that ambient air and water quality meet standards that guard against impacts to the environment or human health.	As part of the ES, the outline Construction Environmental Management Plan and Code of Construction Practice sets out the actions and measures that would be implemented to control the risk of a pollution incident. Pollution Prevention and Control Plan form part of the outline CEMP. The Plan includes measures that would be implemented to minimise the risk of a pollution incident occurring, as well as pro-active actions to ensure that any pollution incident that does occur is controlled and managed effectively to minimise any adverse impacts on the environment. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	
4.10.3	In considering an application for development consent, the IPC should focus on whether the development itself is an acceptable use of the land, and on the impacts of that use, rather than the control of processes, emissions or discharges themselves. The IPC should work on the assumption that the relevant pollution control regime and other environmental regulatory regimes, including those on land drainage, water abstraction and biodiversity, will be properly applied and enforced by the relevant regulator. It should act to complement but not seek to duplicate them.	As part of the ES, the outline Construction Environmental Management Plan and Code of Construction Practice identifies the actions and measures that will be implemented to control the risk of a pollution incident. Pollution Prevention and Control Plan form part of the CEMP. The Plan includes measures that would be implemented to minimise the risk of a pollution incident occurring, as well as pro-active actions to ensure that any pollution incident that does occur is controlled and managed effectively to minimise any adverse impacts on the environment. The project would comply with all required regulations under the pollution control framework or other consenting and licensing regimes. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	
4.10.4	Applicants should consult the Marine Management Organisation (MMO) on nationally significant projects which would affect, or would be likely to affect, any relevant marine areas as defined in the Planning Act 2008 (as amended by s.23 of the Marine and Coastal Access Act 2009). The IPC consent may include a deemed marine licence and the MMO will advise on what conditions should apply to the deemed marine licence. The IPC and MMO should cooperate closely to ensure that energy NSIPs are licensed in accordance with environmental legislation, including European directives.	The Project is located inland and would not affect marine areas as defined in the 2008 Act. Therefore, the MMO has not been consulted in relation to the Project.		
4.10.5	Many projects covered by this NPS will be subject to the Environmental Permitting (EP) regime, which also incorporates operational waste management requirements for certain activities. When a developer applies for an Environmental Permit, the relevant regulator (usually EA but sometimes the local authority) requires that the application demonstrates that processes are in place to meet all relevant EP requirements. In considering the impacts of the project, the IPC may wish to consult the regulator on any management plans that would be included in an Environmental Permit application.	The strategy for submission of Environmental Permit applications will be defined and set out in the ES and elsewhere in the DCO application. Contact has been made and meetings will continue to be held with key stakeholders including the Environment Agency (EA). Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	
4.10.6	Applicants are advised to make early contact with relevant regulators, including EA and the MMO, to discuss their requirements for environmental permits and other consents. This will help ensure that applications take account of all relevant environmental considerations and that the relevant regulators are able to provide timely advice and assurance to the IPC. Wherever possible, applicants are encouraged to submit applications for Environmental Permits and other necessary consents at the same time as applying to the IPC for development consent.	The strategy for submission of Environmental Permit applications would be defined and set out in the ES and elsewhere in the DCO application. Contact has been made and meetings would continue to be held with key stakeholders including the EA. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.10.7	<p>The IPC should be satisfied that development consent can be granted taking full account of environmental impacts. Working in close cooperation with EA and/or the pollution control authority, and other relevant bodies, such as the MMO, Natural England, the Countryside Council for Wales, Drainage Boards, and water and sewerage undertakers, the IPC should be satisfied, before consenting any potentially polluting developments, that:</p> <ul style="list-style-type: none"> the relevant pollution control authority is satisfied that potential releases can be adequately regulated under the pollution control framework; and the effects of existing sources of pollution in and around the site are not such that the cumulative effects of pollution when the proposed development is added would make that development unacceptable, particularly in relation to statutory environmental quality limits. 	<p>An initial assessment of potential environmental impacts was carried out and included in the Scoping Report. A full assessment and related mitigation measures is described in the ES Chapter 14 Major Accidents. Consultations have been carried out with the HSE, EA and Natural England in order to discuss potential environmental impacts and mitigations and to assist the corridor selection [section 14.2]. The Project is located inland and would not affect marine areas as defined in the 2008 Act. Therefore, the MMO has not been consulted in relation to the Project.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 14 Major Accidents Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP</p>	
4.10.8	<p>The IPC should not refuse consent on the basis of pollution impacts unless it has good reason to believe that any relevant necessary operational pollution control permits or licences or other consents will not subsequently be granted.</p>	<p>The design of the replacement pipeline was developed in accordance with Esso design standards for fuel pipelines, relevant industry codes of practice and standards and the requirements of the Pipeline Safety Regulations 1996. The project would comply with all required Regulations under the pollution control framework or other consenting and licensing regimes.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP</p>	
4.11	Safety			
4.11.1	<p>HSE is responsible for enforcing a range of occupational health and safety legislation some of which is relevant to the construction, operation and decommissioning of energy infrastructure. Applicants should consult with the Health and Safety Executive (HSE) on matters relating to safety.</p>	<p>We continue to engage with HSE with respect to compliance with health and safety legislation.</p>	<p>Consultation Report Application Document 5.1</p>	
4.11.2	<p>Some technologies, for example the use of salt caverns for underground gas storage, will be regulated by specific health and safety legislation. The application of these regulations is set out in the technology-specific NPSs where relevant.</p>	<p>As a responsible operator, Esso is committed to safe operations that include maintaining, repairing and, where appropriate, replacing pipelines. The design of the replacement pipeline was developed in accordance with Esso design standards for fuel pipelines, relevant industry codes of practice and standards, requirements of the Pipeline Safety Regulations 1996, and health and safety legislation. Once the pipeline is operational, Esso would carry out a programme of inspection and maintenance in accordance with the Pipeline Safety Regulations 1996. While the Pipelines Safety Regulations is the key legislation for the Project and the pipeline is not a COMAH establishment, COMAH guidance has been referred to in development of the methodologies for hazard identification and the assessment of major accidents.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description and Chapter 14 Major Accidents, Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP</p>	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.11.3	Some energy infrastructure will be subject to the Control of Major Accident Hazards (COMAH) Regulations 1999. These Regulations aim to prevent major accidents involving dangerous substances and limit the consequences to people and the environment of any that do occur. COMAH regulations apply throughout the life cycle of the facility, i.e. from the design and build stage through to decommissioning. They are enforced by the Competent Authority comprising HSE and the EA acting jointly in England and Wales (and by the HSE and Scottish Environment Protection Agency acting jointly in Scotland). The same principles apply here as for those set out in the previous section on pollution control and other environmental permitting regimes.	While the Pipelines Safety Regulations is the key legislation for the Project and the pipeline is not a COMAH establishment, COMAH guidance has been referred to in development of the methodologies for hazard identification and the assessment of major accidents. Chapter 14 [section 14.2] of the ES details the assessment of major accidents is new to Infrastructure EIAs but can use techniques established under COMAH Regulations. Engagement continues with HSE and EA to ensure compliance with safety regulations.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description and Chapter 14 Major Accidents, Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	
4.11.4	Applicants seeking to develop infrastructure subject to the COMAH regulations should make early contact with the Competent Authority. If a safety report is required it is important to discuss with the Competent Authority the type of information that should be provided at the design and development stage, and what form this should take. This will enable the Competent Authority to review as much information as possible before construction begins, in order to assess whether the inherent features of the design are sufficient to prevent, control and mitigate major accidents. The IPC should be satisfied that an assessment has been done where required and that the Competent Authority has assessed that it meets the safety objectives described above.	Engagement continues with HSE and EA to ensure compliance with safety Regulations.	Consultation Report Application Document 5.1 Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description and Chapter 14 Major Accidents, Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	
4.12	Hazardous Substances			
4.12.1	All establishments wishing to hold stocks of certain hazardous substances above a threshold need Hazardous Substances consent. Applicants should consult the HSE at pre-application stage if the project is likely to need hazardous substances consent. Where hazardous substances consent is applied for, the IPC will consider whether to make an order directing that hazardous substances consent shall be deemed to be granted alongside making an order granting development consent. The IPC should consult HSE about this.	The outline Construction Environmental Management Plan and Code of Construction Practice would ensure measures are in place to minimise the risk of a pollution incident occurring including appropriate storage and handling of fuels and other substances hazardous to the environment. The contractor will ensure that any potentially hazardous waste is correctly stored, tested, recorded and disposed of. This may include asphalt from roads that contains coal tar. Ongoing engaging with HSE to ensure health and safety compliance.	Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	
4.12.2	HSE will assess the risks based on the development consent application. Where HSE does not advise against the IPC granting the consent, it will also recommend whether the consent should be granted subject to any requirements.	Engagement with HSE to ensure compliance with health and safety regulations.	Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	
4.12.3	HSE sets a consultation distance around every site with hazardous substances consent and notifies the relevant local planning authorities. The applicant should therefore consult the local planning authority at preapplication stage to identify whether its proposed site is within the consultation distance of any site with hazardous substances consent and, if so, should consult the HSE for its advice on locating the particular	Details of all Hazardous sites are identified, and consultation has been completed with the HSE where necessary. The pipeline itself is not a Hazardous site.	Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Environmental	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
	development on that site.		Management and Mitigation and Appendix 16.1 CoCP	
4.13	Health			
4.13.1	Energy production has the potential to impact on the health and well-being (“health”) of the population. Access to energy is clearly beneficial to society and to our health as a whole. However, the production, distribution and use of energy may have negative impacts on some people’s health.	The Scoping Report identified direct and indirect impacts on health generated by the project. Overall, there were no significant adverse health impacts and therefore the ES assesses health impacts within relevant chapters, for example, Chapter 11 Soils and Geology [section 11.5] assesses any impacts resulting from ground contamination or release of gasses from construction, noise from construction is assessed within Chapter 13 People and Communities [section 13.5], Appendix 13.4 Human Health Technical Note, and other potential health related impacts will be assessed in Chapter 14 Major Accidents [section 14.6].	Environmental Statement Application Document 6.2 & 6.4 Chapter 5 Consultation and Scoping, Chapter 13 People and Communities Appendix 13.4 Human Health Technical Note, Chapter 14 Major Accidents	
4.13.2	As described in the relevant sections of this NPS and in the technology specific NPSs, where the proposed project has an effect on human beings, the ES should assess these effects for each element of the project, identifying any adverse health impacts, and identifying measures to avoid, reduce or compensate for these impacts as appropriate. The impacts of more than one development may affect people simultaneously, so the applicant and the IPC should consider the cumulative impact on health.	The Scoping Report identified direct and indirect impacts on health generated by the project. Overall, there were no significant adverse health impacts and therefore the ES assesses health impacts within relevant chapters, notably Chapter 11 Soils and Geology [section 11.5], Chapter 13 People and Communities [section 13.5] and Chapter 14 Major Accidents [section 14.6].	Environmental Statement Application Document 6.2 & 6.4 Chapter 5 Consultation and Scoping, Chapter 11 Soils and Geology, Chapter 13 People and Communities Appendix 13.4 Human Health Technical Note, Chapter 14 Major Accidents	
4.13.3	The direct impacts on health may include increased traffic, air or water pollution, dust, odour, hazardous waste and substances, noise, exposure to radiation, and increases in pests.	Disruption to green space and nature, effects on communities, traffic, transport, connectivity, severance and physical injury from accidents, soil contamination, noise and vibration, water, major accidents and community well-being are the key health determinants assessed in the EIA Scoping report. No significant adverse impacts have been identified.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities. Planning Statement Application Document 7.1 Chapter 16 Open Spaces	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.13.4	New energy infrastructure may also affect the composition, size and proximity of the local population, and in doing so have indirect health impacts, for example if it in some way affects access to key public services, transport or the use of open space for recreation and physical activity.	An Open Space Assessment has been completed which concludes that due to the availability of alternative green space and areas of nature, the impact on health as a result temporary restricted access to green space during construction is unlikely to be significant. During operation, it is considered that there would be no significant impact on health. Potential physical and mental health effects associated with traffic and transport have been identified in urban areas during construction. However, with the implementation of good practice traffic management measures and controls, no significant residual transport effects would result. No significant traffic effects are expected for rural communities. No significant traffic effects are expected during operation as the project would be situated underground. It is not appropriate to assess the effects of decommissioning at this stage, as the methodology and likely good practice mitigation measures would not be defined until closer to the time, at least 60 years from now.	Planning Statement Application Document 7.1 Chapter 16 Open Spaces. Transport Assessment Application Document 7.4	
4.13.5	Generally, those aspects of energy infrastructure which are most likely to have a significantly detrimental impact on health are subject to separate regulation (for example for air pollution) which will constitute effective mitigation of them, so that it is unlikely that health concerns will either constitute a reason to refused consents or require specific mitigation under the Planning Act 2008. However, the IPC will want to take account of health concerns when setting requirements relating to a range of impacts such as noise.	The Scoping Report identified direct and indirect impacts on health generated by the project. Overall, there were no significant adverse health impacts and therefore the ES assesses health impacts within relevant chapters, notably Chapter 11 Soils and Geology [section 11.5], Chapter 13 People and Communities [section 13.5] and Chapter 14 Major Accidents [section 14.6].	Environmental Statement Application Document 6.2 & 6.4 Chapter 11 Soils and Geology, Chapter 13 People and Communities Appendix 13.4 Human Health Technical Note, Chapter 14 Major Accidents	
4.14	Common law nuisance and statutory nuisance			
4.14.1	Section 158 of the Planning Act 2008 confers statutory authority for carrying out development consented to by, or doing anything else authorised by, a development consent order. Such authority is conferred only for the purpose of providing a defence in any civil or criminal proceedings for nuisance. This would include a defence for proceedings for nuisance under Part III of the Environmental Protection Act 1990 (statutory nuisance) but only to the extent that the nuisance is the inevitable consequence of what has been authorised. The defence does not extinguish the local authority's duties under Part III of the EPA 1990 to inspect its area and take reasonable steps to investigate complaints of statutory nuisance and to serve an abatement notice where satisfied of its existence, likely occurrence or recurrence. The defence is not intended to extend to proceedings where the matter is "prejudicial to health" and not a nuisance.	To reduce the risk of nuisance or environmental incident, which includes noise, vibration and air quality, the Code of Construction Practice would set out a number of good housekeeping measures to be implemented by the contractor at compound sites. Contractors will require to agree working hours with the relevant local authorities under Section 61 of the Control of Pollution Act 1974. The Project would comply with requirements under Part 3 EPA 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.2 Air Quality Technical Note, 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	
4.14.2	It is very important that, at the application stage of an energy NSIP, possible sources of nuisance under section 79(1) of the 1990 Act and how they may be mitigated or limited are considered by the IPC so that appropriate requirements can be included in any subsequent order granting development consent. (See Section 5.6 on Dust, odour, artificial light etc. and Section 5.11 on Noise and vibration.)	Section 79 of the Act has been considered when assessing impacts, proposal of mitigation measures and when producing the Scoping report. The potential environmental nuisance issues arising are considered in the EIA Scoping Report and significant effects reported in the ES. A Code of Construction Practice would also be submitted with the ES and DCO application, which provides a framework of measures to control nuisances during construction. To reduce the risk of nuisance or environmental incident, which includes noise, vibration and air quality, the CoCP sets out a number of good housekeeping measures to be implemented by the contractor at the logistic hubs and compound sites. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.2 Air Quality Technical Note, 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation and	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
			Appendix 16.1 CoCP	
4.14.3	The IPC should note that the defence of statutory authority is subject to any contrary provision made by the IPC in any particular case in a development consent order (section 158(3)). Therefore, subject to Section 5.6, the IPC can disapply the defence of statutory authority, in whole or in part, in any particular case but in so doing should have regard to whether any particular nuisance is an inevitable consequence of the development.	The Project will implement necessary mitigation measures and control to avoid nuisance as a consequence of the development under Part 3 of the EPA 1990 and the 2008 Act. A CoCP would be in place to ensure that controls are implemented when carrying out the construction works. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.2 Air Quality Technical Note, 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation and Appendix 16.1 CoCP	
4.15	Security considerations			
4.15.1	National security considerations apply across all national infrastructure sectors. Overall responsibility for security of the energy sector lies with DECC. It works closely with Government security agencies including the Centre for the Protection of National Infrastructure (CPNI) to reduce the vulnerability of the most 'critical' infrastructure assets in the sector to terrorism and other national security threats. The Office for Civil Nuclear Security (OCNS) is the security regulator for the UK's civil nuclear industry.	The project team continues to engage with BEIS with respect to national security consideration for the pipeline.	Consultation Report Application Document 5.1 , Environmental Statement Application Document 6.2 Chapter 5 Consultation and Scoping	
4.15.2	Government policy is to ensure that, where possible, proportionate protective security measures are designed into new infrastructure projects at an early stage in the project development. Where applications for development consent for infrastructure covered by this NPS relate to potentially 'critical' infrastructure, there may be national security considerations.	The project team continues to engage with BEIS with respect to national security considerations for the pipeline. As a responsible operator, Esso is committed to safe operations that include maintaining, repairing and, where appropriate, replacing pipelines. Security measures have been incorporated into the design of the pipeline and related structures. During construction, site compounds, storage areas and specific work areas may require lighting and fencing to ensure safety and security, especially in the winter months. Risk assessments may also result in the requirement for other security measures such as further lighting, security guards or CCTV. During operation, pigging stations would be located within a secure fenced compound with approximately 3m high security fencing. Each valve would be located within a secure fenced enclosure with approximately 2m high security fencing.	Planning Statement Application Document 7.1 Chapter 4 Project Description and Chapter 7 Planning Assessment: Project-wide.	
4.15.3	DECC will be notified at pre-application stage about every likely future application for energy NSIPs, so that any national security implications can be identified. Where national security implications have been identified, the applicant should consult with relevant security experts from CPNI, OCNS and DECC to ensure that physical, procedural and personnel security measures have been adequately considered in the design process and that adequate consideration has been given to the management of security risks. If CPNI, OCNS and/or DECC are satisfied that security issues have been adequately addressed in the project when the application is submitted to the IPC, it will provide confirmation of this to the IPC. The IPC should not need to give any further consideration to the details of the security measures in its examination.	The project team continues to engage with BEIS with respect to national security consideration for the pipeline.	Consultation Report Application Document 5.1 . Environmental Statement Application Document 6.2 Chapter 5 Consultation and Scoping	



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
4.15.4	The applicant should only include sufficient information in the application as is necessary to enable the IPC to examine the development consent issues and make a properly informed decision on the application.	The design submitted has sufficient information to enable The Planning Inspectorate to examine the application and inform the decision.	Planning Statement Application Document 7.1	
4.15.5	In exceptional cases, where examination of an application would involve public disclosure of information about defence or national security which would not be in the national interest, the Secretary of State can intervene and examine a part or the whole of the application. In that case, the Secretary of State may appoint an examiner to consider evidence in closed session, and the Secretary of State would be the decision maker for the application.	The project team continues to engage with BEIS with respect to national security consideration for the pipeline.	Consultation Report Application Document 5.1	

4. Accordance with Part 5

Table 4. Accordance with Part 5 of the Overarching National Policy Statement for Energy (EN-1)

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5	GENERIC IMPACTS			
5.1	Introduction			
5.1.2	The list of impacts (generic and technology-specific) and the policy in respect of the consideration of impacts in this Part and in the impact section of the technology-specific NPSs is not exhaustive. The NPSs address those impacts and means of mitigation that are anticipated to arise most frequently; they are not intended to provide a list of all possible effects or ways to mitigate such effects. The IPC should therefore consider other impacts and means of mitigation where it determines that the impact is relevant and important to its decision. The technology-specific NPSs may state that certain impacts should be given a particular weight. Where they do not do so, the IPC should follow any policy set out on the level of weight to be given to such impact set out in this NPS. Applicants should identify the impacts of their proposals in the ES in terms of those covered in this NPS and any others that may be relevant to their application.	An initial assessment has been carried out to identify the potential impacts of the project. They have been addressed in the EIA Scoping Report submitted to The Planning Inspectorate. The full assessment of the impacts and related mitigation measures are detailed in the ES submitted as part of this DCO application.	Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Project Evolution, Environmental Statement Application Document 6.1 Chapter 5 Consultation and Scoping Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice	
5.1.3	Some of the impact sections in this NPS and the technology-specific NPSs refer to development consent requirements or obligations being a means of securing appropriate mitigation. The fact that the possible use of requirements or obligations are not mentioned in relation to other impacts does not mean that they may not be relevant.	The full assessment of the significant impacts and related mitigation measures are detailed in the ES submitted as part of this DCO application. CoCP has been prepared to ensure best practice for mitigation measures are implemented by the contractors during construction phase.	Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Project Evolution, Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice	
5.1.4	Some of the impact sections in this NPS and the technology-specific NPSs also refer to bodies whom the applicant or IPC should consult. The references to specific bodies are not intended to be exhaustive. The fact that in other impact sections no mention is made of such consultation does not mean that the applicant or IPC should not, where appropriate, engage in it. Applicants must also ensure they consult the relevant bodies about their proposed applications in accordance with section 42 to 44 of the Planning Act 2008 and the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009.	The Project has engaged with a wide range of national and local environmental organisations, local authorities, other local groups and individual land owners. The purpose of this has been to inform the development and design of the project and inform parties about the Project. It has also helped to identify issues and concerns relevant to stakeholders regarding the Project, its design and the EIA process. The Stage 1 non-statutory consultation has been carried out in accordance with the processes set out in the Planning Act and the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009. A statutory consultation exercise was carried out in accordance with aforementioned legislation during September and October 2018, a targeted re-consultation was held where previous engagement led to material changes to the route or design of the project, this was held in January and February 2019.	Environmental Statement Application Document 6.2 & 6.4 Chapter 5 Consultation and Scoping. Consultation Report Application Document 5.1	
5.2	Air Quality			
	Introduction			

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.2.1	<p>Infrastructure development can have adverse effects on air quality. The construction, operation and decommissioning phases can involve emissions to air which could lead to adverse impacts on health, on protected species and habitats, or on the wider countryside. Impacts on protected species and habitats are covered in Section 5.3. Air emissions include particulate matter (for example dust) up to a diameter of ten microns (PM10) as well as gases such as sulphur dioxide, carbon monoxide and nitrogen oxides (NOx). Levels for pollutants in ambient air are set out in the Air Quality Strategy which in turn embodies EU legal requirements. The Secretary of State for the Environment Food and Rural Affairs is required to make available up to date information on air quality to any relevant interested party.</p>	<p>Air Quality has been taken into consideration in the initial assessment. It has been identified that air quality changes could occur through dust and changes in pollutant levels caused by emissions from construction plant and machinery during construction works. However, with the implementation of mitigation measures and controls, the likely effect on human health, amenity and ecological receptors during construction is concluded to be not significant for dust, emissions from machinery and traffic. Changes in air quality are not anticipated during operation or decommissioning phases.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note</p>	
5.2.2	<p>CO2 emissions are a significant adverse impact from some types of energy infrastructure which cannot be totally avoided (even with full deployment of CCS technology). However, given the characteristics of these and other technologies, as noted in Part 3 of this NPS, and the range of non-planning policies aimed at decarbonising electricity generation such as EU ETS (see Section 2.2 above), Government has determined that CO2 emissions are not reasons to prohibit the consenting of projects which use these technologies or to impose more restrictions on them in the planning policy framework than are set out in the energy NPSs (e.g. the CCR and, for coal, CCS requirements). Any ES on air emissions will include an assessment of CO2 emissions, but the policies set out in Section 2, including the EU ETS, apply to these emissions. The IPC does not, therefore need to assess individual applications in terms of carbon emissions against carbon budgets and this section does not address CO2 emissions or any Emissions Performance Standard that may apply to plant.</p>	<p>Without a pipeline, the fuel would need to be transported by road in tankers and this would clearly have a significant adverse effect on already congested roads and associated air quality and result in an increase in CO2 emissions.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note</p>	
5.2.3	<p>A particular effect of air emissions from some energy infrastructure may be eutrophication, which is the excessive enrichment of nutrients in the environment. Eutrophication from air pollution results mainly from emissions of NOx and ammonia. The main emissions from energy infrastructure are from generating stations. Eutrophication can affect plant growth and functioning, altering the competitive balance of species and thereby damaging biodiversity. In aquatic ecosystems it can cause changes to algal composition and lead to algal blooms, which remove oxygen from the water, adversely affecting plants and fish. The effects on ecosystems can be short-term or irreversible, and can have a large impact on ecosystem services such as pollination, aesthetic services and water supply.</p>	<p>It has been identified that air quality changes could occur during construction activity. Changes in air quality are not anticipated during operation and decommissioning. However, with the implementation of mitigation measures and controls, there are no significant effects identified in relation to eutrophication as a result of any air emissions. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.</p>	
Applicant's assessment				



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.2.6	Where the project is likely to have adverse effects on air quality the applicant should undertake an assessment of the impacts of the proposed project as part of the Environmental Statement (ES).	It has been identified that changes in air quality could occur during construction phase. Changes in air quality are not anticipated during operation or decommissioning phases. However, with the implementation of mitigation measures and controls, there are no significant effects identified through the EIA process.	Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note	
5.2.7	The ES should describe: <ul style="list-style-type: none"> any significant air emissions, their mitigation and any residual effects distinguishing between the project stages and taking account of any significant emissions from any road traffic generated by the project; the predicted absolute emission levels of the proposed project, after mitigation methods have been applied; existing air quality levels and the relative change in air quality from existing levels; and any potential eutrophication impacts. 	The assessment of the potential impacts of air emissions from the development and related mitigation measures have been assessed for the construction, operation and decommissioning phases at this stage. However, with the implementation of mitigation measures and controls emissions arising from dust, construction machinery and plant and road traffic are not significant. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	
IPC decision making				
5.2.8	Many activities involving air emissions are subject to pollution control. The considerations set out in Section 4.10 on the interface between planning and pollution control therefore apply.	Noted.		
5.2.9	The IPC should generally give air quality considerations substantial weight where a project would lead to a deterioration in air quality in an area, or leads to a new area where air quality breaches any national air quality limits. However air quality considerations will also be important where substantial changes in air quality levels are expected, even if this does not lead to any breaches of national air quality limits.	It has been identified that changes in air quality could occur during construction phase. With the implementation of mitigation measures and controls, the likely effect on human health, amenity and ecological receptors during construction is concluded to be not significant for dust, emissions from machinery and traffic. Therefore, there is no expected deterioration in air quality in the area or breaches of any national air quality limits. Changes in air quality are not anticipated during operation or decommissioning phases. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.2.10	In all cases the IPC must take account of any relevant statutory air quality limits. Where a project is likely to lead to a breach of such limits the developers should work with the relevant authorities to secure appropriate mitigation measures to allow the proposal to proceed. In the event that a project will lead to non-compliance with a statutory limit the IPC should refuse consent.	It has been identified that changes in air quality could occur during construction phase. With the implementation of mitigation measures and controls, the likely effect on human health, amenity and ecological receptors during construction is concluded to be not significant for dust, emissions from machinery and traffic. Therefore, there is no expected deterioration in air quality in the area or breaches of any national air quality limits. Changes in air quality are not anticipated during operation or decommissioning phases. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	
Mitigation				
5.2.11	The IPC should consider whether mitigation measures are needed both for operational and construction emissions over and above any which may form part of the project application. A construction management plan may help codify mitigation at this stage.	It has been identified that changes in air quality could occur during construction phase. Changes in air quality are not anticipated during operation or decommissioning phases. It is anticipated that significant effects on air quality are avoided through the adoption of good practice measures in the Outline CEMP the CoCP, submitted with the DCO application. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	
5.2.12	In doing so the IPC may refer to the conditions and advice in the Air Quality Strategy or any successor to it.	Air Quality Strategy and related standards and regulations have been taken into consideration when designing the scheme and construction methodology, this has been considered in the initial scoping report and concluded that there would be no significant adverse effects from the construction or operation of the project. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.2.13	The mitigations identified in Section 5.13 on traffic and transport impacts will help mitigate the effects of air emissions from transport.	It has been identified that the effects from construction road traffic on air quality in rural and urban areas are not considered to represent a significant effect on receptors adjacent to the local road network. The effects would be described as negligible. However, mitigation measures to control dust and emissions from traffic would be implemented through CoCP. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	
5.3	Biodiversity and Geological Conservation			
	Introduction			
5.3.1	Biodiversity is the variety of life in all its forms and encompasses all species of plants and animals and the complex ecosystems of which they are a part. Geological conservation relates to the sites that are designated for their geology and/or their geomorphological importance.	Chapter 7 Biodiversity of the Environmental Statement (ES) identifies the baseline biodiversity value and sensitive receptors along the route of the replacement pipeline [section 7.3]. The impact of construction and operation of the replacement pipeline has been assessed and reported in Chapter 7 of the ES [section 7.5].	Environmental Statement Application Document 6.2 Chapter 7 Biodiversity.	
5.3.2	The wide range of legislative provisions at the international and national level that can impact on planning decisions affecting biodiversity and geological conservation issues are set out in a Government Circular. A separate guide sets out good practice in England in relation to planning for biodiversity and geological conservation.	Noted.		
	Applicant's assessment			
5.3.3	Where the development is subject to EIA the applicant should ensure that the ES clearly sets out any effects on internationally, nationally and locally designated sites of ecological or geological conservation importance, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity. The applicant should provide environmental information proportionate to the infrastructure where EIA is not required to help the IPC consider thoroughly the potential effects of a proposed project.	The scope of the assessment of the effects of the project on biodiversity is set out in the EIA Scoping Report, and significant effects are assessed as part of the EIA and reported in the ES Chapter 7 Biodiversity. A Habitats Regulations Assessment has also been undertaken and reported in relation to any likely significant effects on internationally, nationally and locally designated sites, protected species and habitats. A list of International, national and local designated sites can be found in the HRA report and the ES.	Environmental Statement Application Document 6.2 Chapter 7 Biodiversity and Habitats Regulations Assessment Application Document 6.5	
5.3.4	The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.	Opportunities for environmental conservation and enhancement have been considered throughout the design evolution of the project and are detailed in EIA throughout. The ES reports opportunities for enhancement of biodiversity in Chapter 7 and details are included in the table of commitments and REAC. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
	IPC decision making			
5.3.5	<p>The Government's biodiversity strategy is set out in 'Working with the grain of nature'. Its aim is to ensure:</p> <ul style="list-style-type: none"> a halting, and if possible a reversal, of declines in priority habitats and species, with wild species and habitats as part of healthy, functioning ecosystems; and the general acceptance of biodiversity's essential role in enhancing the quality of life, with its conservation becoming a natural consideration in all relevant public, private and non-governmental decisions and policies. 	<p>The process of route selection focused on avoidance of affecting priority habitats and species. All mitigation measures are set out in the ES REAC. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.</p>	
5.3.6	<p>In having regard to the aim of the Government's biodiversity strategy the IPC should take account of the context of the challenge of climate change: failure to address this challenge will result in significant adverse impacts to biodiversity. The policy set out in the following sections recognises the need to protect the most important biodiversity and geological conservation interests. The benefits of nationally significant low carbon energy infrastructure development may include benefits for biodiversity and geological conservation interests and these benefits may outweigh harm to these interests. The IPC may take account of any such net benefit in cases where it can be demonstrated.</p>	<p>The pipeline itself would not produce any greenhouse gas emissions, the renewal of the pumps at Fawley/Alton provides pumping capacity of multiple pipelines not just this replacement pipeline, these pumps have been assessed to have no impact as they are more modern and efficient. The construction of a steel pipeline will result in less greenhouse gas emissions when compared to running a fleet of 100 tankers a day to carry the same volume of fuel from Fawley to West London Terminal. Mitigation measures dealing with climate change have been considered when assessing potential impacts on flood risk, greenhouse gas emissions, waste management and biodiversity. The design of the pipeline has considered those measures to make the pipeline more resilient and safer to climate change, there are no significant impacts on climate change resulting from the laying of this pipeline. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 and Protected Species in Requirement 13 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 8 Water, Chapter 11 Soils and Geology, Chapter 13 People and Communities, Appendix 13.2 Air Quality Technical Note, Chapter 14 Major Accidents and Chapter 16 Environmental Management and Mitigation</p>	
5.3.7	<p>As a general principle, and subject to the specific policies below, development should aim to avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives (as set out in Section 4.4 above); where significant harm cannot be avoided, then appropriate compensation measures should be sought.</p>	<p>It has been identified that the Project has the potential to affect habitats and species of biodiversity value within the Project's zone of influence in both the freshwater and terrestrial environments. The route has been selected to reduce the impact on biodiversity and geological conservation interest sites, by avoiding where practicable those designated sites. Where identified, potential impacts on biodiversity and geological conservation interest sites, mitigation measures would be implemented and are detailed in the ES Chapter 7. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 7 Biodiversity and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.</p>	
5.3.8	<p>In taking decisions, the IPC should ensure that appropriate weight is attached to designated sites of international, national and local importance; protected species; habitats and other species of principal importance for the conservation of biodiversity; and to biodiversity and geological interests within the wider environment.</p>	<p>The scope of the assessment of the effects of the project on biodiversity is set out in the EIA Scoping Report, and significant effects are assessed as part of the EIA and reported in the ES Chapter 7. A Habitats Regulations Assessment has also been undertaken and reported in relation to any likely significant effects on internationally, nationally and locally designated sites, protected species and habitats. A list of International, national and local designated sites can be found in the HRA report and the ES.</p>	<p>Environmental Statement Application Document 6.2 Chapter 7 Biodiversity and Habitats Regulations Assessment Application</p>	



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
			Document 6.5	
International Sites				
5.3.9	The most important sites for biodiversity are those identified through international conventions and European Directives. The Habitats Regulations provide statutory protection for these sites but do not provide statutory protection for potential Special Protection Areas (pSPAs) before they have been classified as a Special Protection Area. For the purposes of considering development proposals affecting them, as a matter of policy the Government wishes pSPAs to be considered in the same way as if they had already been classified. Listed Ramsar sites should, also as a matter of policy, receive the same protection.	The initial assessment has identified and assessed international designated sites. It has been identified that one SPA will be crossed by the replacement pipeline: Thames Basin Heaths SPA. The South West London Waterbodies SPA is located within 1km but falls outside the proposed order limits. There is one SPA with a possible hydrological connection to the replacement pipeline: Solent and Southampton Water SPA. There is one Ramsar site within 1km, but outside of the proposed order limits: South West London Waterbodies Ramsar site. There is one Ramsar site with a possible hydrological connection to the replacement pipeline: Solent and Southampton Water Ramsar site. These sites are of high value. The replacement pipeline route was selected to reduce the impact on SACs and Ramsar sites, by avoiding them where practicable. Where has been identified potential impacts on these sites, mitigation measures [section 7.4 and 7.6] would be implemented and detailed in the ES Chapter 7. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 Chapter 7 Biodiversity	
Sites of Special Scientific Interest (SSSIs)				
5.3.10	Many SSSIs are also designated as sites of international importance and will be protected accordingly. Those that are not, or those features of SSSIs not covered by an international designation, should be given a high degree of protection. All National Nature Reserves are notified as SSSIs.	It has been identified that 8 SSSIs within 1km of the proposed order limits. Chobham Common is the only National Nature Reserve (NNR) within the 1km study area and the proposed order limits would pass through it. These sites are of high value. The replacement pipeline route was selected to reduce the impact on SSSI and NNR sites, by avoiding them where practicable. Where has been identified potential impacts on these sites, mitigation measures will be implemented and detailed in the ES Chapter 7 [section 7.4]. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 and Protected Species in Requirement 13 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.3.11	Where a proposed development on land within or outside an SSSI is likely to have an adverse effect on an SSSI (either individually or in combination with other developments), development consent should not normally be granted. Where an adverse effect, after mitigation, on the site's notified special interest features is likely, an exception should only be made where the benefits (including need) of the development at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs. The IPC should use requirements and/or planning obligations to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest.	It has been identified that there is potential for significant effects to arise as a result of habitat loss within SSSIs. The design of the Project is likely to include habitat enhancements, where appropriate. Good practice mitigation will be implemented (e.g. reducing the construction working area, habitat restoration, soil management) where SSSIs are affected. The full extent of the impacts and habitat enhancements would be produced and detailed in the ES Chapter 7 [section 7.4]. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 Protected Species in Requirement 13 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	
Regional and Local Sites				
5.3.13	Sites of regional and local biodiversity and geological interest, which include Regionally Important Geological Sites, Local Nature Reserves and Local Sites, have a fundamental role to play in meeting overall national biodiversity targets; contributing to the quality of life and the well-being of the community; and in supporting research and education. The IPC should give due consideration to such regional or local designations. However, given the need for new infrastructure, these designations should not be used in themselves to refuse development consent.	Regional, county and local designated and non-designated sites are taken into consideration in the initial impact assessment and have been given value of medium and low according to their biodiversity value. It has been identified that non-statutory designated SNCI sites would be crossed by the proposed Order Limits and so would potentially be directly affected by construction activity. Good practice mitigation would be carried out as outlined in the CoCP (e.g. reducing the construction working area, soil management, habitat restoration). An assessment of the potential for significant effects to arise as a result of habitat loss given the value of these receptors is reported in Chapter 7 of the ES [section 7.5] and mitigation measures proposed. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	
Ancient Woodland and Veteran Trees				
5.3.14	Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The IPC should not grant development consent for any development that would result in its loss or deterioration unless the benefits (including need) of the development, in that location outweigh the loss of the woodland habitat. Aged or 'veteran' trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons why.	The Project's design principles are to avoid direct impacts to ancient woodland. Therefore, there would be no loss of this receptor and no trees within ancient woodland would be felled. The proposed order limits are located in close proximity to ancient woodland and all works in these areas would be subject to good practice with respect to the protection of retained trees. This good practice would be secured and delivered through the CoCP. Given the mitigation embedded in the design of the Project and the good practice measures that would be adopted, there would be a negligible risk of significant effects to ancient woodland. Further details can be found in Chapter 7 [section 7.5] of the ES and the project commitment report and REAC. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	
Biodiversity within Developments				
5.3.15	Development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design. When considering proposals, the IPC should maximise such opportunities in and around developments, using requirements or planning obligations where appropriate.	It has been identified that the project could provide opportunities for habitat enhancement. Opportunities for appropriate enhancements are sought on a site-specific basis (e.g. provision of refuge or hibernacula, and new hedgerow planting). Additional habitat enhancements, where practicable, would also be included in a Landscape and Ecology Management Plan (or similar), for example pond enhancements, hedgerow and scrub planting. Continued engagement with statutory advisors (e.g. Natural England and the Environment Agency) and key stakeholders (e.g. Local Planning Authority ecologists, Wildlife Trusts) throughout the assessment process have identified and addressed important constraints and enhancement opportunities, these are reported in Chapter 7 of the ES. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 Protected Species in Requirement 13 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice.	
Protection of Habitats and Other Species				

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.3.16	Many individual wildlife species receive statutory protection under a range of legislative provisions.	Wildlife species with statutory protection are found within the project study area and full list of protected species can be found in the HRA report and the ES chapter 7 [appendix 7.17].	Environmental Statement Application Document 6.2 Chapter 7 Biodiversity and Habitats Regulations Assessment Application Document 6.5	
5.3.17	Other species and habitats have been identified as being of principal importance for the conservation of biodiversity in England and Wales and thereby requiring conservation action. The IPC should ensure that these species and habitats are protected from the adverse effects of development by using requirements or planning obligations. The IPC should refuse consent where harm to the habitats or species and their habitats would result, unless the benefits (including need) of the development outweigh that harm. In this context the IPC should give substantial weight to any such harm to the detriment of biodiversity features of national or regional importance which it considers may result from a proposed development.	It has been assessed that the construction and operation phases are likely to have an impact on habitats and species. Works that have potential impacts on habitats and species would be subject to good practice mitigation measures. The full extent of the impacts and mitigation measures are set out in the HRA report and Chapter 7 [section 7.6] of the ES. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12, Protected Species Requirement 13 of the DCO.	Environmental Statement Application Document 6.2 Chapter 7 Biodiversity and Habitats Regulations Assessment Application Document 6.5 and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice Application Document 6.2 & 6.4	
Mitigation				
5.3.18	The applicant should include appropriate mitigation measures as an integral part of the proposed development. In particular, the applicant should demonstrate that: <ul style="list-style-type: none"> during construction, they will seek to ensure that activities will be confined to the minimum areas required for the works; during construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised, including as a consequence of transport access arrangements; habitats will, where practicable, be restored after construction works have finished; and opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals. 	The replacement pipeline route was selected to reduce the impact on biodiversity, by avoiding sensitive areas where practicable. Where potential impacts on designated and non-designated sites have been identified, mitigation measures would be implemented and detailed in the ES Chapter 7 [section 7.4]. The project has also identified potential sites for habitat enhancement as well as habitats for restoration. The full assessment of those opportunities, impacts and mitigation measures would be detailed in the ES Chapter 7 [section 7.6 - 7.7]. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12, Protected Species Requirement 13 of the DCO.	Environmental Statement Application Document 6.2 Chapter 7 Biodiversity and Habitats Regulations Assessment Application Document 6.5 and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice Application Document 6.2 & 6.4.	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.3.19	Where the applicant cannot demonstrate that appropriate mitigation measures will be put in place the IPC should consider what appropriate requirements should be attached to any consent and/or planning obligations entered into.	Where appropriate, additional habitat enhancements and mitigation measures are included in a Landscape and Ecology Management Plan (or similar) and CoCP. Continued engagement with statutory advisors (e.g. Natural England and the Environment Agency) and key stakeholders (e.g. Local Authority ecologists, Wildlife Trusts) undertaken throughout the assessment process has identified and addressed important constraints and enhancement opportunities. Further details can be found in Chapter 7 Biodiversity of the ES. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 of the DCO.	Environmental Statement Application Document 6.2 Chapter 7 Biodiversity and Habitats Regulations Assessment Application Document 6.5 and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice Application Document 6.2 & 6.4.	
5.3.20	The IPC will need to take account of what mitigation measures may have been agreed between the applicant and Natural England (or the Countryside Council for Wales) or the Marine Management Organisation (MMO), and whether Natural England (or the Countryside Council for Wales) or the MMO has granted or refused or intends to grant or refuse, any relevant licences, including protected species mitigation licences.	Where appropriate, additional habitat enhancements and mitigation measures are included in environmental management plans (e.g. Landscape and Ecology Management Plan (or similar) and CoCP. Continued engagement with statutory advisors (e.g. Natural England and the Environment Agency) and key stakeholders (e.g. Local Authority ecologists, Wildlife Trusts) undertaken throughout the assessment process has identified and addressed important constraints and enhancement opportunities. Further details can be found in Chapter 7 of the ES. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 Chapter 7 Biodiversity and Habitats Regulations Assessment Application Document 6.5 and Chapter 16 Environmental Management and Mitigation Appendix 16.1 Code of Construction Practice Application Document 6.2 & 6.4	
5.4	Civil and military aviation and defence interests			
	Introduction			
5.4.1	Civil and military aerodromes, aviation technical sites, and other types of defence interests (both onshore and offshore) can be affected by new energy development.	The project study area does not include any civil and military aerodromes. Aviation technical sites and defence interest sites are, however, located within the project study area. The project has been careful about construction impact on all sensitive sites.	Planning Statement Application Document 7.1	
	Aviation			

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.4.2	UK airspace is important for both civilian and military aviation interests. It is essential that the safety of UK aerodromes, aircraft and airspace is not adversely affected by new energy infrastructure. Similarly, aerodromes can have important economic and social benefits, particularly at the regional and local level. Commercial civil aviation is largely confined to designated corridors of controlled airspace and set approaches to airports. However, civilian leisure and military aircraft may often fly outside of 'controlled air space'. The approaches and flight patterns to aerodromes are not necessarily routine and can be irregular owing to a variety of factors including the performance characteristics of the aircraft concerned and the prevailing meteorological conditions.	It has been identified that the project will not adversely affect aviation sites, including aerodromes.	Planning Statement Application Document 7.1	
5.4.3	Certain civil aerodromes, and aviation technical sites, selected on the basis of their importance to the national air transport system, are officially safeguarded in order to ensure that their safety and operation are not compromised by new development. A similar official safeguarding system applies to certain military aerodromes and defence assets, selected on the basis of their strategic importance. Areas of airspace around aerodromes used by aircraft taking off or on approach and landing are described as "obstacle limitation surfaces" (OLS). OLS for civil aerodromes are defined according to criteria set out in relevant Civil Aviation Authority (CAA) guidance and for military aerodromes according to MoD criteria. Aerodromes that are officially safeguarded will have officially produced plans that show the OLS.	It has been identified that the project will not adversely affect aviation sites, including aerodromes.	Planning Statement Application Document 7.1	
5.4.4	The certified Safeguarding maps depicting the OLS and other criteria (for example to minimise "bird strike" hazards) are deposited with the relevant local planning authorities. DfT/ODPM Circular 01/2003 provides advice to planning authorities on the official safeguarding of aerodromes and includes a list of the aerodromes which are officially safeguarded. The Circular and CAA guidance also recommend that the operators of aerodromes which are not officially safeguarded should take steps to protect their aerodrome from the effects of possible adverse development by establishing an agreed consultation procedure between themselves and the local planning authority or authorities.	It has been identified that the project will not adversely affect aviation sites, including aerodromes.	Planning Statement Application Document 7.1	
5.4.5	There are also "Public Safety Zones" (PSZs) at the end of runways of the busiest airports in the UK, within which development is restricted to minimise risks to people on the ground in the event of an aircraft accident on take-off or landing. Maps showing the PSZs are deposited with the relevant local planning authorities. DfT/ODPM Circular 01/2010 provides advice to local planning authorities on Public Safety Zones.	It has been identified that the project will not adversely affect aviation sites, including aerodromes.	Planning Statement Application Document 7.1	
5.4.6	The military Low Flying system covers the whole of the UK and enables low flying activities as low as 75m (mean separation distance). A considerable amount of military flying for training purposes is conducted at as low as 30m in designated Tactical Training Areas (TTAs) in mid Wales, Cumbria, the Scottish Border region and in the Electronic Warfare Range in the Scottish Border area. In addition, military helicopters may operate down to ground level. New energy infrastructure may cause obstructions in Ministry of Defence (MoD) low flying areas.	It has been identified that the project will not adversely affect aviation sites, including aerodromes.	Planning Statement Application Document 7.1	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.4.7	Safe and efficient operations within UK airspace is dependent upon communications, navigation and surveillance (CNS) infrastructure, including radar (often referred to as 'technical sites'). Energy infrastructure development may interfere with the operation of CNS systems such as radar. It can also act as a reflector or diffractor of radio signals upon which Air Traffic Control Services rely (an effect which is particularly likely to arise when large structures, such as wind turbines, are located in close proximity to Communications and Navigation Aids and technical sites). Wind turbines may also cause false returns when built in line of sight to Primary or Secondary Surveillance radar installations.	It has been identified that the project will not adversely affect aviation sites, including aerodromes.	Planning Statement Application Document 7.1	
Other defence interests				
5.4.8	The MoD operates military training areas, military danger zones (offshore Danger and Exercise areas), military explosives storage areas and TTAs. There are extensive Danger and Exercise Areas across the UK Continental Shelf Area (UKCS) for military firing and highly surveyed routes to support Government shipping that are essential for national defence.	The replacement pipeline passes through MoD land and firing ranges, ongoing and detailed engagement with the MoD has ensured that there is no risk to the public, construction or military personnel resulting from the construction of this pipeline.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.4.9	Other operational defence assets may be affected by new development, for example the Seismological Monitoring Station at Eskdalemuir and maritime acoustic facilities used to test and calibrate noise emissions from naval vessels, such as at Portland Harbour. The MoD also operates Air Defence radars and Meteorological radars which have wide coverage over the UK (onshore and offshore). It is important that new energy infrastructure does not significantly impede or compromise the safe and effective use of any defence assets.	It has been identified that the project would not adversely affect these military defence assets.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
Applicant's assessment				
5.4.10	Where the proposed development may have an effect on civil or military aviation and/or other defence assets an assessment of potential effects should be set out in the ES (see Section 4.2).	It has been identified that the project would not adversely affect civil or military aviation and/or defence assets.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.4.11	The applicant should consult the MoD, CAA, NATS and any aerodrome – licensed or otherwise – likely to be affected by the proposed development in preparing an assessment of the proposal on aviation or other defence interests.	The replacement pipeline passes through MoD land and firing ranges, ongoing and detailed engagement with the MoD has ensured that there is no risk to the public, construction or military personnel resulting from the construction of this pipeline.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.4.12	Any assessment of aviation or other defence interests should include potential impacts of the project upon the operation of CNS infrastructure, flight patterns (both civil and military), other defence assets and aerodrome operational procedures. It should also assess the cumulative effects of the project with other relevant projects in relation to aviation and defence.	It has been identified that the project would not adversely affect civil or military aviation and/or defence assets.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.4.13	If any relevant changes are made to proposals during the pre-application and determination period, it is the responsibility of the applicant to ensure that the relevant aviation and defence consultees are informed as soon as reasonably possible.	The replacement pipeline passes through MoD land and firing ranges, ongoing and detailed engagement with the MoD has ensured that there is no risk to the public, construction or military personnel resulting from the construction of this pipeline.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
	IPC decision making			
5.4.14	The IPC should be satisfied that the effects on civil and military aerodromes, aviation technical sites and other defence assets have been addressed by the applicant and that any necessary assessment of the proposal on aviation or defence interests has been carried out. In particular, it should be satisfied that the proposal has been designed to minimise adverse impacts on the operation and safety of aerodromes and that reasonable mitigation is carried out. It may also be appropriate to expect operators of the aerodrome to consider making reasonable changes to operational procedures. When assessing the necessity, acceptability and reasonableness of operational changes to aerodromes, the IPC should satisfy itself that it has the necessary information regarding the operational procedures along with any demonstrable risks or harm of such changes, taking into account the cases put forward by all parties. When making such a judgement in the case of military aerodromes, the IPC should have regard to interests of defence and national security.	It has been identified that the project will not adversely affect civil or military aviation and/or defence assets.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.4.15	If there are conflicts between the Government's energy and transport policies and military interests in relation to the application, the IPC should expect the relevant parties to have made appropriate efforts to work together to identify realistic and pragmatic solutions to the conflicts. In so doing, the parties should seek to protect the aims and interests of the other parties as far as possible.	The replacement pipeline passes through MoD land and firing ranges, ongoing and detailed engagement with the MoD has ensured that there is no risk to the public, construction or military personnel resulting from the construction of this pipeline.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.4.16	There are statutory requirements concerning lighting to tall structures. Where lighting is requested on structures that goes beyond statutory requirements by any of the relevant aviation and defence consultees, the IPC should satisfy itself of the necessity of such lighting taking into account the case put forward by the consultees. The effect of such lighting on the landscape and ecology may be a relevant consideration.	The project does not involve the erection of permanent tall structures, any cranes used during construction will have the necessary lighting, this will be detailed in the CoCP as required.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.4.17	Where, after reasonable mitigation, operational changes, obligations and requirements have been proposed, the IPC considers that: a development would prevent a licensed aerodrome from maintaining its licence; <ul style="list-style-type: none"> the benefits of the proposed development are outweighed by the harm to aerodromes serving business, training or emergency service needs, taking into account the relevant importance and need for such aviation infrastructure; or the development would significantly impede or compromise the safe and effective use of defence assets or significantly limit military training; the development would have an impact on the safe and efficient provision of en route air traffic control services for civil aviation, in particular through an adverse effect on the infrastructure required to support communications, navigation or surveillance systems; consent should not be granted. 	The pipeline would deliver fuel to Britain's airport. The route of the replacement pipeline has taken into consideration the need to avoid other civil and military aviation and defence interests. While during construction there may be some temporary activity which may have an indirect impact, such as disruption to the local road network from street works and construction traffic, this impact would be assessed, kept to a minimum and agreed through the street work provisions in the DCO.	Planning Statement Application Document 7.1 Chapter 12 Section E, Chapter 13 Section F, Chapter 15 Section H	
	Mitigation			

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.4.18	Where a proposed energy infrastructure development would significantly impede or compromise the safe and effective use of civil or military aviation or defence assets and or significantly limit military training, the IPC may consider the use of 'Grampian, or other forms of condition which relate to the use of future technological solutions, to mitigate impacts. Where technological solutions have not yet been developed or proven, the IPC will need to consider the likelihood of a solution becoming available within the time limit for implementation of the development consent. In this context, where new technologies to mitigate the adverse effects of wind farms on radar are concerned, the IPC should have regard to any Government guidance which emerges from the joint Government/Industry Aviation Plan.	It has been identified that the project will not adversely affect civil or military aviation and/or defence assets. The replacement pipeline passes through MoD land and firing ranges, ongoing and detailed engagement with the MoD has ensured that there is no risk to the public, construction or military personnel resulting from the construction of this pipeline.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.4.19	Mitigation for infringement of OLS may include: <ul style="list-style-type: none"> • amendments to layout or scale of infrastructure to reduce the height, provided that it does not result in an unreasonable reduction of capacity or unreasonable constraints on the operation of the proposed energy infrastructure; • changes to operational procedures of the aerodromes in accordance with relevant guidance, provided that safety assurances can be provided by the operator that are acceptable to the CAA where the changes are proposed to a civilian aerodrome (and provided that it does not result in an unreasonable reduction of capacity or unreasonable constraints on the operation of the aerodrome); and • installation of obstacle lighting and/or by notification in Aeronautical Information Service publications. 	It has been identified that the project would not adversely affect civil or military aviation and/or defence assets. The replacement pipeline passes through MoD land and firing ranges, ongoing and detailed engagement with the MoD has ensured that there is no risk to the public, construction or military personnel resulting from the construction of this pipeline.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.4.20	For CNS infrastructure, the UK military Low Flying system (including TTAs) and designated air traffic routes, mitigation may also include: <ul style="list-style-type: none"> • lighting; • operational airspace changes; and • upgrading of existing CNS infrastructure, the cost of which the applicant may reasonably be required to contribute in part or in full. 	It has been identified that the project would not adversely affect civil or military aviation and/or defence assets.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.4.21	Mitigation for effects on radar, communications and navigational systems may include reducing the scale of a project, although in some cases it is likely to be unreasonable for the IPC to require mitigation by way of a reduction in the scale of development, for example, where reducing the tip height of wind turbines in a wind farm would result in a material reduction in electricity generating capacity or operation would be severely constrained. However, there may be exceptional circumstances where a small reduction in such function will result in proportionately greater mitigation. In these cases, the IPC may consider that the benefits of the mitigation outweighs the marginal loss of function.	It has been identified that the project would not adversely affect civil or military aviation and/or defence assets.	Planning Statement Application Document 7.1 Chapter 12 Section E and Chapter 13 Section F	
5.6	Dust, Odour, Artificial Light, Smoke, Steam and Insect Infestation			
	Introduction			



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.6.1	During the construction, operation and decommissioning of energy infrastructure there is potential for the release of a range of emissions such as odour, dust, steam, smoke, artificial light and infestation of insects. All have the potential to have a detrimental impact on amenity or cause a common law nuisance or statutory nuisance under Part III, Environmental Protection Act 1990. Note that pollution impacts from some of these emissions (for example dust, smoke) are covered in the Section 5.2 on air emissions.	It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.	
5.6.2	Because of the potential effects of these emissions and infestation, and in view of the availability of the defence of statutory authority against nuisance claims described in Section 4.14, it is important that the potential for these impacts is considered by the IPC.	It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.	
5.6.3	For energy NSIPs of the type covered by this NPS, some impact on amenity for local communities is likely to be unavoidable. The aim should be to keep impacts to a minimum, and at a level that is acceptable.	It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.	
Applicant's assessment				

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.6.4	The applicant should assess the potential for insect infestation and emissions of odour, dust, steam, smoke and artificial light to have a detrimental impact on amenity, as part of the Environmental Statement.	It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.	
5.6.5	In particular, the assessment provided by the applicant should describe: <ul style="list-style-type: none"> • the type, quantity and timing of emissions; • aspects of the development which may give rise to emissions; • premises or locations that may be affected by the emissions; • effects of the emission on identified premises or locations; and • measures to be employed in preventing or mitigating the emissions. 	It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.	
5.6.6	The applicant is advised to consult the relevant local planning authority and, where appropriate, the EA about the scope and methodology of the assessment.	It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. The Applicant will continue to consult with the relevant Local Authority are appropriate. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.	
IPC decision making				

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.6.7	<p>The IPC should satisfy itself that:</p> <ul style="list-style-type: none"> ● an assessment of the potential for artificial light, dust, odour, smoke, steam and insect infestation to have a detrimental impact on amenity has been carried out; and ● that all reasonable steps have been taken, and will be taken, to minimise any such detrimental impacts. 	<p>It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.</p>	
5.6.8	<p>If the IPC does grant development consent for a project, it should consider whether there is a justification for all of the authorised project (including any associated development) being covered by a defence of statutory authority against nuisance claims. If it cannot conclude that this is justified, it should disapply in whole or in part the defence through a provision in the development consent order.</p>	<p>It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.</p>	
5.6.9	<p>Where it believes it appropriate, the IPC may consider attaching requirements to the development consent, in order to secure certain mitigation measures.</p>	<p>It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.</p>	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.6.10	In particular, the IPC should consider whether to require the applicant to abide by a scheme of management and mitigation concerning insect infestation and emissions of odour, dust, steam, smoke and artificial light from the development. The IPC should consider the need for such a scheme to reduce any loss to amenity which might arise during the construction, operation and decommissioning of the development. A construction management plan may help codify mitigation at that stage.	It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.	
	Mitigation			
5.6.11	Mitigation measures may include one or more of the following: <ul style="list-style-type: none"> ● engineering: prevention of a specific emission at the point of generation; control, containment and abatement of emissions if generated; ● lay-out: adequate distance between source and sensitive receptors; reduced transport or handling of material; and ● administrative: limiting operating times; restricting activities allowed on the site; implementing management plans. 	It has been identified that air quality changes could occur through dust and changes in pollutant levels during construction works. Changes in air quality are not anticipated during operation or decommissioning phases. The effects of lighting are considered unlikely to result in significant effects on ecological receptors. Good practice mitigation with respect to artificial lighting and control of dust would be implemented through CoCP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. CP. The initial assessment of effects of dust has considered the Environmental Protection Act 1990. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 13 People and Communities, Appendix 13.2 Air Quality, Chapter 16 Environmental management and Mitigation Appendix 16.1 Code of Construction Practice.	
5.7	Flood Risk			
	Introduction			
5.7.1	Flooding is a natural process that plays an important role in shaping the natural environment. However, flooding threatens life and causes substantial damage to property. The effects of weather events on the natural environment, life and property can be increased in severity both as a consequence of decisions about the location, design and nature of settlement and land use, and as a potential consequence of future climate change. Although flooding cannot be wholly prevented, its adverse impacts can be avoided or reduced through good planning and management.	Initial assessments of groundwater and surface water quality and resource, fluvial geomorphology and flood risk have been carried out in order to identify the potential significant effects associated with the construction, operation and decommissioning of the Project on key receptors. The replacement pipeline route was selected and designed to reduce the impact on flood risk. Impacts have been identified during construction, operation and decommissioning phase. The proposed methods for assessing the likely significant effects and reporting on these would be detailed within the Flood Risk Assessment and Chapter 8 Water of the Environmental Statement.	Environmental Statement Application Document 6.2 Chapter 8 Water, Flood Risk Assessment Application Document 7.3	
5.7.2	Climate change over the next few decades is likely to mean milder, wetter winters and hotter, drier summers in the UK, while sea levels will continue to rise. Within the lifetime of energy projects, these factors will lead to increased flood risks in areas susceptible to flooding, and to an increased risk of the occurrence of floods in some areas which are not currently thought of as being at risk. The applicant and the IPC should take account of the policy on climate change adaptation in Section 4.8.	The expected life of the pipeline would be in excess of 60 years. Therefore, it is not practical to assess the effects of decommissioning at this stage as the methodology and good practice mitigation measures would not be defined until closer to the time, likely to be at least 60 years from now. The design of the pipeline has assessed potential impacts on the climate change and incorporated adaptation/resilience and mitigation to climate change, including in relation to the water environment, soils, and resilience to accidents/disasters including extreme weather. This during construction and operation of the pipeline. The ES Chapter 8 Water [section 8.6], Chapter 11 Soils and Geology [section 11.6] and Chapter 14 Major Accidents [section 14.7] contain the assessment and mitigation measures relating to climate change for construction and operation of the pipeline.	Environmental Statement Application Document 6.2 Chapter 8 Water, Flood Risk Assessment Application Document 7.3	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.7.3	The aims of planning policy on development and flood risk are to ensure that flood risk from all sources of flooding is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas at highest risk. Where new energy infrastructure is, exceptionally, necessary in such areas, policy aims to make it safe without increasing flood risk elsewhere and, where possible, by reducing flood risk overall.	Initial assessments of groundwater and surface water quality and resource, fluvial geomorphology and flood risk have been carried out in order to identify the potential significant effects associated with the construction, operation and decommissioning of the Project on key receptors. The replacement pipeline route was selected and designed to reduce the impact on flood risk. Impacts have been identified during construction, operation and decommissioning phase. The proposed methods for assessing the likely significant effects and reporting on these would be detailed within the Flood Risk Assessment and Chapter 8 Water of the Environmental Statement.	Environmental Statement Application Document 6.2 Chapter 8 Water, Flood Risk Assessment Application Document 7.3	
Applicant's assessment				
5.7.4	Applications for energy projects of 1 hectare or greater in Flood Zone 1 in England or Zone A in Wales and all proposals for energy projects located in Flood Zones 2 and 3 in England or Zones B and C in Wales should be accompanied by a flood risk assessment (FRA). An FRA will also be required where an energy project less than 1 hectare may be subject to sources of flooding other than rivers and the sea (for example surface water), or where the EA, Internal Drainage Board or other body have indicated that there may be drainage problems. This should identify and assess the risks of all forms of flooding to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.	The Environment Agency 'Flood Map for Planning' indicates that the study area passes through areas of Flood Zone 1, 2 and 3. The majority of the area (10,700 hectares (ha), 89.1%) lies within Flood Zone 1. The FRA is submitted as part of the application. Engagement with EA, internal drainage boards, local authorities and Natural England is ongoing. The FRA has taken account of the results of the consultations with all relevant consultees.	Environmental Statement Application Document 6.2 Chapter 8 Water, Flood Risk Assessment Application Document 7.3	
5.7.5	The minimum requirements for FRAs are that they should: <ul style="list-style-type: none"> ● be proportionate to the risk and appropriate to the scale, nature and location of the project; ● consider the risk of flooding arising from the project in addition to the risk of flooding to the project; ● take the impacts of climate change into account, clearly stating the development lifetime over which the assessment has been made; ● be undertaken by competent people, as early as possible in the process of preparing the proposal; ● consider both the potential adverse and beneficial effects of flood risk management infrastructure, including raised defences, flow channels, flood storage areas and other artificial features, together with the consequences of their failure; ● consider the vulnerability of those using the site, including arrangements for safe access; ● consider and quantify the different types of flooding (whether from natural and human sources and including joint and cumulative effects) and identify flood risk reduction measures, so that assessments are fit for the purpose of the decisions being made; ● consider the effects of a range of flooding events including extreme events on people, property, the natural and historic environment and river and coastal processes; ● include the assessment of the remaining (known as 'residual') risk after risk reduction measures have been taken into account and demonstrate that this is acceptable for the particular project; ● consider how the ability of water to soak into the ground may change with development, along with how the proposed layout of the project may affect drainage systems; ● consider if there is a need to be safe and remain operational during a worst case flood event over the development's lifetime; and ● be supported by appropriate data and information, including historical information on previous events. 	For areas where there is the greatest risk of flooding, a flood risk assessment has been prepared. The flood risk assessment was used to subject the Project to assessment of its potential to impact on flood risk and the mitigation measures necessary to address any increase in risk. The assessment is reported in the FRA.	Environmental Statement Application Document 6.2 Chapter 8 Water, Flood Risk Assessment Application Document 7.3	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.7.6	Further guidance can be found in the Practice Guide which accompanies Planning Policy Statement 25 (PPS25), TAN15 for Wales or successor documents.	Noted.		
5.7.7	Applicants for projects which may be affected by, or may add to, flood risk should arrange pre-application discussions with the EA, and, where relevant, other bodies such as Internal Drainage Boards, sewerage undertakers, navigation authorities, highways authorities and reservoir owners and operators. Such discussions should identify the likelihood and possible extent and nature of the flood risk, help scope the FRA, and identify the information that will be required by the IPC to reach a decision on the application when it is submitted. The IPC should advise applicants to undertake these steps where they appear necessary, but have not yet been addressed.	Ongoing engagement with EA, internal drainage boards, local authorities and Natural England informed the assessment of flood risk. The FRA takes into account the results of the consultations with all relevant consultees.	Environmental Statement Application Document 6.2 Chapter 5 Consultation and Scoping. Chapter 8 Water, Flood Risk Assessment Application Document 7.3 Consultation Report Application Document 5.1	
5.7.8	If the EA has concerns about the proposal on flood risk grounds, the applicant should discuss these concerns with the EA and take all reasonable steps to agree ways in which the proposal might be amended, or additional information provided, which would satisfy the Environment Agency's concerns.	Consultation is currently ongoing with EA, internal drainage boards, local authorities and Natural England. Consultation will continue to ensure the satisfaction from the EA. The FRA will take into consideration the results of the consultations with all relevant consultees.	Environmental Statement Application Document 6.2 Chapter 5 Consultation and Scoping. Chapter 8 Water, Flood Risk Assessment Application Document 7.3 Consultation Report Application Document 5.1	
IPC decision making				
5.7.9	In determining an application for development consent, the IPC should be satisfied that where relevant: <ul style="list-style-type: none"> • the application is supported by an appropriate FRA; • the Sequential Test has been applied as part of site selection; • a sequential approach has been applied at the site level to minimise risk by directing the most vulnerable uses to areas of lowest flood risk; • the proposal is in line with any relevant national and local flood risk management strategy; • priority has been given to the use of sustainable drainage systems (SuDs) (as required in the next paragraph on National Standards); and • in flood risk areas the project is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed over the lifetime of the development. 	For areas where there is the greatest risk of flooding, a flood risk assessment has been prepared. The flood risk assessment was used to assess the Project's potential to impact on flood risk and the mitigation measures necessary to address any increase in risk. The initial assessment has also considered local flood risk management strategies. SuDS would be incorporated if required. The route would be designed to be flood resilient and resistant. More details can be found in the Flood Risk Assessment and Chapter 8 Water of the ES.	Environmental Statement Application Document 6.2 Chapter 8 Water, Flood Risk Assessment Application Document 7.3 Consultation Report Application Document 5.1	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.7.10	For construction work which has drainage implications, approval for the project's drainage system will form part of the development consent issued by the IPC. The IPC will therefore need to be satisfied that the proposed drainage system complies with any National Standards published by Ministers under Paragraph 5(1) of Schedule 3 to the Flood and Water Management Act 2010. In addition, the development consent order, or any associated planning obligations, will need to make provision for the adoption and maintenance of any SuDS, including any necessary access rights to property. The IPC should be satisfied that the most appropriate body is being given the responsibility for maintaining any SuDS, taking into account the nature and security of the infrastructure on the proposed site. The responsible body could include, for example, the applicant, the landowner, the relevant local authority, or another body, such as an Internal Drainage Board.	It has been identified that with embedded drainage mitigation, the potential for the construction works to impact on surface water quality is limited. Any dewatering activities in such areas would be discharged to ground (down the local hydraulic gradient). The requirement for SuDS will be determined in the next stages of the Project once the preferred route is selected. Further details can be found in Chapter 8 Water of the ES.	Environmental Statement Application Document 6.2 Chapter 8 Water, Flood Risk Assessment Application Document 7.3 Consultation Report Application Document 5.1	
5.7.11	If the EA continues to have concerns and objects to the grant of development consent on the grounds of flood risk, the IPC can grant consent, but would need to be satisfied before deciding whether or not to do so that all reasonable steps have been taken by the applicant and the EA to try to resolve the concerns.	Noted.		
5.7.12	The IPC should not consent development in Flood Zone 2 in England or Zone B in Wales unless it is satisfied that the sequential test requirements have been met. It should not consent development in Flood Zone 3 or Zone C unless it is satisfied that the Sequential and Exception Test requirements have been met. The technology-specific NPSs set out some exceptions to the application of the sequential test. However, when seeking development consent on a site allocated in a development plan through the application of the Sequential Test, informed by a strategic flood risk assessment, applicants need not apply the Sequential Test, but should apply the sequential approach to locating development within the site.	The Environment Agency 'Flood Map for Planning' indicates that the study area passes through areas of Flood Zone 1, 2 and 3. The majority of the area (10,700 hectares (ha), 89.1%) lies within Flood Zone 1. Any area in a Flood Zone 1 is considered to be of Negligible sensitivity. The study area within Flood Zone 2 is approximately 1,305ha or 10.9%. Areas in Flood Zone 2 are considered to be of a Low sensitivity. Approximately 5.7% (685ha) of the study area lies within Flood Zone 3. Areas in Flood Zone 3 are considered to be of a Medium or High sensitivity. The Flood Risk Assessment includes a Sequential and an Exception test, the FRA concludes that the scheme complies with both tests and is submitted as part of this application.	Environmental Statement Application Document 6.2 Chapter 8 Water, Flood Risk Assessment Application Document 7.3 Consultation Report Application Document 5.1	
The Sequential Test				
5.7.13	Preference should be given to locating projects in Flood Zone 1 in England or Zone A in Wales. If there is no reasonably available site in Flood Zone 1 or Zone A, then projects can be located in Flood Zone 2 or Zone B. If there is no reasonably available site in Flood Zones 1 or 2 or Zones A & B, then nationally significant energy infrastructure projects can be located in Flood Zone 3 or Zone C subject to the Exception Test. Consideration of alternative sites should take account of the policy on alternatives set out in Section 4.4 above.	The Environment Agency 'Flood Map for Planning' indicates that the study area passes through areas of Flood Zone 1, 2 and 3. The majority of the area (10,700 hectares (ha), 89.1%) lies within Flood Zone 1. Any area in a Flood Zone 1 is considered to be of Negligible sensitivity. The study area within Flood Zone 2 is approximately 1,305ha or 10.9%. Areas in Flood Zone 2 are considered to be of a Low sensitivity. Approximately 5.7% (685ha) of the study area lies within Flood Zone 3. Areas in Flood Zone 3 are considered to be of a Medium or High sensitivity. The Flood Risk Assessment includes a Sequential and an Exception test, the FRA concludes that the scheme complies with both tests and is submitted as part of this application.	Flood Risk Assessment Application Document 7.3	
The Exception Test				
5.7.14	If, following application of the sequential test, it is not possible, consistent with wider sustainability objectives, for the project to be located in zones of lower probability of flooding than Flood Zone 3 or Zone C, the Exception Test can be applied. The test provides a method of managing flood risk while still allowing necessary development to occur.	The project passes through Flood Zone 3 and therefore the Flood Risk Assessment includes a Sequential and an Exception test, the FRA concludes that the scheme complies with both tests and is submitted as part of this application.	Flood Risk Assessment Application Document 7.3	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.7.15	The Exception Test is only appropriate for use where the sequential test alone cannot deliver an acceptable site, taking into account the need for energy infrastructure to remain operational during floods. It may also be appropriate to use it where as a result of the alternative site(s) at lower risk of flooding being subject to national designations such as landscape, heritage and nature conservation designations, for example, Areas of Outstanding Natural Beauty (AONBs), Sites of Special Scientific Interest (SSSIs) and World Heritage Sites (WHS) it would not be appropriate to require the development to be located on the alternative site(s).	The Flood Risk Assessment includes a Sequential and an Exception test, the FRA concludes that the scheme complies with both tests and is submitted as part of this application.	Flood Risk Assessment Application Document 7.3	
5.7.16	All three elements of the test will have to be passed for development to be consented. For the Exception Test to be passed: <ul style="list-style-type: none"> • it must be demonstrated that the project provides wider sustainability benefits to the community that outweigh flood risk; • the project should be on developable, previously developed land or, if it is not on previously developed land, that there are no reasonable alternative sites on developable previously developed land subject to any exceptions set out in the technology-specific NPSs; and • a FRA must demonstrate that the project will be safe, without increasing flood risk elsewhere subject to the exception below and, where possible, will reduce flood risk overall. 	The Flood Risk Assessment includes a Sequential and an Exception test, the FRA concludes that the scheme complies with both tests and is submitted as part of this application.	Flood Risk Assessment Application Document 7.3	
5.7.17	Exceptionally, where an increase in flood risk elsewhere cannot be avoided or wholly mitigated, the IPC may grant consent if it is satisfied that the increase in present and future flood risk can be mitigated to an acceptable level and taking account of the benefits of, including the need for, nationally significant energy infrastructure as set out in Part 3 above. In any such case the IPC should make clear how, in reaching its decision, it has weighed up the increased flood risk against the benefits of the project, taking account of the nature and degree of the risk, the future impacts on climate change, and advice provided by the EA and other relevant bodies.	The Flood Risk Assessment includes a Sequential and an Exception test, the FRA concludes that the scheme complies with both tests and is submitted as part of this application.	Flood Risk Assessment Application Document 7.3	
Mitigation				
5.7.18	To satisfactorily manage flood risk, arrangements are required to manage surface water and the impact of the natural water cycle on people and property.	The FRA, ES, CEMP and other application documents describe mitigation measures to manage surface water and the impact of the natural water cycle on people and property. The replacement pipeline route design considers arrangements to manage surface water. Details can be found in the FRA and Chapter 8 on Water [section 8.5 and section 8.7] in the ES. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9, Contaminated Land and ground water in Requirement 10 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP, Flood Risk Assessment Application Document 7.3	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.7.19	<p>In this NPS, the term Sustainable Drainage Systems (SuDS) refers to the whole range of sustainable approaches to surface water drainage management including, where appropriate:</p> <ul style="list-style-type: none"> ● source control measures including rainwater recycling and drainage; ● infiltration devices to allow water to soak into the ground, that can include individual soakaways and communal facilities; ● filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns; ● filter drains and porous pavements to allow rainwater and run-off to infiltrate into permeable material below ground and provide storage if needed; ● basins ponds and tanks to hold excess water after rain and allow controlled discharge that avoids flooding; and ● flood routes to carry and direct excess water through developments to minimise the impact of severe rainfall flooding. 	<p>The Environment Agency Risk of Flooding from Surface Water mapping indicates that there are locations within the study area at risk of surface water flooding. The majority of the study area (88.9%, 10,671ha) is at very low risk (less than a 0.1% (1 in 1000) annual chance of flooding. The full assessment of impacts on surface water and required implementation of SuDS, if required, are detailed in this application and Chapter 8 on Water [section 8.5 and section 8.7] in the ES. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9, Contaminated Land and ground water in Requirement 10 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP, Flood Risk Assessment Application Document 7.3</p>	
5.7.20	<p>Site layout and surface water drainage systems should cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts.</p>	<p>The replacement pipeline design incorporates measures to mitigate impacts on flood risks. A full assessment of the impacts and mitigation measures are described in the FRA and Chapter 8 on Water [sections 8.5, 8.6 and 8.7] in the ES. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9, Contaminated Land and ground water in Requirement 10 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP, Flood Risk Assessment Application Document 7.3</p>	
5.7.21	<p>The surface water drainage arrangements for any project should be such that the volumes and peak flow rates of surface water leaving the site are no greater than the rates prior to the proposed project, unless specific off-site arrangements are made and result in the same net effect.</p>	<p>The replacement pipeline design incorporates measures to mitigate impacts on flood risks. A full assessment of the impacts and mitigation measures are described in the FRA and Chapter 8 on Water [section 8.6 and section 8.7] in the ES. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9, Contaminated Land and ground water in Requirement 10 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP, Flood Risk Assessment Application Document 7.3</p>	
5.7.22	<p>It may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the site. There may be circumstances where it is appropriate for infiltration facilities or attenuation storage to be provided outside the project site, if necessary through the use of a planning obligation.</p>	<p>It has been identified that temporary surface water storage may be required during construction in urban areas. In rural areas where displaced floodwater has the potential to be naturally attenuated by the floodplain downstream such compensatory storage areas are not required as there would be no receptors (people/property) impacted by the displaced flood water. Further details can be found in the FRA and Chapter 8 on Water [section 8.6] in the ES. Mitigation measures and management plans are secured through the REAC by the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9, Contaminated Land and ground water in Requirement 10 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP, Flood Risk Assessment Application Document 7.3</p>	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.7.23	The sequential approach should be applied to the layout and design of the project. More vulnerable uses should be located on parts of the site at lower probability and residual risk of flooding. Applicants should seek opportunities to use open space for multiple purposes such as amenity, wildlife habitat and flood storage uses. Opportunities should be taken to lower flood risk by reducing the built footprint of previously developed sites and using SuDS.	The sequential approach is incorporated into the replacement pipeline route design and reported in the Flood Risk Assessment submitted with this application.	Flood Risk Assessment Application Document 7.3	
5.7.24	Essential energy infrastructure which has to be located in flood risk areas should be designed to remain operational when floods occur. In addition, any energy projects proposed in Flood Zone 3b the Functional Floodplain (where water has to flow or be stored in times of flood), or Zone C2 in Wales, should only be permitted if the development will not result in a net loss of floodplain storage, and will not impede water flows.	The project passes through Flood Zone 3 but not 3b. An Exception test has been applied and submitted as part of the Flood Risk Assessment with this application. The pipeline is designed to ensure its safety during construction, operation and decommissioning.	Flood Risk Assessment Application Document 7.3	
5.7.25	The receipt of and response to warnings of floods is an essential element in the management of the residual risk of flooding. Flood Warning and evacuation plans should be in place for those areas at an identified risk of flooding. The applicant should take advice from the emergency services when producing an evacuation plan for a manned energy project as part of the FRA. Any emergency planning documents, flood warning and evacuation procedures that are required should be identified in the FRA.	Consultation and engagement is ongoing with relevant stakeholders to ensure that emergency planning documents, flood warnings and evacuation procedures are identified, as necessary, in the FRA.	Flood Risk Assessment Application Document 7.3	
5.8	The Historic Environment			
	Introduction			
5.8.1	The construction, operation and decommissioning of energy infrastructure has the potential to result in adverse impacts on the historic environment.	It is expected that the construction, operation and decommissioning of the proposed pipeline would have no significant adverse impact on the historic environment, given the scale, short and temporary nature of construction and by the fact that the majority of the Project is located underground with small scale new structures above it. It has been identified that potential effects on the historic environment may occur in relation to visual and noise intrusion during construction and decommissioning and the siting of any above ground installations or pipe markers during operation, but no significant effect has been identified.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
5.8.2	The historic environment includes all aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, landscaped and planted or managed flora. Those elements of the historic environment that hold value to this and future generations because of their historic, archaeological, architectural or artistic interest are called "heritage assets". A heritage asset may be any building, monument, site, place, area or landscape, or any combination of these. The sum of the heritage interests that a heritage asset holds is referred to as its significance.	The historic environment has been defined in three categories: archaeological remains, historic buildings and historic landscapes. The assessment of value of designated and undesignated heritage assets has been based on professional judgement informed by the guidance provided in Conservation Principles (English Heritage 2008), the National Planning Policy Framework (DCLG, 2018), The Setting of Heritage Assets (Historic England, 2017) and DMRB HA 208/07 Cultural Heritage (Highways Agency 2007).	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
5.8.3	Some heritage assets have a level of significance that justifies official designation. Categories of designated heritage assets are: a World Heritage Site; Scheduled Monument; Protected Wreck Site; Protected Military Remains, Listed Building; Registered Park and Garden; Registered Battlefield; Conservation Area; and Registered Historic Landscape (Wales only).	There are 1181 heritage assets within 1km of the replacement pipeline route of which 586 are designated. Details of the heritage assets assessed in the Desk Based Assessment are detailed in Chapter 9 Historic Environment [Appendix 9.3] of the ES.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
5.8.4	There are heritage assets with archaeological interest that are not currently designated as scheduled monuments, but which are demonstrably of equivalent significance. These include: <ul style="list-style-type: none"> • those that have yet to be formally assessed for designation; • those that have been assessed as being designatable but which the Secretary of State has decided not to designate; and • those that are incapable of being designated by virtue of being outside the scope of the Ancient Monuments and Archaeological Areas Act 1979. 	There are 595 non-designated heritage assets within 1km of the replacement pipeline route. Details of the heritage assets assessed in the Desk Based Assessment are detailed in Chapter 9 Historic Environment [Appendix 9.3] of the ES.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.8.5	The absence of designation for such heritage assets does not indicate lower significance. If the evidence before the IPC indicates to it that a nondesignated heritage asset of the type described in 5.8.4 may be affected by the proposed development then the heritage asset should be considered subject to the same policy considerations as those that apply to designated heritage assets.	Non-designated heritage assets have been included in environmental impact assessment and assessed against its value based on professional judgements informed by guidance and national policy, this is reported in Chapter 9 Historic Environment of the ES.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
5.8.6	The IPC should also consider the impacts on other non-designated heritage assets, as identified either through the development plan making process (local listing) or through the IPC's decision making process on the basis of clear evidence that the assets have a heritage significance that merits consideration in its decisions, even though those assets are of lesser value than designated heritage assets.	Non-designated heritage assets have been included in environmental impact assessment and assessed against its value based on professional judgements informed by guidance and national policy, this is reported in Chapter 9 Historic Environment of the ES.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
5.8.7	Impacts on heritage assets specific to types of infrastructure are included in the technology-specific NPSs.	The assessment of the impact on the project on the presence of heritage assets along the pipeline route is detailed in the Historic Environment Chapter 9 of the ES.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
Applicant's assessment				
5.8.8	As part of the ES (see Section 4.2) the applicant should provide a description of the significance of the heritage assets affected by the proposed development and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset. As a minimum the applicant should have consulted the relevant Historic Environment Record (or, where the development is in English or Welsh waters, English Heritage or Cadw) and assessed the heritage assets themselves using expertise where necessary according to the proposed development's impact.	Chapter 9 Historic Environment of the Environmental Statement provides a detailed description of the significance of the heritage assets affected by the Proposed Development and the contribution to their setting.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
5.8.9	Where a development site includes, or the available evidence suggests it has the potential to include, heritage assets with an archaeological interest, the applicant should carry out appropriate desk-based assessment and, where such desk-based research is insufficient to properly assess the interest, a field evaluation. Where proposed development will affect the setting of a heritage asset, representative visualisations may be necessary to explain the impact.	Chapter 9 Historic Environment of the Environmental Statement provides a detailed description of the significance of the heritage assets affected by the Proposed Development and the contribution to their setting.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
5.8.10	The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage assets affected can be adequately understood from the application and supporting documents.	Chapter 9 Historic Environment of the Environmental Statement provides a detailed description of the significance of the heritage assets affected by the Proposed Development and the contribution to their setting.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
IPC decision making				

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.8.11	<p>In considering applications, the IPC should seek to identify and assess the particular significance of any heritage asset that may be affected by the proposed development, including by development affecting the setting of a heritage asset, taking account of:</p> <ul style="list-style-type: none"> ● evidence provided with the application; ● any designation records; ● the Historic Environment Record, and similar sources of information; ● the heritage assets themselves; ● the outcome of consultations with interested parties; and ● where appropriate and when the need to understand the significance of the heritage asset demands it, expert advice. 	<p>Consultation and ongoing engagement with heritage advisors of the local planning authority and Historic England identified the need for, scope and scale of archaeological evaluation in support of the application. Detailed evidence, designation records and assessment of the significance of the heritage asset has been carried out and reported in Chapter 9 Historic Environment of the ES.</p>	<p>Environmental Statement Application Document 6.2 Chapter 9 Historic Environment</p>	
5.8.12	<p>In considering the impact of a proposed development on any heritage assets, the IPC should take into account the particular nature of the significance of the heritage assets and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between conservation of that significance and proposals for development.</p>	<p>The assessment of value of designated and undesignated assets has been made on a scale of Very High, High and Medium Negligible. This is based on professional judgement informed by the guidance provided in Conservation Principles (English Heritage 2008), the National Planning Policy Framework (DCLG, 2012), The Setting of Heritage Assets (Historic England, 2017) and DMRB HA 208/07 Cultural Heritage (Highways Agency 2007). A baseline criteria for the assessment of value has been created and specified in the Scoping Report. The assessment of the significance and value of the heritage assets is reported in Chapter 9 Historic Environment of the ES.</p>	<p>Environmental Statement Application Document 6.2 Chapter 9 Historic Environment</p>	
5.8.13	<p>The IPC should take into account the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets, the contribution of their settings and the positive contribution they can make to sustainable communities and economic vitality. The IPC should take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials and use. The IPC should have regard to any relevant local authority development plans or local impact report on the proposed development in respect of the factors set out in footnote 122.</p> <p>Footnote 122 This can be by virtue of:</p> <ul style="list-style-type: none"> ● heritage assets having an influence on the character of the environment and an area's sense of place; ● heritage assets having a potential to be a catalyst for regeneration in an area, particularly through leisure, tourism and economic development; ● heritage assets being a stimulus to inspire new development of imaginative and high quality design; ● the re-use of existing fabric, minimising waste; and ● the mixed and flexible patterns of land use in historic areas that are likely to be, and remain, sustainable. 	<p>There is a potential for significant effects on archaeological remains, historic buildings and historic landscapes. However, the extent of this is reported in Chapter 9 Historic Environment of the ES, including their significance, contributions, mitigation measures.</p>	<p>Environmental Statement Application Document 6.2 Chapter 9 Historic Environment</p>	
5.8.14	<p>There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be. Once lost heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Loss affecting any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II listed building park or garden should be exceptional. Substantial harm to or loss of designated assets of the highest significance, including Scheduled Monuments; registered battlefields; grade I and II* listed buildings; grade I and II* registered parks and gardens; and World Heritage Sites, should be</p>	<p>The replacement pipeline route has been selected to reduce the impact on historic environment by avoiding where practicable designated heritage assets. There is no significant loss of known heritage assets have been identified as a result of the Proposed Development. Given the nature of the construction works, operation and decommissioning the proposed development would not result in substantial harm to heritage assets.</p>	<p>Environmental Statement Application Document 6.2 Chapter 9 Historic Environment</p>	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
	wholly exceptional.			
5.8.15	Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset the greater the justification will be needed for any loss. Where the application will lead to substantial harm to or total loss of significance of a designated heritage asset the IPC should refuse consent unless it can be demonstrated that the substantial harm to or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm.	The detailed assessment reported in Chapter 9 Historic Environment of the ES demonstrates that the public benefits outweigh the potential impacts of the development and justifies any potential impacts to the heritage assets. There is no loss of heritage assets as a result of the proposed development.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
5.8.16	Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. The policies set out in paragraphs 5.8.11 to 5.8.15 above apply to those elements that do contribute to the significance. When considering proposals the IPC should take into account the relative significance of the element affected and its contribution to the significance of the World Heritage Site or Conservation Area as a whole.	There are no World Heritage Sites within the replacement pipeline route. The pipeline route passes through two conservation areas (Basingstoke Canal and Farnborough School) and passes close to the boundary of four further conservation areas in Hampshire. However, apart from the temporary visual impact during construction, the replacement pipeline would have no significant impact on the setting of these conservation areas.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
5.8.17	Where loss of significance of any heritage asset is justified on the merits of the new development, the IPC should consider imposing a condition on the consent or requiring the applicant to enter into an obligation that will prevent the loss occurring until it is reasonably certain that the relevant part of the development is to proceed.	The replacement pipeline route has been selected to reduce the impact on historic environment by avoiding where practicable designated heritage assets. There is no significant loss of known heritage assets that have been identified as a result of the Proposed Development as reported in Chapter 9 Historic Environment of the ES.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
5.8.18	When considering applications for development affecting the setting of a designated heritage asset, the IPC should treat favourably applications that preserve those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset. When considering applications that do not do this, the IPC should weigh any negative effects against the wider benefits of the application. The greater the negative impact on the significance of the designated heritage asset, the greater the benefits that will be needed to justify approval.	The replacement pipeline route has been selected to reduce the impact on historic environment by avoiding where practicable designated heritage assets. There is no significant loss of heritage assets identified as a result of the Proposed Development. Any significant harm to the heritage assets originated from the proposed development would be justified by demonstrating that the public benefit of the development outweighs the potential impacts on the heritage assets as reported in Chapter 9 Historic Environment of the ES.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment	
Recording				
5.8.19	A documentary record of our past is not as valuable as retaining the heritage asset and therefore the ability to record evidence of the asset should not be a factor in deciding whether consent should be given.	There is no significant loss of heritage assets have been identified as a result of the Proposed Development as reported in Chapter 9 Historic Environment of the ES. Mitigation is secured in the Archaeology Requirement 11 of the DCO and mitigation measures within the Code of Construction Practice in Requirement 5 and the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 9 Historic Environment and in Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.8.20	Where the loss of the whole or a material part of a heritage asset's significance is justified, the IPC should require the developer to record and advance understanding of the significance of the heritage asset before it is lost. The extent of the requirement should be proportionate to the nature and level of the asset's significance. Developers should be required to publish this evidence and deposit copies of the reports with the relevant Historic Environment Record. They should also be required to deposit the archive generated in a local museum or other public depository willing to receive it.	There is no significant loss of heritage assets have been identified as a result of the Proposed Development as reported in Chapter 9 Historic Environment of the ES. Mitigation is secured in the Archaeology Requirement 11 of the DCO and mitigation measures within the Code of Construction Practice in Requirement 5 and the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 9 Historic Environment and in Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.8.21	Where appropriate, the IPC should impose requirements on a consent that such work is carried out in a timely manner in accordance with a written scheme of investigation that meets the requirements of this Section and has been agreed in writing with the relevant Local Authority (where the development is in English waters, the Marine Management Organisation and English Heritage, or where it is in Welsh waters, the MMO and Cadw) and that the completion of the exercise is properly secured.	There is no significant loss of heritage assets have been identified as a result of the Proposed Development as reported in Chapter 9 Historic Environment of the ES. Mitigation is secured in the Archaeology Requirement 11 of the DCO and mitigation measures within the Code of Construction Practice in Requirement 5 and the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 9 Historic Environment and in Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.8.22	Where the IPC considers there to be a high probability that a development site may include as yet undiscovered heritage assets with archaeological interest, the IPC should consider requirements to ensure that appropriate procedures are in place for the identification and treatment of such assets discovered during construction.	Chapter 9 Historic Environment of the ES describes the specific sites of high probability of unknown heritage assets and related mitigation measures to reduce impacts on such assets, this is reported in Chapter 9 Historic Environment of the ES. Mitigation is secured in the Archaeology Requirement 11 of the DCO and mitigation measures within the Code of Construction Practice in Requirement 5 and the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 9 Historic Environment and in Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.9	Landscape and Visual Impacts			
	Introduction			
5.9.1	The landscape and visual effects of energy projects will vary on a case by case basis according to the type of development, its location and the landscape setting of the proposed development. In this context, references to landscape should be taken as covering seascape and townscape where appropriate.	The landscape character areas considered are based on the extent of published landscape character areas that are be directly affected by the Project. Landscape elements include geology, landform, vegetation and land use as well as more perceptual characteristics such as landscape patterns and cultural heritage, this is reported in Chapter 9 Historic Environment [section 9.3] and Chapter 10 Landscape and Visual [section 10.3].	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment, Chapter 10 Landscape and Visual	
	Applicant's assessment			
5.9.5	The applicant should carry out a landscape and visual assessment and report it in the ES. (See Section 4.2) A number of guides have been produced to assist in addressing landscape issues. The landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in	An initial assessment of the landscape and visual effects associated with the proposed development has been carried out having regard to guidance, national and local policies, landscape studies and legal requirements. The full assessment of landscape and visual effects is detailed in Chapter 10 Landscape and Visual [section 10.3] of the ES.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment, Chapter 10 Landscape and	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
	local development documents in England and local development plans in Wales.		Visual	
5.9.6	The applicant's assessment should include the effects during construction of the project and the effects of the completed development and its operation on landscape components and landscape character.	An initial assessment of potential effects during construction and operation phase has been carried out. It has been identified that the potential landscape and visual effects during construction would be caused by movement of construction plant and vehicle deliveries, contractors' compounds, vehicle haul emerging routes, stockpiled soil and materials, presence of temporary fencing, and loss of vegetation. The main effects during operation relate to the permanent loss of vegetation and marks across the landscape following topsoil strip and surface reinstatement. These impacts are assessed, and mitigation proposed in Chapter 10 Landscape and Visual [sections 10.5 - 10.7] of the ES.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment, Chapter 10 Landscape and Visual	
5.9.7	The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include light pollution effects, including on local amenity, and nature conservation.	Vegetation loss prior to construction would cause a primary impact on views during both construction and operation. It has been identified, however, that significant visual effects would be possible from residential properties close to the replacement pipeline route and sections of Public Right of Way that are in close proximity to, or cross, the emerging route. A detailed assessment and proposed mitigation for these effects are reported in Chapter 10 Landscape and Visual [sections 10.5 - 10.7] in the ES, while there are some residual effects none are significant.	Environmental Statement Application Document 6.2 Chapter 9 Historic Environment, Chapter 10 Landscape and Visual	
	IPC decision making - Landscape impact			
5.9.8	Landscape effects depend on the existing character of the local landscape, its current quality, how highly it is valued and its capacity to accommodate change. All of these factors need to be considered in judging the impact of a project on landscape. Virtually all nationally significant energy infrastructure projects will have effects on the landscape. Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the landscape, providing reasonable mitigation where possible and appropriate.	The environmental assessment has taken into consideration the existing character, it's current quality, it's value and capacity to accommodate change. The environmental impact assessment has considered the potential landscape and visual effects as result of the proposed development. The largely temporary nature of the construction phase, and the limited number and small size of permanent above ground features means that the likely landscape and visual effects would be limited. Loss of vegetation would contribute to the overall magnitude of landscape impact on each landscape character area assessed. The design and construction methods aim to minimise loss of vegetation of high status. The full assessment of impacts and proposed mitigation measures are reported in Chapter 10 Landscape and Visual [sections 10.5 - 10.7] of the ES.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
	Development proposed within nationally designated landscapes			
5.9.9	National Parks, the Broads and AONBs have been confirmed by the Government as having the highest status of protection in relation to landscape and scenic beauty. Each of these designated areas has specific statutory purposes which help ensure their continued protection and which the IPC should have regard to in its decisions. The conservation of the natural beauty of the landscape and countryside should be given substantial weight by the IPC in deciding on applications for development consent in these areas.	The proposed development passes through South Downs National Park. The replacement pipeline does not impact of any AONBs.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.9.10	Nevertheless, the IPC may grant development consent in these areas in exceptional circumstances. The development should be demonstrated to be in the public interest and consideration of such applications should include an assessment of: <ul style="list-style-type: none"> the need for the development, including in terms of national considerations, and the impact of consenting or not consenting it upon the local economy; the cost of, and scope for, developing elsewhere outside the designated area or meeting the need for it in some other way, taking account of the policy on alternatives set out in Section 4.4; and any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated. 	A robust need for the scheme demonstrates, together with the assessment of alternatives, and explanation of impacts and mitigation the exceptional circumstances that justify the granting of development consent. The pipeline construction would give rise to temporary impacts but with mitigation these would be evident for a short duration only. Permanent impacts on the National Park are minimised with appropriate route selection, adoption of construction techniques, and mitigation as reported in the ES and planning statement accompanying this DCO application. Evidence of the benefits of the project to the local economy, costs and scope for developing elsewhere are also justified within the application for development consent submission.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
5.9.11	The IPC should ensure that any projects consented in these designated areas should be carried out to high environmental standards, including through the application of appropriate requirements where necessary.	Details of full extent of impacts and mitigation measures of high environmental standards when affecting the National Parks are reported in Chapter 10 Landscape and Visual [sections 10.5 - 10.7] of the ES.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
Developments outside nationally designated areas which might affect them				
5.9.12	The duty to have regard to the purposes of nationally designated areas also applies when considering applications for projects outside the boundaries of these areas which may have impacts within them. The aim should be to avoid compromising the purposes of designation and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. This should include projects in England which may have impacts on National Scenic Areas in Scotland.	Nationally designated areas and other designations in proximity to the project boundaries have been taken into consideration and assessed as appropriate. The main study area for the initial assessment is a 1km distance from the proposed order limits. This was set to provide an understanding of the wider landscape context and constraints. Long distance viewpoints over 1km have also been considered where they relate to particularly sensitive views, including nationally designated areas, the full assessment is reported in Chapter 10 Landscape and Visual of the ES.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
5.9.13	The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent.	The Proposed development crosses designated areas. Details of full extent of impacts and related mitigation measures when affecting designated areas are reported in Chapter 10 Landscape and Visual [section 10.5 - 10.7] of the ES.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
Developments in other areas				
5.9.14	Outside nationally designated areas, there are local landscapes that may be highly valued locally and protected by local designation. Where a local development document in England or a local development plan in Wales has policies based on landscape character assessment, these should be paid particular attention. However, local landscape designations should not be used in themselves to refuse consent, as this may unduly restrict acceptable development.	There are policies relevant to landscape in the local plans and these are considered in more detail within Chapter 10 Landscape and Visual of the ES and within the planning statement.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
5.9.15	The scale of such projects means that they will often be visible within many miles of the site of the proposed infrastructure. The IPC should judge whether any adverse impact on the landscape would be so damaging that it is not offset by the benefits (including need) of the project.	The environmental impact assessment has considered the potential landscape and visual effects as result of the proposed development. The largely temporary nature of the construction phase, and the limited number and small size of permanent above ground features mean that that likely landscape and visual effects of significance would be limited. Loss of vegetation would contribute to the overall magnitude of landscape impact on each landscape character area assessed. The full assessment of impacts and proposed mitigation measures are described in Chapter 10 Landscape and Visual of the ES. A robust justification is provided to confirm that the project benefits outweigh any significant impacts on landscape character and visual effects.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.9.16	In reaching a judgment, the IPC should consider whether any adverse impact is temporary, such as during construction, and/or whether any adverse impact on the landscape will be capable of being reversed in a timescale that the IPC considers reasonable.	The largely temporary nature of the construction phase, and the limited number and small size of permanent above ground features mean that that likely landscape and visual effects of significance would be limited. Loss of vegetation would contribute to the overall magnitude of landscape impact on each landscape character area assessed. The design of the replacement pipeline, together with the REAC, CoCP in Requirement 5 and CEMP in Requirement 6 of the DCO would minimise the loss of vegetation of high status. Where impacted, mitigation measures such as reinstatement of landscape, are described in detailed in Chapter 10 Landscape and Visual [sections 10.6 - 10.7] of the ES and the associated REAC.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
5.9.17	The IPC should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by reasonable mitigation.	It has been identified that loss of vegetation would contribute to the overall magnitude of landscape impact generated by the proposed development. The design and construction methods aim to minimise this impact therefore there is no significant impact from the loss of vegetation of high status. This is reported in Chapter 10 Landscape and Visual [section 10.4] of the ES and the commitment is secured through the REAC, CoCP in Requirement 5 and CEMP in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
Visual impact				
5.9.18	All proposed energy infrastructure is likely to have visual effects for many receptors around proposed sites. The IPC will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the project. Coastal areas are particularly vulnerable to visual intrusion because of the potential high visibility of development on the foreshore, on the skyline and affecting views along stretches of undeveloped coast.	The proposed development is not located in coastal areas. Potential impacts on receptors such as local residents, people visiting, people using recreational sites, parks and other green infrastructures, have been considered in the environmental assessment and reported in Chapter 10 Landscape and Visual [section 10.3] of the ES. A justification when affecting these assets is evidenced in the ES and planning statement to the effect that the project's benefits outweigh any adverse impacts on the landscape and visual effects.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
5.9.19	It may be helpful for applicants to draw attention, in the supporting evidence to their applications, to any examples of existing permitted infrastructure they are aware of with a similar magnitude of impact on sensitive receptors. This may assist the IPC in judging the weight it should give to the assessed visual impacts of the proposed development.	The existing pipeline to be replaced by this proposed development follows a similar route, this pipe was constructed in 1969 and commissioned in 1972. The pipeline has operated within the same sensitive landscape for the past 40 years without significant impact. The designation of the South Downs National Park has occurred with the pipeline in place, the main impacts would be during construction for a temporary period.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
5.9.20	The IPC should ensure applicants have taken into account the landscape and visual impacts of visible plumes from chimney stacks and/or the cooling assembly. It may need to attach requirements to the consent requiring the incorporation of particular design details that are in keeping with the statutory and technical requirements.	The proposed development does not include any proposed chimney stacks and/or cooling assembly structures.	Environmental Statement Application Document 6.2 Chapter 10 Landscape and Visual	
Mitigation				
5.9.21	Reducing the scale of a project can help to mitigate the visual and landscape effects of a proposed project. However, reducing the scale or otherwise amending the design of a proposed energy infrastructure project may result in a significant operational constraint and reduction in function – for example, the electricity generation output. There may, however, be exceptional circumstances, where mitigation could have a very significant benefit and warrant a small reduction in function. In these circumstances, the IPC may decide that the benefits of the mitigation to reduce the landscape and/or visual effects outweigh the marginal loss of function.	The pipeline structures are mainly underground, and the permanent above ground infrastructure is limited to a single pigging station within a 28m x 18m compound at Boorley Green, 14 valve stations comprising underground chambers with 7m x 5m above ground compounds and six cathodic protection rectifier cabinets. These have been located sensitively along field boundaries, alongside other street furniture and with supplementary landscape planting, as appropriate, to minimise the visual impact. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Hedgerows and trees in Requirement 8, and Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 10 Landscape and Visual and in Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	

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5.9.22	Within a defined site, adverse landscape and visual effects may be minimised through appropriate siting of infrastructure within that site, design including colours and materials, and landscaping schemes, depending on the size and type of the proposed project. Materials and designs of buildings should always be given careful consideration.	The pipeline structures are mainly underground, and the permanent above ground infrastructure is limited to a single pigging station within a 28m x 18m compound at Boorley Green, 14 valve stations comprising underground chambers with 7m x 5m above ground compounds and six cathodic protection rectifier cabinets. These have been located sensitively along field boundaries, alongside other street furniture and with supplementary landscape planting, as appropriate, to minimise the visual impact. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Hedgerows and trees in Requirement 8, and Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 10 Landscape and Visual and in Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.9.23	Depending on the topography of the surrounding terrain and areas of population it may be appropriate to undertake landscaping off site. For example, filling in gaps in existing tree and hedge lines would mitigate the impact when viewed from a more distant vista.	The pipeline structures are mainly underground, and the permanent above ground infrastructure is limited to a single pigging station within a 28m x 18m compound at Boorley Green, 14 valve stations comprising underground chambers with 7m x 5m above ground compounds and six cathodic protection rectifier cabinets. These have been located sensitively along field boundaries, alongside other street furniture and with supplementary landscape planting, as appropriate, to minimise the visual impact. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Hedgerows and trees in Requirement 8, and Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 10 Landscape and Visual and in Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
Land use including open space, green infrastructure and Green Belt				
Introduction				
5.10.1	An energy infrastructure project will have direct effects on the existing use of the proposed site and may have indirect effects on the use, or planned use, of land in the vicinity for other types of development. Given the likely locations of energy infrastructure projects there may be particular effects on open space including green infrastructure.	The replacement pipeline route has been designed to avoid built development and proposed major development allocations in adopted and emerging local plans. It therefore follows open land for the majority of the route with limits street works. The pipeline, therefore, would impact on community facilities and land, commercial property and land, agricultural land, developed land and open space. The pipeline would pass through private garden areas but will not pass underneath any residential property. As assessment of the impact of the pipeline on the use of open spaces is assessed and reported in the planning statement with a high-level assessment and reporting in Chapter 12 Land use [section 12.3] of the ES.	Planning Statement Application Document 7.1 Chapter 7 Planning Assessment: Project-wide, Chapter 16 Open Space. Environmental Statement Application Document 6.2 Chapter 13 People and Communities.	
5.10.2	The Government's policy is to ensure there is adequate provision of high quality open space (including green infrastructure) and sports and recreation facilities to meet the needs of local communities. Open spaces, sports and recreational facilities all help to underpin people's quality of life and have a vital role to play in promoting healthy living. Green infrastructure in particular will also play an increasingly important role in mitigating or adapting to the impacts of climate change.	Existing land use of open space, sports and recreational facilities not affected during the operational stage of the Project, due to the fact that the pipeline would be mainly located below ground and operating impacts are minimal. There would be a small loss of access to community land, including open space and recreational sites during construction. This is reported within the planning statement and Chapter 12 Land Use [section 12.3] of the ES.	Planning Statement Application Document 7.1 Chapter 7 Planning Assessment: Project-wide, Chapter 16 Open Space. Environmental Statement Application Document 6.2 Chapter 12 Land use, Chapter 13 People and Communities.	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.10.3	Although the re-use of previously developed land for new development can make a major contribution to sustainable development by reducing the amount of countryside and undeveloped greenfield land that needs to be used, it may not be possible for many forms of energy infrastructure.	The pipeline would be located underground and in an easement of 6m wide for future maintenance. The replacement pipeline route has been designed to avoid, where possible, major housing allocations and committed development sites. Where major committed development sites are in the study area, the Project team have engaged with developers to ensure the suitable accommodation of the pipeline without the sterilisation of the development land. The route passes through a range of urban and rural land with a small number of sites which are allocated by the Local Planning Authority or have an unimplemented/extant planning permission. The replacement pipeline route, therefore, follows a route that is generally undeveloped greenfield land.	Planning Statement Application Document 7.1 Chapter 7 Planning Assessment: Project-wide	
5.10.4	Green Belts, defined in a local authority's development plan, are situated around certain cities and large built-up areas. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the most important attribute of Green Belts is their openness. Green Belt land can play a positive role in providing access to sport and recreation facilities or access to the open countryside. For further information on the purposes of Green Belt policy see PPG2 or any successor to it.	The replacement pipeline must cross the Metropolitan Green Belt in order to reach the West London Terminal. However, the replacement pipeline is not inappropriate development in that it is an engineering operation. The pipeline is largely underground, and, therefore, is not contrary to the five green belt principles protecting the openness of the Green Belt. The construction and associated construction compounds and logistics hubs are considered to be inappropriate development in the Green Belt. There are very special circumstances that outweigh the temporary harm to the Green Belt and any other harm from the project. Further details relating to the Green Belt can be found in the Planning Statement Chapter 7 Planning Assessment: Project-wide. The potential impacts on sport and recreation facilities have been assessed in an open space assessment and is reported in the planning statement, impacts on open space use would be temporary during construction, there are no operational impacts on the use of open space. Mitigation is secured in the Code of Construction Practice in Requirement 5 of the DCO.	Planning Statement Application Document 7.1 Chapter 7 Planning Assessment: Project-wide, Chapter 16 Open Space Environmental Statement Application Document 6.2 Chapter 13 People and Communities.	
Applicant's assessment				
5.10.5	The ES (see Section 4.2) should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan.	Existing land uses are not significantly adversely affected during the operational stage of the Project because the pipeline would be mainly located below ground and operating the pipeline has minimal effect. However, there would be temporary disruption and reduced access during the construction phase of the project which would be managed through the CoCP and CEMP. Mitigation measures are secured through the Code of Construction Practice in Requirement 5 and the Construction Environmental Management Plan in Requirement 6 of the DCO.	Planning Statement Application Document 7.1 Chapter 7 Planning Assessment: Project-wide Environmental Statement Application Document 6.2 & 6.4 Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1	
5.10.6	Applicants will need to consult the local community on their proposals to build on open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal. Applicants should use any up-to-date local authority assessment or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreational buildings and land is surplus to requirements.	Statutory and non-statutory consultation has been completed and the views of the consultees have been given full consideration when selecting the replacement pipeline route, including any impacts on open space, green infrastructure and recreational land. Further details can be found in the consultation report and Chapter 4 Design Evolution in the ES. The project has carried out an independent assessment of the impact on the project on open space this is summarized in the Planning Statement Chapter 16 Open Space and the assessment is found in Appendix 16.1 of the Planning Statement.	Planning Statement Application Document 7.1 Chapter 7 Planning Assessment: Project-wide, Chapter 16 Open Space Environmental Statement Application	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
			Document 6.2 Chapter 4 Design Evolution, Chapter 13 People and Communities. Consultation Report Application Document 5.1	
5.10.7	During any pre-application discussions with the applicant the LPA should identify any concerns it has about the impacts of the application on land use, having regard to the development plan and relevant applications and including, where relevant, whether it agrees with any independent assessment that the land is surplus to requirements.	Statutory and non-statutory consultation has been completed with the LPAs. Concerns about the impacts on land use have been raised with the LPAs. Review of the local plans, policies and committed developments within the project's study area have been carried out to identify any concerns and implications to the environment, community and project. Further details can be found in the consultation report, the planning statement and the draft Statements of Common Ground agreed with each local authority. The project has carried out an independent assessment of the impact on the project on open space this is summarized in the Planning Statement Chapter 16 Open Space and the assessment is found in Appendix 16.1 of the Planning Statement.	Consultation Report Application Document 5.1	
5.10.8	Applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5) except where this would be inconsistent with other sustainability considerations. Applicants should also identify any effects and seek to minimise impacts on soil quality taking into account any mitigation measures proposed. For developments on previously developed land, applicants should ensure that they have considered the risk posed by land contamination.	The project crosses grades 1, 2 and 3 agricultural land. Within the section between Boorley Green and Crondall, the majority of the study area is agricultural land, specifically Agricultural Land Classification (ALC) Grade 3 land. Higher quality land (ALC Grade 1 and Grade 2 land defined, together with Grade 3a land, as BMV land) is also present near Boorley Green and Chawton. Within the section from Crondall to the West London Terminal facility, the pipeline is located mainly within urban and non-agricultural land but does include some agricultural areas. The CoCP sets out how the impact on the quality of the agricultural land would be minimised during construction. There are no significant impacts during the operation of the pipeline. The full assessment of impacts on agricultural land and previous developed land as well as related mitigation measures are detailed in Chapter 12 Land Use [section 12.5, 12.6 and 12.7] of the ES. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, and Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1	
5.10.9	Applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place.	The replacement pipeline route passes through proposed and existing Mineral sites, some of which are safeguarded or allocated for extraction in the Hampshire and Surrey Mineral Local Plan. Other sites have been used for mineral extraction in the past and have also been used for the disposal of waste as landfill sites. Detailed land quality assessments and engineering design identify suitable methodologies for construction and mitigation and are detailed in Chapter 11 Soils and Geology [sections 11.5 - 11.7] and Chapter 12 Land use [sections 12.5 - 12.7] in the ES.	Planning Statement Application Document 7.1 Chapter 7 Planning Assessment: Project-wide Environmental Statement Application Document 6.2 Chapter 11 Soils and Geology Land Use.	
5.10.10	The general policies controlling development in the countryside apply with equal force in Green Belts but there is, in addition, a general presumption against inappropriate development within them. Such development should not be approved except in very special circumstances. Applicants should therefore determine whether their proposal, or any part of it, is within an established Green Belt and if it is, whether their proposal may be inappropriate development within the meaning of Green Belt policy (see paragraph 5.10.17 below).	The replacement pipeline must cross the Metropolitan Green Belt in order to reach the West London Terminal. However, the replacement pipeline is not inappropriate development in that it is an engineering operation. The pipeline is largely underground, and, therefore, is not contrary to the five Green Belt principles protecting the openness of the Green Belt. The construction and associated construction compounds and logistics hubs are considered to be inappropriate development in the Green Belt. There are very special circumstances that outweigh the temporary harm to the Green Belt and any other harm from the project. Further details relating to the Green Belt can be found in the Planning Statement Chapter 7 Planning Assessment: Project-wide. This together with the location of the existing oil terminal at West London amount to very special circumstances, further details relating to the Green Belt can be found in the planning statement.	Planning Statement Application Document 7.1 Chapter 7 Planning Assessment: Project-wide,	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.10.11	However, infilling or redevelopment of major developed sites in the Green Belt, if identified as such by the local planning authority, may be suitable for energy infrastructure. It may help to secure jobs and prosperity without further prejudicing the Green Belt or offer the opportunity for environmental improvement. Applicants should refer to relevant criteria on such developments in Green Belts.	The replacement pipeline must cross the Metropolitan Green Belt in order to reach the West London Terminal. However, the replacement pipeline is not inappropriate development in that it is an engineering operation. The pipeline is largely underground, and, therefore, is not contrary to the five Green Belt principles protecting the openness of the Green Belt. The construction and associated construction compounds and logistics hubs are considered to be inappropriate development in the Green Belt. There are very special circumstances that outweigh the temporary harm to the Green Belt and any other harm from the project. Further details relating to the Green Belt can be found in the Planning Statement Chapter 7 Planning Assessment: Project-wide. This together with the location of the existing oil terminal at West London amount to very special circumstances, further details relating to the Green Belt can be found in the planning statement.	Planning Statement Application Document 7.1 Chapter 7 Planning Assessment: Project-wide,	
5.10.12	An applicant may be able to demonstrate that a particular type of energy infrastructure, such as an underground pipeline, which, in Green Belt policy terms, may be considered as an “engineering operation” rather than a building is not in the circumstances of the application inappropriate development. It may also be possible for an applicant to show that the physical characteristics of a proposed overhead line development or wind farm are such that it has no adverse effects which conflict with the fundamental purposes of Green Belt designation.	The replacement pipeline must cross the Metropolitan Green Belt in order to reach the West London Terminal. However, the replacement pipeline is not inappropriate development in that it is an engineering operation. The pipeline is largely underground, and, therefore, is not contrary to the five Green Belt principles protecting the openness of the Green Belt. The construction and associated construction compounds and logistics hubs are considered to be inappropriate development in the Green Belt. There are very special circumstances that outweigh the temporary harm to the Green Belt and any other harm from the project. Further details relating to the Green Belt can be found in the Planning Statement Chapter 7 Planning Assessment: Project-wide. This together with the location of the existing oil terminal at West London amount to very special circumstances, further details relating to the Green Belt can be found in the planning statement.	Planning Statement Application Document 7.1 Chapter 7 Planning Assessment: Project-wide,	
IPC decision making				
5.10.13	Where the project conflicts with a proposal in a development plan, the IPC should take account of the stage which the development plan document in England or local development plan in Wales has reached in deciding what weight to give to the plan for the purposes of determining the planning significance of what is replaced, prevented or precluded. The closer the development plan document in England or local development plan in Wales is to being adopted by the LPA, the greater weight which can be attached to it.	Adopted and emerging Development Plan Documents have been considered when identifying the replacement pipeline route. The environmental assessment has taken account of locally adopted and emerging planning policy and the Planning Statement reports broad accordance with local and national policy. Few local planning policies relate directly to nationally significant infrastructure or to the construction of pipelines.	Planning Statement Application Document 7.1 Chapter 6 Planning Policy Context and Chapter 7 Planning Assessment: project-wide	
5.10.14	The IPC should not grant consent for development on existing open space, sports and recreational buildings and land unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements or the IPC determines that the benefits of the project (including need), outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities. The loss of playing fields should only be allowed where applicants can demonstrate that they will be replaced with facilities of equivalent or better quantity or quality in a suitable location.	There are 15 playing fields located within the replacement pipeline corridor. An assessment has been carried out and mitigation proposed to minimise the impact on these playing fields, mitigation includes commitments to avoid construction during the playing season. Further details can be found in the Planning Statement Chapter 16 Open Space, open space assessment report and the mitigation commitments are captured in the commitment log which accompanies this application.	Planning Statement Application Document 7.1 Chapter 16 Open Space. Environmental Statement Application Document 6.2 Chapter 13 People and Communities.	
5.10.15	The IPC should ensure that applicants do not site their scheme on the best and most versatile agricultural land without justification. It should give little weight to the loss of poorer quality agricultural land (in grades 3b, 4 and 5), except in areas (such as uplands) where particular agricultural practices may themselves contribute to the quality and character of the environment or the local economy.	The project crosses grades 1, 2 and 3 agricultural land. Within the section between Boorley Green and Crondall, the majority of the study area is agricultural land, specifically ALC Grade 3 land. Higher quality land (ALC Grade 1 and Grade 2 land defined, together with Grade 3a land, as BMV land) is also present near Boorley Green and Chawton. Within the section from Crondall to the West London Terminal facility, the construction corridor is located mainly within urban and non-agricultural land but does include some agricultural areas. The CoCP sets out how the impact on the quality of the agricultural land would be minimised during construction. There are no significant impacts during the operation of the pipeline. The full assessment of impacts on agricultural land and previous developed land as well as related mitigation measures are detailed in Chapter 12 Land Use [section 12.5, 12.6 and 12.7] of the ES. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, and Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 Chapter 12 Land Use	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.10.17	When located in the Green Belt, energy infrastructure projects are likely to comprise 'inappropriate development'. Inappropriate development is by definition harmful to the Green Belt and the general planning policy presumption against it applies with equal force in relation to major energy infrastructure projects. The IPC will need to assess whether there are very special circumstances to justify inappropriate development. Very special circumstances will not exist unless the harm by reason of inappropriateness, and any other harm, is outweighed by other considerations. In view of the presumption against inappropriate development, the IPC will attach substantial weight to the harm to the Green Belt when considering any application for such development while taking account, in relation to renewable and linear infrastructure, of the extent to which its physical characteristics are such that it has limited or no impact on the fundamental purposes of Green Belt designation.	The replacement pipeline must cross the Metropolitan Green Belt in order to reach the West London Terminal. However, the replacement pipeline is not inappropriate development in that it is an engineering operation. The pipeline is largely underground and therefore is not contrary to the five Green Belt principles protecting the openness of the Green Belt. The construction and associated construction compounds and logistics hubs are considered to be inappropriate development in the Green Belt. There are very special circumstances that outweigh the temporary harm to the Green Belt and any other harm from the project. Further details relating to the Green Belt can be found in the Planning Statement Chapter 7 Planning Assessment: Project-wide. This together with the location of the existing oil terminal at West London amount to very special circumstances, further details relating to the Green Belt can be found in the Planning Statement.	Planning Statement Application Document 7.1 Chapter 6 Planning Policy Context and Chapter 7 Planning Assessment: project-wide	
Mitigation				
5.10.19	Although in the case of much energy infrastructure there may be little that can be done to mitigate the direct effects of an energy project on the existing use of the proposed site (assuming that some at least of that use can still be retained post project construction) applicants should nevertheless seek to minimise these effects and the effects on existing or planned uses near the site by the application of good design principles, including the layout of the project.	Most of the pipeline would be located underground having minimal effect on land use and access to land. Temporary disruptions are expected during the construction phase of the project. Good design principles will be implemented to minimise the effects on existing and planned uses near the site. The full extent of the effects and related mitigation measures are detailed in Chapter 12 Land Use [sections 12.5 - 12.7] of the ES and best practices would be implemented in the CoCP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.10.20	Where green infrastructure is affected, the IPC should consider imposing requirements to ensure the connectivity of the green infrastructure network is maintained in the vicinity of the development and that any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space including appropriate access to new coastal access routes.	Most of the pipeline would be located underground having minimal effect on land use and access to land. Temporary disruptions are expected during the construction phase of the project. Good design principles will be implemented to minimise the effects on existing and planned uses near the site. The full extent of the effects and related mitigation measures are detailed in Chapter 12 Land Use [sections 12.5 - 12.7] of the ES and best practices would be implemented in the CoCP. Mitigation is secured in the Code of Construction Practice in Requirement 5 and the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.10.21	The IPC should also consider whether mitigation of any adverse effects on green infrastructure and other forms of open space is adequately provided for by means of any planning obligations, for example exchange land and provide for appropriate management and maintenance agreements. Any exchange land should be at least as good in terms of size, usefulness, attractiveness and quality and, where possible, at least as accessible. Alternatively, where Sections 131 and 132 of the Planning Act 2008 apply, replacement land provided under those sections will need to conform to the requirements of those sections.	Existing land use of open space and green infrastructure would not be affected during the operational stage of the Project due to the fact that the pipeline would be mainly located below ground and operating practices would be minimal. However, temporary disruption and reduced access to land may occur during construction which would be managed through good practice and will be defined in the CoCP. The full extent of the impacts on the receptors are reported in Chapter 12 Land Use [section 12.5] of the ES. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Hedgerows and trees in Requirement 8, and LEMP in Requirement 12 of the DCO.	Planning Statement Application Document 7.1 Chapter 16 Open Space, Environmental Statement Application Document 6.2 & 6.4 Chapter 12 Land Use, Chapter 13 People and Communities, Chapter 16 Environmental Management and Mitigation Appendix	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
			16.1 CoCP	
5.10.22	Where a proposed development has an impact upon a Mineral Safeguarding Area (MSA), the IPC should ensure that appropriate mitigation measures have been put in place to safeguard mineral resources.	The replacement pipeline route passes through proposed and existing Mineral sites, some of which are safeguarded or allocated for extraction in the Hampshire and Surrey Mineral Local Plans. Other sites have been used for mineral extraction in the past and have also been used for the disposal of waste as landfill sites. Detailed land quality assessments and engineering design identify suitable methodologies for construction and mitigation and are detailed in Chapter 11 Soils and Geology [sections 11.3 - 11.4 and 11.6 - 11.7] and Chapter 12 Land use [sections 12.4 - 12.7] in the ES.	Environmental Statement Application Document 6.2 & 6.4 Chapter 11 Soils and Geology, Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.10.23	Where a project has a sterilising effect on land use (for example in some cases under transmission lines) there may be scope for this to be mitigated through, for example, using or incorporating the land for nature conservation or wildlife corridors or for parking and storage in employment areas.	The pipeline would be located underground and an easement of 6m is required for future maintenance, meaning no construction would be allowed within this 6m easement. As such, the replacement pipeline route has minimal effect on existing buildings and infrastructure. The replacement pipeline route has been developed to maximise the route in open land and to accommodate embedded mitigation of impacts including for nature conservation or wildlife. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Hedgerows and trees in Requirement 8, and LEMP in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.10.24	Rights of way, National Trails and other rights of access to land are important recreational facilities for example for walkers, cyclists and horse riders. The IPC should expect applicants to take appropriate mitigation measures to address adverse effects on coastal access, National Trails and other rights of way. Where this is not the case the IPC should consider what appropriate mitigation requirements might be attached to any grant of development consent.	There are several Public Rights of Way, two National Trails and other rights of access to land along the replacement pipeline route. Temporary disruption of the access will occur during the construction phase. Existing land use and access would not be adversely affected during the operation of the pipeline due to the fact that the pipeline would be mainly located below ground and operating practices would be minimal. Details of Public Rights of Way diversions are included within the DCO application and are assessed to have no significant adverse effect in Chapter 13 People and Communities [section 13.5] of the ES. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.11	Noise and vibration			
	Introduction			
5.11.1	Excessive noise can have wide-ranging impacts on the quality of human life, health (for example owing to annoyance or sleep disturbance) and use and enjoyment of areas of value such as quiet places and areas with high landscape quality. The Government's policy on noise is set out in the Noise Policy Statement for England. It promotes good health and good quality of life through effective noise management. Similar considerations apply to vibration, which can also cause damage to buildings. In this section, in line with current legislation, references to "noise" below apply equally to assessment of impacts of vibration.	Noise Policy Statement for England and other relevant national policies, regulations, guidance and standards have been considered in the environmental assessment of the potential noise and vibration impacts of generated by the project. There are no significant noise impacts as a result of the construction or operation of the proposed pipeline and therefore a full assessment of noise and vibration has been scoped out of the ES. Best practices measures would be implemented through the CoCP. Mitigation is secured in the Code of Construction Practice in Requirement 5 and the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix	



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
			16.1 CoCP.	
5.11.2	Noise resulting from a proposed development can also have adverse impacts on wildlife and biodiversity. Noise effects of the proposed development on ecological receptors should be assessed by the IPC in accordance with the Biodiversity and Geological Conservation section of this NPS.	There is no current authoritative guidance on how far a noise study area should extend from construction activities due to the variability of the potential noise generating activities and plant used. However, based on professional judgement, the effects of noise (as well as visual/human presence) are only likely to be significant where the Order Limits extend within or is directly adjacent to the boundary of the site, or within/adjacent to an off-site area of known foraging, roosting or breeding habitat that supports mobile animal species for which the site is designated. The project is considered sufficiently distant from the SPA/Ramsar (1.85km) and project activities sufficiently minor in their potential to generate significant disturbance events (e.g. there would be no rock blasting or other controlled explosions, piling etc.) that noise disturbance is unlikely to have any effect on bird interest features of the sites. Similarly, at such a distance visual disturbance to the SPA/Ramsar would not be expected to result from project activities.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
5.11.3	Factors that will determine the likely noise impact include: <ul style="list-style-type: none"> ● the inherent operational noise from the proposed development, and its characteristics; ● the proximity of the proposed development to noise sensitive premises (including residential properties, schools and hospitals) and noise sensitive areas (including certain parks and open spaces); ● the proximity of the proposed development to quiet places and other areas that are particularly valued for their acoustic environment or landscape quality; and ● the proximity of the proposed development to designated sites where noise may have an adverse impact on protected species or other wildlife. 	No significant adverse noise or vibration effects are expected during operation of the pipeline. Decommissioning of the pipeline is likely to be completed 60 years or more from opening, therefore the assessment of noise during decommissioning has not been carried out at this stage. Potential noise and vibration impacts would only occur during construction of the project. The pipeline route is a cross country route and has minimal interaction with noise sensitive receptors. Where the pipeline is to be constructed in street works the noise impacts are not considered to be significantly more impactful compared to normal utility street works. Good practice measures will be used to minimise the impact on the closest properties, however, there may be some noise impacts temporarily during construction. Overall there are no significant impacts. Hours of working and methodology relating to construction noise are controlled through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, hours of working in Requirement 14 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
	Applicant's assessment			

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.11.4	<p>Where noise impacts are likely to arise from the proposed development, the applicant should include the following in the noise assessment:</p> <ul style="list-style-type: none"> • a description of the noise generating aspects of the development proposal leading to noise impacts, including the identification of any distinctive tonal, impulsive or low frequency characteristics of the noise; • identification of noise sensitive premises and noise sensitive areas that may be affected; • the characteristics of the existing noise environment; • a prediction of how the noise environment will change with the proposed development; • in the shorter term such as during the construction period; • in the longer term during the operating life of the infrastructure; • at particular times of the day, evening and night as appropriate. • an assessment of the effect of predicted changes in the noise environment on any noise sensitive premises and noise sensitive areas; and • measures to be employed in mitigating noise. <p>The nature and extent of the noise assessment should be proportionate to the likely noise impact.</p>	<p>No significant adverse noise or vibration effects are expected during operation of the pipeline. Decommissioning of the pipeline is likely to be completed 60 years or more from opening, therefore the assessment of noise during decommissioning has not been carried out at this stage. Potential noise and vibration impacts would only occur during construction of the project. The pipeline route is a cross country route and has minimal interaction with noise sensitive receptors. Where the pipeline is to be constructed in street works the noise impacts are not considered to be significantly more impactful compared to normal utility street works. Good practice measures will be used to minimise the impact on the closest properties, however, there may be some noise impacts temporarily during construction. Overall there are no significant impacts. Hours of working and methodology relating to construction noise are controlled through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, hours of working in Requirement 14 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.</p>	
5.11.5	<p>The noise impact of ancillary activities associated with the development, such as increased road and rail traffic movements, or other forms of transportation, should also be considered.</p>	<p>A transport assessment has been completed to assess the likely traffic impacts generated during the construction of the pipeline. This has concluded that there are no significant additional traffic impacts. Therefore, the ES contains a Technical Note on Noise and Vibration during construction Appendix 13.3. There are no significant traffic impacts resulting from the operation of the pipeline. Hours of working and methodology relating to construction traffic noise are controlled through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 and hours of working in Requirement 14 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.</p>	
5.11.6	<p>Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance. Further information on assessment of particular noise sources may be contained in the technology-specific NPSs. In particular, for renewables (EN-3) and electricity networks (EN-5) there is assessment guidance for specific features of those technologies. For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards and other guidance which also give examples of mitigation strategies.</p>	<p>Noise Policy Statement for England and other relevant national policies, regulations, guidance and British Standards were considered in the Scoping Report and informed the assessment of the potential noise and vibration impacts that can be generated by the project. Therefore, the ES contains a Technical Note on Noise and Vibration during construction Appendix 13.3. Best practices measures would be implemented through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 and hours of working in Requirement 14 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.</p>	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.11.7	The applicant should consult EA and Natural England (NE), or the Countryside Council for Wales (CCW), as necessary and in particular with regard to assessment of noise on protected species or other wildlife. The results of any noise surveys and predictions may inform the ecological assessment. The seasonality of potentially affected species in nearby sites may also need to be taken into account.	Ongoing engagement and consultation with both the EA and Natural England to discuss and agree a number of matters. However, as there are no significant Noise and Vibration effects, there is no specific engagement around this topic. The Chapter 7 on Biodiversity in the ES provides additional information regarding the impact of construction on ecological receptors and this has been discussed with both statutory consultees. Matters relating to construction methodologies are secured through the REAC, CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, hours of working in Requirement 14 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
IPC decision making				
5.11.8	The project should demonstrate good design through selection of the quietest cost-effective plant available; containment of noise within buildings wherever possible; optimisation of plant layout to minimise noise emissions; and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission.	The pipeline will be located mainly underground and it is not expected any significant effects arising during its operation. Effects are expected during the construction phase. With regard to pigging stations, the movement of PIGs along buried pipelines, and the entry or exit of PIGs at pigging stations is a quiet activity with no noticeable noise above ground. Over the lifetime of the existing pipeline, there have been no known instances of perceptible noise or vibration above ground due to pigging operations.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
5.11.9	The IPC should not grant development consent unless it is satisfied that the proposals will meet the following aims: <ul style="list-style-type: none"> ● avoid significant adverse impacts on health and quality of life from noise; ● mitigate and minimise other adverse impacts on health and quality of life from noise; and ● where possible, contribute to improvements to health and quality of life through the effective management and control of noise. 	The pipeline will be located mainly underground and it is not expected any significant effects would arise during its operation. Effects are expected during the construction phase which would be fully assessed, and related mitigation measures detailed in the REAC, CoCP and CEMP submitted as part of this application. Best practices would be implemented by the contractors through the CoCP in order to minimise any impacts on health and quality of life from noise and vibration and control of noise generating from construction phase. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, hours of working in Requirement 14 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
5.11.10	When preparing the development consent order, the IPC should consider including measurable requirements or specifying the mitigation measures to be put in place to ensure that noise levels do not exceed any limits specified in the development consent.	Best practice to mitigate and control noise and vibration would be implemented by the contractors through the CoCP and CEMP. Good practice measures are secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 and hours of working in Requirement 14 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
			Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
	Mitigation			
5.11.11	The IPC should consider whether mitigation measures are needed both for operational and construction noise over and above any which may form part of the project application. In doing so the IPC may wish to impose requirements. Any such requirements should take account of the guidance set out in Circular 11/95 (see Section 4.1) or any successor to it.	The pipeline will be located mainly underground and it is not expected any significant effects arising during its operation. Effects are expected during the construction phase which would be fully assessed, and related mitigation measures detailed in the REAC, CoCP and CEMP submitted as part of this application. Best practices would be implemented by the contractors through the CoCP in order to minimise any impacts on health and quality of life from noise and vibration and control of noise generating from the construction phase. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, hours of working in Requirement 14 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
5.11.12	Mitigation measures may include one or more of the following: <ul style="list-style-type: none"> ● engineering: reduction of noise at point of generation and containment of noise generated; ● lay-out: adequate distance between source and noise-sensitive receptors; incorporating good design to minimise noise transmission through screening by natural barriers, or other buildings; and ● administrative: restricting activities allowed on the site; specifying acceptable noise limits; and taking into account seasonality of wildlife in nearby designated sites. 	Noise Policy Statement for England and other relevant national policies, regulations, guidance and British Standards were considered in the Scoping Report and informed the assessment of the potential noise and vibration impacts that can be generated by the project. Therefore, the ES contains a Technical Note on Noise and Vibration during construction Appendix 13.3. Best practices measures would be implemented through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 and hours of working in Requirement 14 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
5.11.13	In certain situations, and only when all other forms of noise mitigation have been exhausted, it may be appropriate for the IPC to consider requiring noise mitigation through improved sound insulation to dwellings.	Noise Policy Statement for England and other relevant national policies, regulations, guidance and British Standards were considered in the Scoping Report and informed the assessment of the potential noise and vibration impacts that can be generated by the project. Therefore, the ES contains a Technical Note on Noise and Vibration during construction Appendix 13.3. Best practices measures would be implemented through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 and hours of working in Requirement 14 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
5.12	Socio-economic			

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
	Introduction			
5.12.1	The construction, operation and decommissioning of energy infrastructure may have socio-economic impacts at local and regional levels. Parts 2 and 3 of this NPS set out some of the national level socio-economic impacts.	Consideration of the potential impact of the replacement pipeline has informed the selection of the pipeline route and the design of the pipeline and its construction. The impact of the replacement pipeline has been assessed as part of the EIA and the impacts and mitigation measures proposed are reported in Chapter 13 People and Communities in the ES.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities	
	Applicant's assessment			
5.12.2	Where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES (see Section 4.2).	It has been identified that potential effects are expected during construction. These effects related to traffic affecting communities in rural and urban areas, noise and vibration, visual, community severance and change in access, tourism receptors and the associated change in visitor behaviour in rural and urban areas. There are no significant effects anticipated as a result of the Project during operation. It is not appropriate to assess the effects of decommissioning at this stage as the methodology and likely good practice mitigation measures would not be defined until closer to the time, at least 60 years from now. Further details can be found in Chapter 13 People and Communities [section 13.5] in the ES.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities	
5.12.3	This assessment should consider all relevant socio-economic impacts, which may include: <ul style="list-style-type: none"> • the creation of jobs and training opportunities; • the provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities; • effects on tourism; • the impact of a changing influx of workers during the different construction, operation and decommissioning phases of the energy infrastructure. This could change the local population dynamics and could alter the demand for services and facilities in the settlements nearest to the construction work (including community facilities and physical infrastructure such as energy, water, transport and waste). There could also be effects on social cohesion depending on how populations and service provision change as a result of the development; and • cumulative effects – if development consent were to be granted to for a number of projects within a region and these were developed in a similar timeframe, there could be some short-term negative effects, for example a potential shortage of construction workers to meet the needs of other industries and major projects within the region. 	An assessment of the impact of the replacement pipeline, its construction and operation on employment, tourism, cumulative effects, public safety, availability of construction personnel has been carried and is reported in Chapter 13 People and Communities [section 13.3] in the ES.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities	
5.12.4	Applicants should describe the existing socio-economic conditions in the areas surrounding the proposed development and should also refer to how the development's socio-economic impacts correlate with local planning policies.	National and local planning policies have been considered in the assessment of potential socio-economic impacts of the project. A desktop study has been carried out to identify the existing conditions and constraints surrounding the proposed development and its relation to the national and local planning policies.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities	



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.12.5	Socio-economic impacts may be linked to other impacts, for example the visual impact of a development is considered in Section 5.9 but may also have an impact on tourism and local businesses.	It has been identified that effects during construction relating to noise and vibration, traffic and visual effects are anticipated. The combination of these effects has the potential to create significant disruption near to tourism receptors, communities and schools due to construction activity being undertaken nearby. The Project does not present any potential for significant effects in terms of air quality, traffic, noise, vibration, or visual impacts on communities in rural or urban areas during the operation phase. There are no significant effects on tourism receptors during operation. It is anticipated that the potential effects of the construction phase of the Project would be beneficial, albeit not significant on the economies of Hampshire or Surrey or the UK more widely. Its operation is not expected to bring additional benefits to the national economy. The operation of the pipeline would maintain the existing level of service. There is no potential for significant effects on the local economy during operation. Further evidence is reported in Chapter 13 People and Communities [section 13.4] of the ES and the planning statement accompanying this DCO application.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities	
IPC decision making				
5.12.6	The IPC should have regard to the potential socio-economic impacts of new energy infrastructure identified by the applicant and from any other sources that the IPC considers to be both relevant and important to its decision.	An assessment of the impact of the replacement pipeline, its construction and operation on employment, tourism, cumulative effects, public safety, availability of construction personnel has been carried and is reported in Chapter 13 People and Communities [section 13.4] in the ES.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities	
5.12.7	The IPC may conclude that limited weight is to be given to assertions of socio-economic impacts that are not supported by evidence (particularly in view of the need for energy infrastructure as set out in this NPS).	An assessment of the impact of the replacement pipeline, its construction and operation on employment, tourism, cumulative effects, public safety, availability of construction personnel has been carried and is reported in Chapter 13 People and Communities [section 13.4] in the ES.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities	
5.12.8	The IPC should consider any relevant positive provisions the developer has made or is proposing to make to mitigate impacts (for example through planning obligations) and any legacy benefits that may arise as well as any options for phasing development in relation to the socio-economic impacts.	An assessment of the impact of the replacement pipeline, its construction and operation on employment, tourism, cumulative effects, public safety, availability of construction personnel has been carried and is reported in Chapter 13 People and Communities [section 13.4] in the ES.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities	
Mitigation				
5.12.9	The IPC should consider whether mitigation measures are necessary to mitigate any adverse socio-economic impacts of the development. For example, high quality design can improve the visual and environmental experience for visitors and the local community alike.	An assessment of the impact of the replacement pipeline, its construction and operation on employment, tourism, cumulative effects, public safety, availability of construction personnel has been carried and is reported in Chapter 13 People and Communities [section 13.4] in the ES.	Environmental Statement Application Document 6.2 Chapter 13 People and Communities	
5.13	Traffic and transport			
	Introduction			

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.13.1	The transport of materials, goods and personnel to and from a development during all project phases can have a variety of impacts on the surrounding transport infrastructure and potentially on connecting transport networks, for example through increased congestion. Impacts may include economic, social and environmental effects. Environmental impacts may result particularly from increases in noise and emissions from road transport. Disturbance caused by traffic and abnormal loads generated during the construction phase will depend on the scale and type of the proposal.	It has been identified that effects could arise during construction phase. Operation and decommissioning of the proposed pipeline are not likely to be significant for transport effects this is supported by the Transport Assessment. It has been identified that there would be potential effects generated by traffic and transport on tourism, local communities and school in urban areas. Emissions from construction related traffic are not considered to be significant to human and ecological receptors. Potential impacts have been identified affecting buses, collisions and safety and private motor vehicles. The contractor would be required to operate safely and considerately through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, hours of working in Requirement 14 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4	
5.13.2	The consideration and mitigation of transport impacts is an essential part of Government's wider policy objectives for sustainable development as set out in Section 2.2 of this NPS.	A Transport assessment has been completed to assess the transport and traffic impacts during construction, it has concluded that there are no significant impacts. The contractor would be required to operate safely and considerately through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, hours of working in Requirement 14 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4	
Applicant's assessment				
5.13.3	If a project is likely to have significant transport implications, the applicant's ES (see Section 4.2) should include a transport assessment, using the NATA/WebTAG methodology stipulated in Department for Transport guidance, or any successor to such methodology. Applicants should consult the Highways Agency and Highways Authorities as appropriate on the assessment and mitigation.	Consultation on transport matters have been undertaken with Hampshire and Surrey Local Highway Authorities. This consultation has included sharing the scope and conclusions of the transport assessment. The contractor would be required to operate safely and considerately through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, hours of working in Requirement 14 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 5 Consultation and Scoping, Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application	



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
			Document 7.4 Consultation Report Application Document 5.1	
5.13.4	Where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts.	A Transport assessment has been completed to assess the transport and traffic impacts during construction, it has concluded that there are no significant impacts. The contractor would be required to operate safely and considerately through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 and hours of working in Requirement 14 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4	
5.13.5	If additional transport infrastructure is proposed, applicants should discuss with network providers the possibility of co-funding by Government for any third-party benefits. Guidance has been issued in England which explains the circumstances where this may be possible, although the Government cannot guarantee in advance that funding will be available for any given uncommitted scheme at any specified time.	The project does not propose to provide any improvement to, new or additional permanent highway infrastructure. There may be some temporary alterations to the highway, these have been discussed and agreed with the relevant local highway authority and all would be reinstated once construction work is completed.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4	
IPC decision making				

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.13.6	A new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure and the IPC should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development. Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the IPC should consider requirements to mitigate adverse impacts on transport networks arising from the development, as set out below. Applicants may also be willing to enter into planning obligations for funding infrastructure and otherwise mitigating adverse impacts.	It has been identified that effects could arise during construction phase. Operation and decommissioning of the proposed pipeline are not likely to be significant for transport effects this is supported by the Transport Assessment. It has been identified that there would be potential effects generated by traffic and transport on tourism, local communities and school in urban areas. Noise and vibration from construction related traffic on public highways are not considered to have potential significant effects. Emissions from construction related traffic are not considered to be significant to human and ecological receptors. Potential impacts have been identified affecting buses, collisions and safety and private motor vehicles. The contractor would be required to operate safely and considerately through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 and hours of working in Requirement 14 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Appendix 13.3 Noise and Vibration Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4	
5.13.7	Provided that the applicant is willing to enter into planning obligations or requirements can be imposed to mitigate transport impacts identified in the NATA/WebTAG transport assessment, with attribution of costs calculated in accordance with the Department for Transport's guidance, then development consent should not be withheld, and appropriately limited weight should be applied to residual effects on the surrounding transport infrastructure.	A Transport assessment has been completed to assess the transport and traffic impacts during construction, it has concluded that there are no significant impacts. The contractor would be required to operate safely and considerately through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 and hours of working in Requirement 14 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4	
Mitigation				
5.13.8	Where mitigation is needed, possible demand management measures must be considered and if feasible and operationally reasonable, required, before considering requirements for the provision of new inland transport infrastructure to deal with remaining transport impacts.	A Transport assessment has been completed to assess the transport and traffic impacts during construction, it has concluded that there are no significant impacts. The contractor would be required to operate safely and considerately through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 and hours of working in Requirement 14 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note,	



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
			Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4	
5.13.9	The IPC should have regard to the cost-effectiveness of demand management measures compared to new transport infrastructure, as well as the aim to secure more sustainable patterns of transport development when considering mitigation measures.	The project does not propose to provide any improvement to, new or additional permanent highway infrastructure. There may be some temporary alterations to the highway, these have been discussed and agreed with the relevant local highway authority and all would be reinstated once construction work is completed. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7 and hours of working in Requirement 14 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4	
5.13.10	Water-borne or rail transport is preferred over road transport at all stages of the project, where cost-effective.	A Transport assessment has been completed to assess the transport and traffic impacts during construction, it has concluded that there are no significant impacts. The contractor would be required to operate safely and considerately through the CoCP and CEMP. The source of the steel pipe has not been identified at this stage, once procured, it would be transported to up to 6 logistic hubs where it would be stored and prepared before being transported to the working areas. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, hours of working in Requirement 14 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.13.11	<p>The IPC may attach requirements to a consent where there is likely to be substantial HGV traffic that:</p> <ul style="list-style-type: none"> • control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements; • make sufficient provision for HGV parking, either on the site or at dedicated facilities elsewhere, to avoid 'overspill' parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions; and • ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force. 	<p>A Transport assessment has been completed to assess the transport and traffic impacts during construction, it has concluded that there are no significant impacts. The contractor would be required to operate safely and considerately through the CoCP and CEMP. The source of the steel pipe has not been identified at this stage, once procured, it would be transported to up to 6 logistic hubs where it would be stored and prepared before being transported to the working areas. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, hours of working in Requirement 14 of the DCO</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4</p>	
5.13.12	<p>If an applicant suggests that the costs of meeting any obligations or requirements would make the proposal economically unviable this should not in itself justify the relaxation by the IPC of any obligations or requirements needed to secure the mitigation.</p>	<p>A Transport assessment has been completed to assess the transport and traffic impacts during construction, it has concluded that there are no significant impacts. The contractor would be required to operate safely and considerately through the CoCP and CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Construction traffic in Requirement 7, hours of working in Requirement 14 of the DCO</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 13 People and Communities Appendix 13.1 Traffic and Transport Technical Note, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Transport Assessment Application Document 7.4</p>	
5.14	<p>Waste management</p>			
	<p>Introduction</p>			
5.14.1	<p>Government policy on hazardous and non-hazardous waste is intended to protect human health and the environment by producing less waste and by using it as a resource wherever possible. Where this is not possible, waste management regulation ensures that waste is disposed of in a way that is least damaging to the environment and to human health.</p>	<p>It has been assessed that effects on soils during construction would be of such level that measures included in the CoCP would effectively mitigate effects on soils. Soils would not be adversely impacted during the operation of the pipeline due to the embedded mitigation in the scheme design and operating practices. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.</p>	

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.14.2	Sustainable waste management is implemented through the “waste hierarchy”, which sets out the priorities that must be applied when managing waste: a) prevention; b) preparing for reuse; c) recycling; d) other recovery, including energy recovery; and e) disposal.	Good practice to protect soil quality during construction would be detailed within the CoCP and CEMP which contractors would work to, including the implementation of sustainable waste management plan. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
5.14.3	Disposal of waste should only be considered where other waste management options are not available or where it is the best overall environmental outcome.	Good practice to secure the responsible disposal of any waste material during construction would be detailed within the CoCP and CEMP which contractors would work to, including the implementation of sustainable waste management plan. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
5.14.4	All large infrastructure projects are likely to generate hazardous and non-hazardous waste. The EA’s Environmental Permitting (EP) regime incorporates operational waste management requirements for certain activities. When an applicant applies to the EA for an Environmental Permit, the EA will require the application to demonstrate that processes are in place to meet all relevant EP requirements.	Good practice to secure the responsible disposal of any waste material during construction would be detailed within the CoCP and CEMP which contractors would work to, including the implementation of sustainable waste management plan. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
Applicant’s assessment				
5.14.6	The applicant should set out the arrangements that are proposed for managing any waste produced and prepare a Site Waste Management Plan. The arrangements described and Management Plan should include information on the proposed waste recovery and disposal system for all waste generated by the development, and an assessment of the impact of the waste arising from development on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation. The applicant should seek to minimise the volume of waste produced and the volume of waste sent for disposal unless it can be demonstrated that this is the best overall environmental outcome.	Good practice to secure the responsible disposal of any waste material during construction would be detailed within the CoCP and CEMP which contractors would work to, including the implementation of sustainable waste management plan. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.	
IPC decision making				

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.14.7	<p>The IPC should consider the extent to which the applicant has proposed an effective system for managing hazardous and non-hazardous waste arising from the construction, operation and decommissioning of the proposed development. It should be satisfied that:</p> <ul style="list-style-type: none"> any such waste will be properly managed, both on-site and off-site; the waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and adequate steps have been taken to minimise the volume of waste arisings, and of the volume of waste arisings sent to disposal, except where that is the best overall environmental outcome. 	<p>There would be no hazardous waste arising from the construction, commissioning and operation of the proposed replacement pipeline. Good practice to secure the responsible disposal of any waste material during construction would be detailed within the CoCP and CEMP which contractors would work to, including the implementation of sustainable waste management plan. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.</p>	
5.14.8	<p>Where necessary, the IPC should use requirements or obligations to ensure that appropriate measures for waste management are applied. The IPC may wish to include a condition on revision of waste management plans at reasonable intervals when giving consent.</p>	<p>Good practice to secure the responsible disposal of any waste material during construction would be detailed within the CoCP and CEMP which contractors will work to, including the implementation of sustainable waste management plan. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.</p>	
5.14.9	<p>Where the project will be subject to the EP regime, waste management arrangements during operations will be covered by the permit and the considerations set out in Section 4.10 will apply.</p>	<p>Good practice to secure the responsible disposal of any waste material during construction would be detailed within the CoCP and CEMP which contractors will work to, including the implementation of sustainable waste management plan. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP.</p>	
	Water quality and resources			
	Introduction			

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.15.1	Infrastructure development can have adverse effects on the water environment, including groundwater, inland surface water, transitional waters and coastal waters. During the construction, operation and decommissioning phases, it can lead to increased demand for water, involve discharges to water and cause adverse ecological effects resulting from physical modifications to the water environment. There may also be an increased risk of spills and leaks of pollutants to the water environment. These effects could lead to adverse impacts on health or on protected species and habitats (see Section 4.3 and Section 4.18) and could, in particular, result in surface waters, groundwaters or protected areas failing to meet environmental objectives established under the Water Framework Directive.	Effects on groundwater and surface water have been identified during construction and operation of the pipeline. Details of the level of impact differs depending on the type and location of the activity and is reported in more detail in Chapter 8 Water [section 8.4 and 8.6] of the ES.	Environmental Statement Application Document 6.2 Chapter 8 Water	
Applicant's assessment				
5.15.2	Where the project is likely to have effects on the water environment, the applicant should undertake an assessment of the existing status of, and impacts of the proposed project on, water quality, water resources and physical characteristics of the water environment as part of the ES or equivalent. (See Section 4.2.)	The environmental assessment carried out to identify the existing status and impacts of the project on water quality, resources and its physical characteristics are reported in Chapter 8 Water [section 8.3] of the ES.	Environmental Statement Application Document 6.2 Chapter 8 Water	
5.15.3	The ES should in particular describe: <ul style="list-style-type: none"> • the existing quality of waters affected by the proposed project and the impacts of the proposed project on water quality, noting any relevant existing discharges, proposed new discharges and proposed changes to discharges; • existing water resources affected by the proposed project and the impacts of the proposed project on water resources, noting any relevant existing abstraction rates, proposed new abstraction rates and proposed changes to abstraction rates (including any impact on or use of mains supplies and reference to Catchment Abstraction Management Strategies); • existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project and any impact of physical modifications to these characteristics; and • any impacts of the proposed project on water bodies or protected areas under the Water Framework Directive and source protection zones (SPZs) around potable groundwater abstractions. 	The environmental assessment has analysed the existing quality of waters, including relevant existing discharges and potential new ones, water resources, physical characteristics and potential impacts of the project on the water bodies or protected areas under the WDF and SPZs. The full assessment and proposed mitigation measures are detailed in Chapter 8 Water [section 8.3] of the ES.	Environmental Statement Application Document 6.2 Chapter 8 Water	
IPC decision making				

Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.15.4	Activities that discharge to the water environment are subject to pollution control. The considerations set out in Section 4.10 on the interface between planning and pollution control therefore apply. These considerations will also apply in an analogous way to the abstraction licensing regime regulating activities that take water from the water environment, and to the control regimes relating to works to, and structures in, on, or under a controlled water.	Mitigation measures to address risks originated from construction works (i.e. discharge to water environment) are reported in Chapter 8 Water [section 8.6] of the ES. Mitigation measures would include the establishment of pollution prevention guidelines set out in the REAC, CoCP and outline CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.15.5	The IPC will generally need to give impacts on the water environment more weight where a project would have an adverse effect on the achievement of the environmental objectives established under the Water Framework Directive.	Chapter 8 Water [section 8.6] of the ES reports that there are no significant effects on the water environment as a result of the construction and operation of the replacement pipeline, mitigation measure to manage the effects are secured through the REAC, CoCP and outline CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
5.15.6	The IPC should satisfy itself that a proposal has regard to the River Basin Management Plans and meets the requirements of the Water Framework Directive (including Article 4.7) and its daughter directives, including those on priority substances and groundwater. The specific objectives for particular river basins are set out in River Basin Management Plans. The IPC should also consider the interactions of the proposed project with other plans such as Water Resources Management Plans and Shoreline/Estuary Management Plans.	A WDF impact assessment has been completed and is appended to Chapter 8 Water [appendix 8.6] of the ES.	Environmental Statement Application Document 6.2 Chapter 8 Water	
5.15.7	The IPC should consider whether appropriate requirements should be attached to any development consent and/or planning obligations entered into to mitigate adverse effects on the water environment.	Chapter 8 Water [section 8.6] of the ES reports that there are no significant effects on the water environment as a result of the construction and operation of the replacement pipeline, mitigation measure to manage the effects are secured through the REAC, CoCP and outline CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
Mitigation				
5.15.8	The IPC should consider whether mitigation measures are needed over and above any which may form part of the project application. (See Sections 4.2 and 5.1.) A construction management plan may help codify mitigation at that stage.	Chapter 8 Water [section 8.6] of the ES reports that there are no significant effects on the water environment as a result of the construction and operation of the replacement pipeline, mitigation measure to manage the effects are secured through the REAC, CoCP and outline CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	



Ref	Requirement of the Overarching National Policy Statement for Energy (EN-1)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
5.15.9	The risk of impacts on the water environment can be reduced through careful design to facilitate adherence to good pollution control practice. For example, designated areas for storage and unloading, with appropriate drainage facilities, should be clearly marked.	It has been identified that surface water storage during extreme weather may be required during construction particularly in urban areas. In rural areas where displaced floodwater has the potential to be naturally attenuated by the floodplain downstream such compensatory storage areas are unlikely to be required as there would be no receptors (people/property) impacted by the displaced flood water. The design would adhere to good pollution control practice. Areas for storage and unloading, and drainage facilities would be detailed and marked as described in Chapter 8 Water [section 8.4] in the ES and drainage design drawings to be submitted as part of the application.	Environmental Statement Application Document 6.2 Chapter 8 Water	
5.15.10	The impact on local water resources can be minimised through planning and design for the efficient use of water, including water recycling.	The replacement pipeline route and design includes embedded mitigation to address potential impacts on the water environment and to find opportunities for efficient use of water. Chapter 8 Water [section 8.7] of the ES reports that there are no significant effects on the water environment as a result of the construction and operation of the replacement pipeline, mitigation measure to manage the effects are secured through the REAC, CoCP and outline CEMP. Mitigation is secured in the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6 of the DCO	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	

5. Accordance with the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)

Table 5. Accordance with the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)

Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.1	Introduction			
2.1.1	Part 4 of EN-1 sets out the general principles that should be applied in the assessment of development consent applications across the range of energy technologies. Part 5 of EN-1 sets out policy on the assessment of impacts which are common across a range of these technologies (generic impacts). This NPS is concerned with impacts and other matters which are specific to gas supply infrastructure and oil and gas pipelines or where, although the impact is generic and covered in EN-1, there are further specific considerations arising from the technologies covered here.	The replacement pipeline is a Nationally Significant Infrastructure Project (NSIP) which would require a Development Consent Order (DCO) under the Planning Act 2008 (as amended). Section 21 of the Planning Act 2008 applies to the construction of a cross-country pipeline. The Project also falls within the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) which requires an Environmental Statement to be prepared and submitted with the DCO application. Justifications for this project have been underpinned by the overarching National Policy Statement for Energy (NPS EN-1) which sets out the government's assessment of the importance of energy infrastructure.	Planning Statement Application Document 7.1 Chapter 1 Introduction	
2.1.2	The policies set out in this NPS are additional to those on generic impacts set out in EN-1 and do not replace them. The IPC should consider this NPS and EN-1 together. In particular, EN-1 sets out the Government's conclusion that there is a significant need for new major energy infrastructure generally (see Part 3 of EN-1). EN-1 Part 3 includes assessments of the need for gas supply infrastructure and gas and oil pipelines. In the light of this and for the reasons given in Part 3 of EN-1, the IPC should act on the basis that the need for the infrastructure covered by this NPS has been demonstrated.	The policies set out in the NPS address matters such as air quality and emissions, biodiversity, dust and odour, flood risk, historic environment, landscape and visual, land use, noise and vibration, socio-economic, traffic and transport and waste management which have all been assessed in the EIA scoping report and the following have been scoped out of the final assessment: waste management. Technical Notes have been appended to the Environmental Statement to provide information on potential sources of impacts from the project on environmental receptors; these cover traffic and transport [Appendix 13.1], air quality [Appendix 13.2], noise and vibration [Appendix 13.3].	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.1 Traffic and Transport, Appendix 13.2 Air Quality, Appendix 13.3 Noise and Vibration,	
2.1.3	The sections below include references to factors influencing site selection by applicants for gas supply infrastructure and oil and gas pipelines. These are not a statement of Government policy, but are included to provide the IPC and others with background information on the criteria that applicants consider when choosing a site. But the specific criteria considered by applicants, and the weight they give to them, will vary from project to project. The choices which energy companies make in selecting sites reflect their assessment of the risk that the IPC, following the general points set out in Section 4.1 of EN-1, will not grant consent in any given case. But it is for energy companies to decide what applications to bring forward and the Government does not seek to direct applicants to particular sites for gas supply infrastructure and oil and gas pipelines.	Esso has operated a 105km long pipeline between Fawley Refinery near Southampton and the West London Terminal Storage Facility in Hounslow since the early 1970s. As the pipeline is coming to the end of its economic life the scheme aims to replace this. A large number of options for the route of the new pipeline were identified and considered and a sifting process carried out based on environmental and engineering factors. The corridors were reduced to a single preferred corridor within which the route for the replacement pipeline has been identified. Following Statutory consultation some detailed design refinement to reduce the impact of the pipeline, this route is now proposed in this application for Development Consent.	Consultation Report Application Document 5.1 Planning Statement Application Document 7.1 Chapter 3 Scheme Development Chapter 4 Project Description.	
2.2	Climate change adaptation			

Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.2.1	Part 2 of EN-1 outlines the policy context for the development of nationally significant energy infrastructure, including policies for mitigating climate change. Section 4.8 of EN-1 sets out generic considerations that applicants and the IPC should take into account to help ensure that new energy infrastructure is resilient to climate change. Additional information that is specific to the infrastructure covered by this NPS is set out below.	Esso has considered alternative ways of transporting fuel, particularly by road. This pipeline would keep around 100 road tankers off the road every day (an estimate based on the volume of fuel transferred from the Fawley Refinery to the West London Terminal via pipeline in 2015). The Project would use tried and tested technology and construction techniques to appropriately and effectively minimise impacts and local inconvenience. The route options have considered the use of best suited and appropriate construction techniques to deliver the project. As a responsible operator, Esso is committed to safe operations that include maintaining, repairing and, where appropriate, replacing pipelines. To produce the long list of corridor and route options, a set of creation criteria was developed covering engineering, constructability, environmental, social, planning, costs and programme. This list was refined to a shortlist for non-statutory consultation which guided the selection of the preferred route. The proposed pipeline would deliver a cost-effectively and environmentally responsible project. The pipeline itself is replacing an existing pipeline and to fulfil existing obligations for fuel delivery, so there would be no change to operational impacts in relation to climate change. The resilience of the development to climate change is considered in Chapter 3 'Project Description' of the ES [section 3 and Appendix 13.1 Traffic and Transport Technical Note, and Appendix 13.2 Air Quality Technical Note].	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 13 People and Communities Appendix 13.1 Traffic and Transport, Appendix 13.2 Air Quality.	
2.2.2	As climate change is likely to increase risks to some of this infrastructure, from flooding or rising sea levels for example, applicants should in particular set out how the proposal would be resilient to: <ul style="list-style-type: none"> • increased risk of flooding; • effects of rising sea levels and increased risk of storm surge; • higher temperatures; • increased risk of earth movement or subsidence from increased risk of flooding and drought; and • any other increased risks identified in the applicant's assessment. 	The replacement pipeline is largely below ground, it is constructed of steel and buried a minimum of 1.2m below the surface. This provides protection from climate change effects of flood events or other extreme weather events. The pigging station is location in Flood Zone 1 and therefore consideration of climate change is not required. The pipe would contain fuel which is stable unless exposed to the very high temperature reach within a jet engine. The design and location of the pipe is, therefore, insulated by the ground from extreme high and low temperatures, it is not impacted by high ground water levels, and the steel is resistant to expansion and contraction of the soils around it.	Environmental Statement Application Document 6.2 Chapter 3 Project Description, Chapter 8 Water. Flood Risk Assessment Application Document 7.3	
2.2.3	The IPC should expect that climate change resilience measures will form part of the relevant impact assessment in the Environment Statement (ES) accompanying an application. For example, future increased risk of flooding should be covered in the flood risk assessment	The project falls within the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) which requires an Environmental Statement to be prepared and submitted with this DCO application. The risk of flooding is covered within the Flood Risk Assessment and ES Chapter 8 'Water'.	Environmental Statement Application Document 6.2 Chapter 3 Project Description, Chapter 8 Water. Flood Risk Assessment Application Document 7.3	
2.3	Consideration of good design			
2.3.1	Section 4.5 of EN-1 sets out the principles for good design that should be applied to all energy infrastructure.	The principles of inherent safe design have been incorporated into the design of the pipeline including use of best practice; mitigation is detailed in the CoCP in Requirement 5 and outline CEMP in Requirement 6 of the DCO. Other aspects of good design relating to the development are set out in the Planning Statement Chapter 3 Scheme Development.	Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Appendix 16.1 CoCP	
2.3.2	For the reasons given there, applicants should demonstrate good design, in particular where mitigating the impacts relevant to the infrastructure.	The design development process includes the identification of mitigation commitments, for mitigation embedded in design and also good practice mitigation this is secured through the commitment log, the REAC, the CoCP in Requirement 5 and the outline CEMP in Requirement 6 of the DCO. Other aspects of good design relating to the development are set out in the Planning Statement that accompanies this Development Consent Order.	Environmental Statement Application Document 6.2 & 6.4 Chapter 16 Appendix 16.1 CoCP	
2.4	Hazardous substances			

Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.4.1	Section 4.12 of EN-1 sets out the regime for obtaining hazardous substances consent from the IPC where it is required. All establishments wishing to hold stocks of certain hazardous substances, which include oil and gas, above a threshold quantity must apply to the Hazardous Substances Authority (HSA) for hazardous substances consent. In the case of natural gas, the threshold is 15 tonnes. In relation to gas supply infrastructure, the Health and Safety Executive (HSE) will advise the IPC on the risks, taking into account the quantities of gas to be stored, the installation type and specification, and the local population.	Planning Advice for Developments near Hazardous Installations is a document which has been issued by the HSE. The guidance describes how assessments are made with regards to Land Use Planning and Major Accident Hazard Pipelines. The Pipeline Safety Regulations define a 'major accident hazard pipeline' as one which conveys a dangerous fluid, and which has the potential to cause an accident. Under these regulations neither diesel nor fuel are considered to be dangerous fluids. Therefore, the guidance would be used for indicative purposes only.	Environmental Statement Application Document 6.2 & 6.4 Chapter 14 Major Accidents, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.5	Control of Major Accident Hazards			
2.5.1	Gas storage and supply infrastructure sites are subject to stringent safety standards under the Control of Major Accident Hazards (COMAH) Regulations 1999. The COMAH Regulations apply to underground gas storage facilities, LNG import facilities and gas reception facilities. All these categories of infrastructure qualify as top tier COMAH sites (those carrying more than 200 tonnes of gas). Section 4.11 of EN-1 provides further information on the COMAH Regulations and the assessment which should be carried out by applicants.	The regulations are supported by the Control of Major Accident Hazards (COMAH) regulations in terms of hazard identification and assessment. In the context of this Project, Major Accident Events relate to the potential loss of containment of diesel and/or fuel, and methane releases from landfill leading to serious harm to people and the environment. Further details can be found Chapter 14 Major Accidents in the ES [section 14.2 and 14.3].	Environmental Statement Application Document 6.2 & 6.4 Chapter 14 Major Accidents, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.19	Gas and Oil Pipelines			
	Introduction			
2.19.1	The gas and oil pipeline networks extend between storage and distribution facilities, and provide an important transport mechanism for natural gas, petrol, gas oil, heating oil, diesel and aviation fuel. Nationally significant pipelines are those described in section 1.8 of this NPS.	Esso Petroleum Company, Limited (Esso) has operated a 105km (65 miles) long pipeline between Fawley Refinery near Southampton and the West London Terminal Storage Facility in Hounslow since the early 1970s. Since the 1980s, the pipeline has been used for the conveyance of fuel. The Southampton to London Pipeline Project involves constructing a replacement 305mm (12 inch) internal diameter double thickness welded steel pipeline from Boorley Green to the West London Terminal Storage Facility. The replacement pipeline would secure fuel supplies from Fawley Refinery to airports and provide resilience and flexibility to Esso's fuel supply network. The replacement pipeline is a Nationally Significant Infrastructure Project (NSIP) which would require a Development Consent Order (DCO) under the Planning Act 2008.	Planning Statement Application Document 7.1 Chapter 1 Introduction	
2.19.2	Many of the generic impacts set out in EN-1 are relevant to the consideration of applications for gas and oil pipelines. The extent to which they are relevant may depend upon the phase of the proposed development being considered. The applicant should identify the impacts of a proposal in accordance with paragraph 2.1.3 of this NPS.	The policies set out in the NPS address matters such as air quality and emissions, biodiversity, dust and odour, flood risk, historic environment, landscape and visual, land use, noise and vibration, socio-economic, traffic and transport and waste management which have all been assessed in the EIA scoping report and the following have been scoped out of the final assessment: waste management. Technical Notes have been appended to the Environmental Statement to provide information on potential sources of impacts from the project on environmental receptors; these cover traffic and transport [Appendix 13.1], air quality [Appendix 13.2], noise and vibration [Appendix 13.3]. The Government is committed to ensuring secure and resilient energy supply. The scheme has also been justified by the Government's assessment of the importance of energy infrastructure as well as research which has identified the need for investment in new pipeline capacity to Heathrow to transfer fuel from coastal based refineries.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.1 Traffic and Transport, Appendix 13.2 Air Quality, Appendix 13.3 Noise and Vibration,	
2.19.3	The applicant should submit an ES including an assessment of the impact of the project (see section 4.2 of EN-1).	The project falls within the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) which requires an Environmental Statement to be prepared and submitted with the DCO application.	Planning Statement Application Document 7.1 Chapter 1 Introduction	
	Pipeline safety			



Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.19.4	The principal legislation governing the safety of pipelines (Pipeline Safety Regulations 1996) requires that pipelines are designed, constructed and operated so that the risks are as low as is reasonably practicable (ALARP).	The design of the replacement pipeline will be developed in accordance with Esso design standards of fuel pipelines, relevant industry codes of practice and standards and the requirements of the Pipeline Safety Regulations 1996. Once the pipeline is operational, Esso would also carry out a programme of inspection and maintenance in accordance with the Pipeline Safety Regulations 1996.	Environmental Statement Application Document 6.2 & 6.4 Chapter 14 Major Accidents, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.19.5	The HSE enforces these regulations, which place general duties on all pipeline operators and additional duties on the operators of Major Accident Hazard Pipelines. The additional duties require the pipeline operator to provide certain information to HSE at various stages in the lifecycle of a pipeline. In determining compliance, HSE expects pipeline operators to apply relevant good practice as a minimum. The IPC should seek advice from HSE about safety issues when considering an application.	Esso would carry out a programme of inspection and maintenance in accordance with the Pipeline Safety Regulations 1996.	Environmental Statement Application Document 6.2 & 6.4 Chapter 14 Major Accidents, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.19.6	In the pipeline industry there are well established standards, covering design, operation and maintenance of UK sector major accident hazard pipelines which can be used to demonstrate risks are ALARP. If a pipeline operator wishes to use other standards, recommendations or guidance then this should be discussed with the HSE and may be acceptable to the HSE, provided that the pipeline operator can demonstrate that they achieve at least the equivalent levels of safety. A gap analysis should be undertaken to confirm this.	The design of the replacement pipeline is developed in accordance with Esso design standards of fuel pipelines, relevant industry codes of practice and standards and the requirements of the Pipeline Safety Regulations 1996. Assessment of Major Accident Hazards (MAH) arising from a 'Major Accident To The Environment' (MATTEs) relating to Safety and Health, fire and explosion modelling would be completed using industry standard DNV PHAST modelling software.	Environmental Statement Application Document 6.2 & 6.4 Chapter 14 Major Accidents, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
Factors influencing site selection by applicant				
2.19.7	The sections below include references to factors influencing site/route selection by applicants for gas and oil pipeline NSIPs. These are not a statement of Government policy, but are included to provide the IPC and others with background information on the criteria that applicants should consider when choosing a site or route.	A large number of options for the route of the new pipeline were identified and considered. Following a detailed sifting and appraisal process based on environmental and engineering factors as well as the analysis of responses received from non-statutory consultation a preferred corridor was selected. Within this a route for the replacement pipeline has been identified. Following Statutory consultation some detailed design refinement to reduce the impact of the pipeline, this route is now proposed in this application for Development Consent. The route corridor that has been selected is discussed further in the Planning Statement that accompanies this Development Consent application.	Planning Statement Application Document 7.1 Chapter 1 Introduction, Chapter 3 Scheme Development.	
2.19.8	When designing the route of new pipelines applicants should research relevant constraints including proximity of existing and planned residential properties, schools and hospitals, railway crossings, major road crossings, below surface usage and proximity to environmentally sensitive areas, main river and watercourse crossings. These can be undertaken by means of desk top studies in the first instance, followed up by consulting the appropriate authority, operator, or conservation body if necessary.	The Project considered alternative ways of transporting fuel, particularly by road. Transporting such large quantities of fuel by road would require approximately 100 tanker trips on a daily basis would be uneconomic and have long term environmental and social consequences. This is compared to the temporary construction-related effects associated with the proposed replacement pipeline. A number of route options were developed for the pipeline. The sifting and appraisal process has allowed for constraints to be identified, and, therefore, the number of options have been narrowed down. The scheme identifies the reasons for which corridors have not been brought forward within the development. Constraints include engineering and installation challenges, groundwater and landscape concerns, proximity to woodland, archaeological concerns, crossings etc. Following Statutory consultation some detailed design refinement to reduce the impact of the pipeline, this route is now proposed in this application for Development Consent. The route corridor that has been selected is discussed further in the Planning Statement that accompanies this Development Consent application.	Planning Statement Application Document 7.1 Chapter 1 Introduction, Chapter 3 Scheme Development.	

Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.19.9	Undetected underground cavities from mine workings, abandoned industrial sites and other activities, such as waste disposal, or other utilities' services (water, telecommunication, etc.) could have an effect on the integrity and safety of a pipeline. The effects might include collapse of underground tunnels, damage to utility services and pollution of water courses. Applicants should undertake desktop surveys to identify historic or current mine workings, underground cavities serving industrial usage, the nature of any made ground, waste sites, unexploded ordnance, utility services and any other below surface usage when assessing routes for a pipeline.	The presence of unstable ground including natural underground cavities or artificial ground may present particular engineering risks to pipeline projects. This aspect has been taken into account within the engineering design development and addressed by construction methodologies. Locations of current and former HSE COMAH (Health and Safety Executive Control of Major Accident Hazards) sites have been obtained as Metadata from Groundsure. COMAH applies mainly to the chemical industry, but also to some storage activities, explosives and nuclear sites, and other industries where the threshold quantities of dangerous substances identified in the Regulations are kept or used. They have been included in this assessment as they are an indicator of land use with a significant contamination potential.	Environmental Statement Application Document 6.2 & 6.4 Chapter 11 Soils and Geology, Chapter 14 Major Accidents, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.19.10	When choosing a pipeline route, applicants should seek to avoid or minimise adverse effects from usage below the surface. Where it is not considered practicable to select a route that avoids below surface usage, applicants should demonstrate in the ES that mitigating measures will be put in place to avoid adverse effects both on other below ground works and on the pipeline. Mitigating measures may include: protection or diversion of underground services; gas detection near landfill sites; horizontal direct drilling (HDD) techniques and rerouting. Contaminated material may need to be removed and disposed of.	The methodology developed for the route selection appraisal process incorporates and considers all of the factors influencing site/route selection indicated by NPS EN-1 and NPS EN-4; further details can be found in Chapter 4 Design Evolution in the ES and within the Planning Statement that accompanies this Development Consent application.	Environmental Statement Application Document 6.1 Chapter 4 Design Evolution	
2.20	Gas and Oil Pipelines Impacts: Noise and Vibration			
	Introduction			
2.20.1	Section 5.11 of EN-1 sets out the generic considerations to be given to the impacts of noise and vibration. In addition, there are specific noise and vibration considerations which apply to gas and oil pipelines during the preconstruction and construction phases. The applicant will need to identify all the noise and vibration sensitive receptors likely to be affected during these phases.	The area subject to noise disturbance varies based on the activity being undertaken and the sensitivity of the individual receptor. All potentially sensitive receptors within the area likely to be exposed to noise level changes have been considered. For any sensitive receptor along the route, elevated visual or construction noise and vibration levels would occur over a short duration, mainly during daytime periods. At any one location, any increased construction noise and vibration levels would occur over a short duration. Noise-generating activities would not be undertaken at the same location simultaneously, and within this period, it is likely that there would be days when no construction activities would be heard. There would be no changes to noise, vibration or visual stimuli during the operational phase. Any effects of noise would be localised and temporary (short-term) and so are not likely to alter the long-term population status of any of the species or assemblages in the local area. Considerate construction management methodologies would be secured through the CoCP in Requirement 5 and outline CEMP in Requirement 6 of the DCO. A Noise and Vibration Technical Note [Appendix 13.3] relating to noise and vibration is appended to the ES which addresses this issue.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.1 Traffic and Transport, Appendix 13.2 Air Quality, Appendix 13.3 Noise and Vibration, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.20.2	During the pre-construction phase there could be vibration effects from seismic surveys. During construction, tasks may include site clearance, soil movement, ground excavation, tunnelling, trenching, pipe laying and welding, and ground reinstatement. In addition, increased HGV traffic will be generated on local roads for the movement of materials. These types of noise and vibration impacts will need to be assessed.	The area subject to noise disturbance varies based on the activity being undertaken and the sensitivity of the individual receptor. All potentially sensitive receptors within the area likely to be exposed to noise level changes have been considered. For any sensitive receptor along the route, elevated visual or construction noise and vibration levels would occur over a short duration, mainly during daytime periods. At any one location, any increased construction noise and vibration levels would occur over a short duration. Noise-generating activities would not be undertaken at the same location simultaneously, and within this period, it is likely that there would be days when no construction activities would be heard. There would be no changes to noise, vibration or visual stimuli during the operational phase. Any effects of noise would be localised and temporary (short-term) and so are not likely to alter the long-term population status of any of the species or assemblages in the local area. Considerate construction management methodologies will be secured through the CoCP in Requirement 5 and outline CEMP in Requirement 6 of the DCO. A Noise and Vibration Technical Note [Appendix 13.3] relating to noise and vibration is appended to the ES which addresses this issue.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.1 Traffic and Transport, Appendix 13.2 Air Quality, Appendix 13.3 Noise and Vibration, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	



Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.20.3	The commissioning of a new pipeline can involve extensive periods of drying after hydrotesting, using air compressors, and noise mitigation may be required for this type of activity.	The commissioning of the new pipeline may involve dry air or liquid nitrogen to dry the pipeline after Hydrotesting, any compressors would be located within existing Esso facilities and would be subject to noise attenuation measures in line with the operation of existing Esso facilities. This is detailed within the pipeline testing and handover plan and outlined in the Project Description.	Environmental Statement Application Document 6.2 Chapter 3 Project Description	
2.20.4	A new oil pipeline may require pumping stations. These may be located in quiet rural areas, and therefore the control of noise from these facilities is likely to be an important consideration.	The replacement pipeline will use existing pumping facilities located at Fawley Oil refinery which are used to pump fuel in the existing pipeline. Upon completion the pumps would be transferred to the replacement pipeline when the existing pipeline is taken out of use.	Environmental Statement Application Document 6.2 Chapter 3 Project Description	
Applicant's assessment				
2.20.5	The ES should include an assessment of noise and vibration effects (see Section 5.11 of EN-1) including the specific issues outlined above, where they are relevant.	The area subject to noise disturbance varies based on the activity being undertaken and the sensitivity of the individual receptor. All potentially sensitive receptors within the area likely to be exposed to noise level changes have been considered. For any sensitive receptor along the route, elevated visual or construction noise and vibration levels would occur over a short duration, mainly during daytime periods. At any one location, any increased construction noise and vibration levels would occur over a short duration. Noise-generating activities would not be undertaken at the same location simultaneously, and within this period, it is likely that there would be days when no construction activities would be heard. There would be no changes to noise, vibration or visual stimuli during the operational phase. Any effects of noise would be localised and temporary (short-term) and so are not likely to alter the long-term population status of any of the species or assemblages in the local area. Considerate construction management methodologies would be secured through the CoCP in Requirement 5 and outline CEMP in Requirement 6 of the DCO. A Noise and Vibration Technical Note [Appendix 13.3] relating to noise and vibration is appended to the ES which addresses this issue (it should be noted that noise and vibration was scoped out of the ES).	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
IPC decision making				
2.20.6	The IPC should follow the principles for decision making set out in Section 5.11 of EN-1.	Noise Policy Statement for England and other relevant national policies, regulations, guidance and standards have been considered in the EIA of the potential noise and vibration impacts of generated by the project. Where the pipeline is to be constructed in street works the noise impacts are not considered to be significantly more impactful compared to normal utility street works. Good practice measures will be used to minimise the impact on the closest properties, however, there may be some noise impacts temporarily during construction. Therefore, the ES contains a Technical Note on Noise and Vibration during construction Appendix 13.3. Best practice measures would be implemented through the CoCP secured in Requirement 5 of the DCO. A Noise and Vibration Technical Note [Appendix 13.3] relating to noise and vibration is appended to the ES which addresses this issue.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
Mitigation				

Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.20.7	Noise mitigation measures for gas and oil pipelines, in particular their associated above-ground installations, include screening or enclosure of compressors and pumps. Other measures could include the use of sound attenuators on ventilation systems, acoustic lagging on pipework, multi-stage (inherently quiet) control valves, gas turbine exhaust silencers, and high efficiency low speed cooler fans, depending on the specific issues. Vibration mitigation measures could include the use of non-impact piling such as augur boring.	The pipeline would be located mainly underground and it is not expected any significant effects arising during its operation. Effects are expected during the construction phase. With regard to pigging stations, the movement of PIGs along buried pipelines, and the entry or exit of PIGs at pigging stations is a quiet activity with no noticeable noise above ground. Over the lifetime of the existing pipeline, there have been no known instances of perceptible noise or vibration above ground due to pigging operations. The replacement pipeline will use existing pumping facilities located at Fawley Oil refinery which are used to pump fuel in the existing pipeline. Upon completion the pumps would be transferred to the replacement pipeline when the existing pipeline is taken out of use. Other existing above ground infrastructure does not generate noise. The construction of the pipeline has been carefully assessed during the EIA scoping process and there are no significant noise or vibration impacts identified. Considerate construction practices would be controlled through the CoCP in Requirement 5 and outline CEMP in Requirement 6, construction traffic managed in Requirement 7 of the DCO. A Noise and Vibration Technical Note [Appendix 13.3] relating to noise and vibration is appended to the ES which addresses good practice measures and mitigation [sections 6 and 7] and Chapter 16 Environmental Management and Mitigation [Appendix 16.1] of the ES.	Environmental Statement Application Document 6.2 & 6.4 Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.21	Gas and Oil Pipelines Impacts: Biodiversity, Landscape and Visual Introduction			
2.21.1	Sections 4.3 and 5.9 of EN-1 sets out the general principles that should be applied in the assessment of biodiversity and landscape and visual impacts. Additional considerations apply during the construction of a pipeline (which, without mitigation, can affect both landscape and ecology). These comprise the effect upon specific landscape elements within and adjacent to the pipeline route, such as grasslands, field boundaries (hedgerows, hedgebanks, drystone walls, fences), trees, woodlands, and watercourses. There will also be temporary visual impacts caused by the need to access the working corridor and to remove flora and soil. The working width of the pipeline will vary depending on the surrounding terrain. Temporary impacts could include large excavations where deep pits are needed for boring beneath rivers, roads and sensitive features.	The replacement pipeline route was selected to reduce the impact on biodiversity, by avoiding sensitive areas where practicable. Where potential impacts on designated and non-designated sites have been identified, mitigation measures and good practice measures would be implemented and detailed in the ES Chapter 7 [section 7.6] and Chapter 16 Environmental management and Mitigation [Appendix 16.1]. The project has also identified potential sites for habitat enhancement as well as habitats for restoration. The full assessment of those opportunities impacts and mitigation measures would be detailed in the ES Chapter 7 Biodiversity [section 7.6] and Chapter 16 Environmental Management and Mitigation [Appendix 16.1]. The largely temporary nature of the construction phase, and the limited number and small size of permanent above ground features mean that that likely landscape and visual effects of significance would be limited. The design has sought to avoid or reduce the potential impacts both through the alignment of the pipeline corridor and the use of design measures outlined in Chapter 10 Landscape and Visual. No construction and operational mitigation commitments have been identified. Loss of vegetation would contribute to the overall magnitude of landscape impact on each landscape character area assessed. The design of the replacement pipeline, together with the REAC, CoCP and CEMP would minimise the loss of vegetation of high status. Where impacted, measures such as reinstatement of landscape, are described in detail in Chapter 10 Landscape and Visual [section 10.7] and Chapter 16 Environmental Management and Mitigation [Appendix 16.1] of the ES and the associated REAC, mitigation is secured through the Code of Construction Practice in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Hedgerows and trees in Requirement 8 and Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 10 Landscape and Visual Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	

Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.21.2	<p>Long term impacts upon the landscape for pipelines are likely to be limited, as once operational the main infrastructure is usually buried. They are likely to include:</p> <ul style="list-style-type: none"> • limitations on the ability to replant landscape features such as hedgerows or deep-rooted trees over or adjacent to the pipeline; and • structures and indication points necessary to identify the pipeline route and provide it with service access. 	<p>There would be a medium- or long-term impact associated with the loss of some mature trees owing to the length of time replacement trees would take to reach equivalent maturity. There would be the loss of some TPO trees which constitutes a permanent effect that cannot be fully mitigated in year 15 post-construction. Pipeline structures would be mainly underground, above ground features would be limited and small in size. The detailed design of the pipeline and the refined route seeks to minimise the visual landscape impact following construction. The design has sought to avoid or reduce the potential impacts both through the alignment of the pipeline corridor and the use of design measures outlined in Chapter 10 Landscape and Visual [section10.7] and Chapter 16 Environmental Management and Mitigation of the ES. The DCO enables the applicant to select open cut or trenchless construction techniques along the length of the pipeline, this allows for mitigation measures to reduce the impact on important trees, in addition, the project will reduce the working width through areas of woodland and hedgerows. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, the Hedgerows and trees in Requirement 8 and the Landscape and Ecological Management Plan in Requirement 12 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 10 Landscape and Visual Chapter 13 People and Communities Appendix 13.3 Noise and Vibration Technical Note Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP</p>	
Applicant's assessment				
2.21.3	<p>The ES should include an assessment of the biodiversity and landscape and visual effects of the proposed route and of the main alternative routes considered (see Section 5.9 of EN-1). The application should also include proposals for reinstatement of the pipeline route as close to its original state as possible and take into account any requirements for agreements with the landowner to access areas for aftercare and management work. Where it is unlikely to be possible to restore landscape to its original state, the applicant should set out measures to avoid, mitigate, or employ other landscape measures to compensate for, any adverse effect on the landscape.</p>	<p>Land drains would be reinstated to maintain the integrity of pre-existing land drainage patterns. Any affected hedgerow sections/woodland would be re-planted and any other affected boundaries reinstated as appropriate. Land will be returned to its original use, which is typically agriculture. Temporary fencing would remain in place until grazing land has sufficiently recovered to withstand grazing pressure. The detailed route alignment and landscape reinstatement mitigation has been developed through further ongoing consultation. Further details of the assessment of biodiversity and landscape and visual effects can be found in Chapter 7 Biodiversity, Chapter 10 Landscape and Visual and Chapter 16 Environmental Management and Mitigation [Appendix 16.1] of the ES, the mitigation proposed is secured through the REAC. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, the Hedgerows and trees in Requirement 8 and the Landscape and Ecological Management Plan in Requirement 12 of the DCO.</p>	<p>Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 8 Water, Chapter 10 Landscape and Visual, Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP</p>	
IPC decision making				

Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.21.4	The IPC should follow the principles for decision making set out in Sections 4.3 and 5.9 of EN-1.	A Habitats Regulations Assessment Scoping (HRA) Report has been prepared and submitted as an Appendix to the EIA scoping request. Advice of Natural England has been sought for the project to assess any likely significant effects on European nature conservation sites as a result of the proposal. An HRA Appropriate Assessment (HRA Stage 2) report has been prepared. These reports have been submitted to Natural England and the Planning Inspectorate as part of the DCO and included in the ES. The largely temporary nature of the construction phase, and the limited number and small size of permanent above ground features mean that that likely landscape and visual effects of significance would be limited. Loss of vegetation would contribute to the overall magnitude of landscape impact on each landscape character area assessed. The design of the replacement pipeline, together with the REAC, CoCP and CEMP would minimise the loss of vegetation of high status. Where impacted, mitigation measures such as reinstatement of landscape, are described in detail in Chapter 10 Landscape and Visual and Chapter 16 Environmental Management and Mitigation of the ES [Appendix 16.1] and the associated REAC. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, the Hedgerows and trees in Requirement 8 and the Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 10 Landscape and Visual, Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP. Habitat Regulations Assessment Application Document 6.5	
Mitigation				
2.21.5	Mitigation measures to protect the landscape and ecology could include reducing the working width required for the installation of the pipeline in order to reduce the impact on the landscape where it will not be possible to fully reinstate the route.	Where specific width restrictions exist, for example for street works in urban areas, the working width has been narrowed. When crossing through boundaries between fields where these include hedgerows, trees or ditches, the working width would be reduced to 10m wide to reduce habitat loss. In locations of high ecological sensitivity such as Chobham Common trenchless techniques and or reduced working widths have been adopted to reduce the environmental impact of construction. These are detailed in Chapter 7 'Biodiversity', Chapter 10 'Landscape and Visual' and Chapter 16 'Environmental Management and Mitigation' [Appendix 16.1] of the ES, the commitments log, REAC. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, the Hedgerows and trees in Requirement 8 and the Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 10 Landscape and Visual, Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.21.6	In circumstances where the habitat to be crossed contains ancient woodland, trees subject to a Tree Preservation Order, or hedgerows subject to the Hedgerows Regulations 1997, the applicant should consider whether it would be feasible to use horizontal direct drilling under the ancient woodland or thrust bore under the protected tree or hedgerow and the IPC should consider requiring this, where not included in the proposal.	The detailed route for the replacement pipeline avoids any direct loss of ancient woodland, where protected hedgerows and protected trees are impacted, narrow working or trenchless techniques have been adopted where practicable. Best practice would be applied for all hedgerow crossings and construction impacts on protected trees, this would be controlled through the commitments log, REAC and CoCP. However, there would be the loss of some TPO trees which may constitute a permanent effect that cannot be fully mitigated in year 15 post-construction. The DCO enables the applicant to select open cut or trenchless construction techniques along the length of the pipeline, this allows for mitigation measures to reduce the impact on important trees, in addition, the project will reduce the working width through areas of woodland and hedgerows. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, the Hedgerows and trees in Requirement 8 and the Landscape and Ecological Management Plan in Requirement 12 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 7 Biodiversity, Chapter 10 Landscape and Visual, Chapter 12 Land Use, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.22	Gas and Oil Pipelines Impacts: Water Quality and Resources			

Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
Introduction				
2.22.1	Section 5.15 of EN-1 sets out generic policy on the protection of the water environment during the construction, operation and decommissioning of a project. Section 4.10 of EN-1 sets out policy on the pollution control framework. EN-1 emphasises the need for good design and planning to ensure the efficient use of water, including water recycling.	The National Policy Statement for Energy (NPS) EN-1 sets out the policy for delivery of major energy infrastructure which has been used in assessing this scheme.	Environmental Statement Application Document 6.1-6.4 Planning Statement Application Document 7.1	
2.22.2	Constructing pipelines creates corridors of surface clearance and excavation that can potentially affect watercourses, aquifers, water abstraction and discharge points, areas prone to flooding and ecological receptors. Pipeline impacts could include inadequate or excessive drainage, interference with groundwater flow pathways, mobilisation of contaminants already in the ground, the introduction of new pollutants, flooding, disturbance to water ecology, pollution due to silt from construction and disturbance to species and their habitats. Impacts during construction should be avoided as far as possible through route selection or mitigated if unavoidable and should be reinstated after construction.	The route could potentially affect 88 watercourses and water features. These include 13 Main Rivers, 69 ordinary watercourses (comprising smaller watercourses and drainage ditches), two canals and four lakes/ponds. The scheme identifies impacts during construction to groundwater and surface water as well as mitigation measures. This is reported in Chapter 8 Water of the ES [section 8.6 and section 8.7] and Chapter 16 Environmental Management and Mitigation [Appendix 16.1]. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9 and Contaminated Land and ground water in Requirement 10 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
Applicant's assessment				
2.22.3	Where the project is likely to have effects on water resources or water quality, for example impacts on groundwater recharge or on existing surface water or groundwater abstraction points, or on associated ecological receptors, the applicant should provide an assessment of the impacts in line with Section 5.15 of EN-1 as part of the ES.	The National Policy Statement for Energy (NPS) EN-1 sets out the policy for delivery of major energy infrastructure. It states how assessments of water quality, water resources and the physical characteristics of the water environment should be carried out. Chapter 8 on Water in the ES (section 8.6 and section 8.7) and Chapter 16 Environmental Management and Mitigation [Appendix 16.1] details the assessment of the impacts on the water environment and the embedded mitigation measure proposed together with additional controls identified in the REAC, CoCP and the outline CEMP. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9 and Contaminated Land and ground water in Requirement 10 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.22.4	Where the project is likely to give rise to effects on water quality, for example through siltation or spillages, discharges from maintenance activities or the discharge of disposals such as wastewater or solvents, the applicant should provide an assessment of the impacts.	The route could potentially affect 88 watercourses and water features. These include 13 Main Rivers, 69 ordinary watercourses (comprising smaller watercourses and drainage ditches), two canals and four lakes/ponds. The scheme identifies impacts during construction to groundwater and surface as well as mitigation measures. This is reported in Chapter 8 Water of the ES [section 8.6 and section 8.7] and Chapter 16 Environmental Management and Mitigation [Appendix 16.1] and mitigation measures are either embedded into the design or secured through the CoCP, REAC and the commitments log. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9 and Contaminated Land and ground water in Requirement 10 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
IPC decision making				
2.22.5	The IPC should be satisfied that the impacts on water quality and resources are acceptable in accordance with Section 5.15 of EN-1. The IPC should liaise with the EA over the potential for the new development to result in loss or reduction of supply to any licensed abstraction or unlicensed groundwater abstraction, or any potential interference with current legitimate uses of groundwater or surface waters, taking account of the terms of any relevant environmental permits or any negative effect on a groundwater dependent ecosystem.	Ongoing consultation and engagement with the Environment Agency for the provision of data, discussion of methodologies and the scope of surveys and ground investigation to support the environmental assessment.	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix	

Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
			16.1 CoCP	
	Mitigation			
2.22.6	Mitigation measures to protect the water environment may include techniques for crossing rivers and managing surface water before and after construction, including restoring vegetation and using sustainable drainage systems to control run-off.	There are no significant effects on the water environment as a result of the construction and operation of the replacement pipeline, mitigation measure to manage the effects are secured through the commitments log, REAC, CoCP and outline CEMP. This is reported in Chapter 8 Water of the ES [section 8.6 and section 8.7] and Chapter 16 'Environmental Management and Mitigation [Appendix 16.1]. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9 and Contaminated Land and ground water in Requirement 10 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.22.7	Mitigation measures to protect water quality may include: <ul style="list-style-type: none"> ● the avoidance of vulnerable groundwater areas or appropriate use of above ground pipeline facilities; ● use of the highest specification pipework and best practice in the storage and handling of pollutants to prevent spillage; ● careful storage of excavated material away from watercourses and facilities for the disposal of sewage and waste; ● use of sustainable drainage systems; and ● careful reinstatement of riverbanks and reed beds. 	Chapter 8 Water of the ES reports that there are no significant effects on the water environment as a result of the construction and operation of the replacement pipeline. Mitigation measure to manage the effects are secured through the commitments log, REAC, CoCP and outline CEMP. This is reported in Chapter 8 Water of the ES [section 8.6 and section 8.7] and Chapter 16 'Environmental Management and Mitigation [Appendix 16.1]. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9 and Contaminated Land and ground water in Requirement 10 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 8 Water, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.23	Gas and Oil Pipelines Impacts: Soil and Geology			
	Introduction			
2.23.1	New pipelines will be installed in a variety of geological conditions. It will be important for applicants to understand the soil types and the nature of the underlying strata. Underground cavities and unstable ground conditions may present particular risks to pipeline projects. Impacts could include sterilisation of mineral resources or loss of soil quality.	The predominant soils are freely draining slightly acid to acid loamy soils with more limited areas of freely draining lime-rich soils along with more limited areas of freely draining lime-rich soils and seasonally waterlogged loamy and clayey soils. The area of soil mapped as peat is relatively small. The scheme also identifies the bedrock geology of the study area and its underlying strata. The scheme has also assessed the value/sensitivity of geology aspects which includes unstable ground, soil conditions, mineral resources and contamination - these are described in Chapter 11 Soils and Geology [section 11.3].	Environmental Statement Application Document 6.2 & 6.4 Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
	Applicant's assessment			

Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.23.2	Applicants should assess the stability of the ground conditions associated with the pipeline route and incorporate the findings of that assessment in the ES (see Section 4.2 of EN-1) as appropriate. Desktop studies, which include known geology and previous borehole data, can form the basis of the applicant's assessment. The applicant may find it necessary to sink new boreholes along the preferred route to better understand the ground conditions present. The assessment should cover the options considered for installing the pipeline and weigh up the impacts of the means of installation. Where the applicant proposes to use horizontal directional drilling (HDD) as the means of installing a pipeline under a National or European Site and mitigating the impacts, the assessment should cover whether the geological conditions are suitable for HDD.	The scheme has looked at a range of impacts relating to land contamination, geology, soils (type and quality) and mineral resource. Trenchless construction including Horizontal Direction Drilling is proposed as part of this scheme. Details of the areas of trenchless construction are shown on the engineering plans that accompany this DCO application.	Environmental Statement Application Document 6.2 & 6.4 Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.23.3	When considering any application where the pipeline goes under a designated area of geological or geomorphological interest, the applicant should submit details of alternative routes, which either bypass the designated area or reduce the length of pipeline through the designated area to the minimum possible, and the reasons why they were discounted.	Chapter 4 Design Evolution of the ES for the Project provides a full description of alternatives considered for the replacement pipeline, including the 'do nothing' scenario, alternative routing, technologies and systems. Key considerations for development of the route includes: avoiding difficult geological features, mining areas and contaminated land where possible as well as minimising the effects to environmentally sensitive areas. The scheme provided seven corridor options for the North and ten options for the South. This was then narrowed down to three Northern options and three Southern options and finally a single option in the North and a single in the South with some sub-options as described in the Planning Statement. Following statutory consultation, the replacement pipeline route was further refined, and this is the design submitted for Development Consent.	Environmental Statement Application Document 6.2 & 6.4 Chapter 4 Design Evolution, Chapter 5 Consultation and Scoping, Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.23.4	Applicants should consult with the relevant statutory consultees at an early stage.	As part of the EIA process, the following stakeholders have been engaged and consulted: <ul style="list-style-type: none"> • Surrey County Council and Hampshire County Council mineral Planning Authorities to discuss potential impacts to the Mineral Allocations, Mineral Safeguarding Areas, Mineral Consultation Areas, and agree mitigation measures; and • the Environment Agency, and city, district and borough councils of Surrey (Surrey Heath, Runnymede and Spelthorne) and Hampshire (Rushmoor, Hart, East Hampshire and Winchester). Further information was sought on the specific areas of identified contamination with the intention of lowering the perceived risks and mitigating potential impacts. This information has been used in Chapter 11 Soils and Geology of the ES. 	Environmental Statement Application Document 6.2 & 6.4 Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
IPC decision making				
2.23.5	The IPC should take into account the impact on and from geology and soils when considering a pipeline project. A proposal will be acceptable from the point of view of soil and geology if the applicant has proposed a route and other measures (if applicable) that either eliminates any adverse impacts on soil and geology or reduces them to an acceptable level and that the route chosen does not adversely affect the integrity of the pipeline, for example, by increasing materially the risk of fracture or impact on areas of high population. The HSE can advise on the suitability of the pipeline route and on the design of the pipeline.	Embedded mitigation measures of the scheme include the following: the standard working width, for open trench construction in rural areas, is a nominal 20m, in sensitive locations the working area is reduced to 10m to reduce the loss of hedgerows, designated habitat, soil impacts, etc. The scheme would also implement measures to mitigate the potential effects of contamination. The soils and geology impact assessment process has been iterative, mitigation measures identified as required in early assessments and subsequently identified in the ES Chapter 11 Soils and Geology [section 11.4 and section 11.5] are incorporated in the design of the project and inform the CoCP. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9 and Contaminated Land and ground water in Requirement 10 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.23.6	Where the applicant has considered and discounted a route or routes on the ground that the soil is unstable and susceptible to landslip, the IPC should consult the HSE for their views on its suitability and its impact on the integrity of the pipeline.	Does not apply to this project.		
Mitigation				



Ref	Requirement of the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)	How the scheme addresses this (cross-reference to relevant application document where covered elsewhere)	Relevant DCO Document Reference	Updates post application, as required
2.23.7	Mitigation measures to minimise any adverse effects on soil and geology should include measures to ensure that residual impacts on the surface are minor, for example some differential vegetation growth. Mitigation measures should include appropriate treatment of soil (and in particular topsoil) during site construction and other infrastructure activity (and appropriate soil storage and reinstatement in line with the principles and practices outlined in the Code of Practice for the Sustainable Management of Soils on Construction Sites ⁸ . The IPC should consider what appropriate conditions should be attached to any consent.	The soils and geology impact assessment process has been iterative, mitigation measures identified as required in early assessments and subsequently identified in the ES Chapter 11 Soils and Geology [section 11.4 and section 11.5] are incorporated in the design of the project and inform the CoCP. All mitigation measures can be found in the Environmental Statement Chapter 16 Environmental Management and Mitigation and Appendix 16.1, the Code of Construction Practice is secured in Requirement 5, the Construction Environmental Management Plan in Requirement 6, Surface and foul water in Requirement 9 and Contaminated Land and ground water in Requirement 10 of the DCO.	Environmental Statement Application Document 6.2 & 6.4 Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	
2.23.8	Where HDD is proposed, the applicant should provide an alternative plan for installing the pipeline in the event that HDD fails. Such alternative means could include open cut, micro-tunnelling and tunnelling.	The scheme design takes account of various construction techniques which included: open cut trenching methods, open cut trench watercourse crossings, trenchless construction, micro-tunneling technique as well as horizontal directional drilling and augur boring.	Environmental Statement Application Document 6.2 & 6.4 Chapter 3 Project Description, Chapter 11 Soils and Geology, Chapter 16 Environmental Management and Mitigation Appendix 16.1 CoCP	



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Appendix 16.1 – Open Space Assessment



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Southampton to London Pipeline

Amenity and Recreation Assessment
May 2019

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May 2019

Southampton to London Pipeline

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This document has been prepared and checked in accordance with ISO 9001:2008

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1.0 Introduction

1.1.1. This report, commissioned by Jacobs on behalf of Esso, provides an assessment of potential impacts to recreation and amenity resource resulting from the construction phase of the Southampton to London Pipeline. Specifically, it focusses on 17 amenity and recreation spaces along the proposed pipeline route that have been identified by Jacobs as priority sites. Where required, suitable mitigation responses are recommended to manage or reduce any potentially adverse impacts.

1.2. Project overview

- 1.2.1. Esso is looking to replace 90km (56 miles) of its existing 105km (65 miles) aviation fuel pipeline that runs from the Fawley Refinery near Southampton, to the West London Terminal Storage facility in Hounslow. Although the existing pipeline is working adequately, the need for inspections and maintenance is increasing. The project will replace the existing pipeline, which has an internal diameter of about 25cm with a new pipeline that has an internal diameter of about 30cm. The increased pipeline diameter is seen as being essential for helping Esso to maintain the ongoing supply of aviation fuel.
- 1.2.2. Significant development has occurred alongside the route of the existing pipeline, which was installed in 1972. It is therefore no longer feasible to install the replacement pipeline alongside the existing one. Following a detailed assessment of potential corridor options, a single preferred corridor, and pipeline route within it, has been identified. Due to the length of the replacement pipeline, the project is classified as a Nationally Significant Infrastructure Project (NSIP), and it will therefore require a Development Consent Order (DCO) to give consent to install the pipeline.
- 1.2.3. The replacement pipeline will be buried for its entire length. During the construction phase a working corridor of typically 30m will be required for the trench, a working area, storing of soil and a haul route. These working corridors will be fenced off from the general public. Where specific width restrictions exist, the working width will be narrowed.
- 1.2.4. Open cut trenching techniques will be used for the majority of the preferred route. However, for major crossings of trunk roads, motorways and some watercourses, specialist trenchless techniques will be adopted.
- 1.2.5. Temporary construction compounds will be established along the route before commencement of the main construction works for the storage of the pipe, materials, plant and equipment. These sites will include hardstanding areas, with apron and haul roads comprising stone laid on a geotextile membrane.
- 1.2.6. Temporary access tracks will be provided to link the pipeline construction areas to the local road network. The tracks will be fenced and gated to aid control of vehicle access to and from the local road network.
- 1.2.7. Construction of the project is expected to last from early 2021 until the end of 2022. Pipe will be laid at a rate of 450m per week in rural areas and 90m per week in urban locations. It is anticipated that works to install the pipeline at trenchless crossings will take on average between 8 and 10 weeks.

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- 1.2.8. After the pipe has been laid, land drains will be reinstated to maintain the integrity of pre-existing land drainage patterns. The working width would then be cleared, any sub-soil reinstated and loosened, and top soil re-laid and seeded as required. Any affected hedgerow sections and trees would be replanted and any other affected boundaries reinstated as appropriate.

1.3. Scope of work

- 1.3.1. As part of the application for Development Consent, it is necessary for the applicant to identify all areas of amenity and recreation space directly or indirectly affected by the proposed development, to assess the extent of impacts, and to identify and propose measures to secure mitigation of impacts. This identification and assessment process is required to provide a robust basis for meeting the tests required in the relevant National Policy Statements (NPS EN-1 and EN-4), and also to meet the requirements of relevant national and local planning policy.
- 1.3.2. In this regard, LDA Design has been commissioned specifically to undertake an assessment of direct impacts of the proposed works on 17 prioritised amenity and recreation sites along the DCO corridor (as identified by Jacobs), and to propose appropriate mitigation responses to minimise impact.

1.4. Report structure

- 1.4.1. The remainder of this report sets out:
- The planning policy context for amenity and recreation assessments;
 - The method approach adopted;
 - Assessments undertaken for each of the prioritised sites; and
 - Conclusions and recommendations.

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2.0 Policy context

2.1.1. This chapter sets out specific guidance set out in both the National Planning Policy Framework (NPPF) and National Policy Statements (NPS) in relation to the need for, and carrying out of, amenity and recreation assessments. The content of these has been used as guidance in our approach to conducting the assessment, as set out in the following chapters.

2.2. National Planning Policy Framework

2.2.1. The revised NPPF was updated on 19th February 2019 and sets out the Government’s planning policies for England and how these are expected to be applied. Paragraph 96 highlights the importance of amenity and recreation spaces for the health and well-being of communities. In response to this, the Government sets out that planning policies should be based on robust and up-to-date assessments of the need for open space, sport and recreation facilities (paragraph 96).

2.2.2. Paragraph 97 goes on to state that ‘existing open space, sports and recreation buildings and land, including playing fields, should not be built on unless:

- a) An assessment has been undertaken which has clearly shown the open space, buildings or land to be surplus to requirements; or
- b) The loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location; or
- c) The development is for alternative sports and recreational provision, the benefits of which clearly outweigh the loss of the current or former use’.

2.3. National Policy Statements

2.3.1. The Planning Act 2008 requires that the Planning Inspectorate’s Infrastructure Planning Unit (IPU) deals with the acceptance and examination of applications for development consent. Applicants should therefore ensure that their applications, and any accompanying supporting documents, are consistent with the instructions and guidance in relevant NPSs. In this regard, both the NPS for Energy (EN-1) and the NPS for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) need to be taken into account.

2.3.2. In undertaking an assessment, EN-1 states that the applicant should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. It should be noted that commentary of impacts on informal open spaces is addressed in the DCO Planning Statement on a section by section basis.

2.3.3. Paragraph 5.10.6 of EN-1 sets out that ‘applicants will need to consult the local community on their proposals to build on open space, sports or recreational buildings and land. Taking account of the consultations, applicants should consider providing new or additional open space including green infrastructure, sport or recreation facilities, to substitute for any losses as a result of their proposal’. To inform this, it goes on to specify that ‘applicants should use any up-to-date local authority assessment

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or, if there is none, provide an independent assessment to show whether the existing open space, sports and recreation buildings and land is surplus to requirements’.

- 2.3.4. With regard to decision making, paragraph 5.10.14 states that the IPU ‘should not grant consent for development on existing open space, sports and recreational buildings and land unless an assessment has been undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements. Alternatively, the IPU should not grant consent unless it determines that the benefits of the project (including need) outweigh the potential loss of such facilities, taking into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities. Furthermore, the loss of playing pitches should only be allowed where applicants can demonstrate that they will be replaced with facilities of equivalent or better quantity and quality in a suitable location.
- 2.3.5. Paragraph 5.10.13 highlights that where a project conflicts with a proposal in a development plan, the IPU should take account of the stage that the development plan document has reached in deciding what weight to give to the plan for the purposes of determining the planning significance of what is replaced, prevented or precluded. The closer the development plan is to being adopted, the greater weight that can be attached to it.
- 2.3.6. With regard to mitigation approaches, paragraph 5.10.19 sets out that applicants should seek to minimise effects on existing and planned uses near the site by the application of good design principles, including the layout of the project. Paragraph 5.10.20 goes on to highlight that ‘the IPU should consider imposing requirements to ensure the connectivity of the green infrastructure network is maintained in the vicinity of the development and that any necessary works are undertaken, where possible, to mitigate any adverse impact and, where appropriate, to improve that network and other areas of open space’.
- 2.3.7. Paragraph 5.10.21 sets out that the IPU should also consider whether mitigation of any adverse effects on amenity and recreation space is adequately provided for by means of any planning obligations, e.g. exchange land and provide for appropriate management and maintenance agreements.

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3.0 Methodology

3.1.1. The method approach to undertaking the amenity and recreation assessment has been informed by the NPPF and EN-1, and was developed to meet the particular requirements of Jacobs in performing their DCO co-ordination role.

3.1.2. The method approach is broken down across the following tasks:

3.2. Prioritising sites for assessment

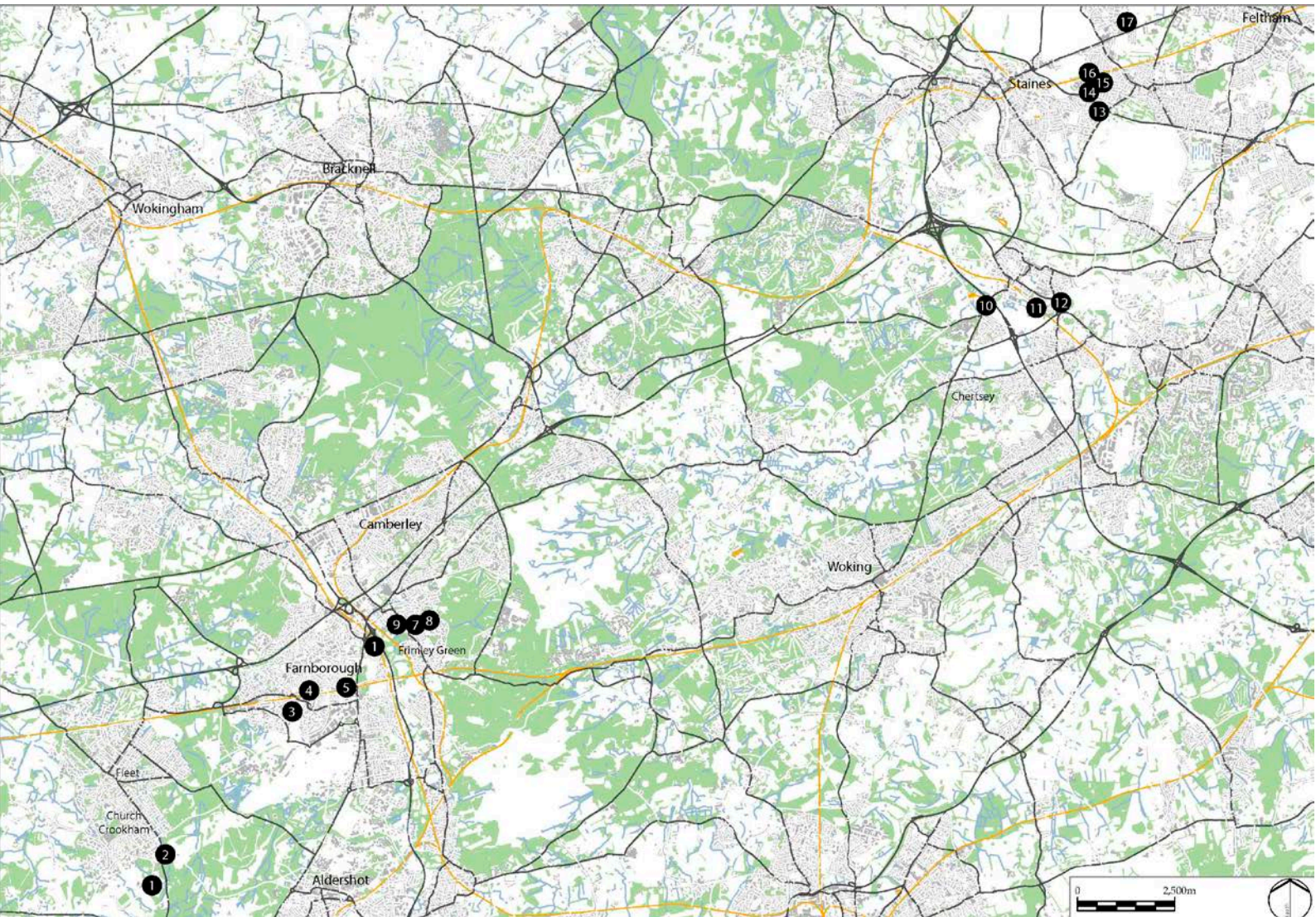
3.2.1. Jacobs has prioritised the following sites for assessment (see Table 3.1 and Figure 3.1). These have been identified from local authority open space allocations and GIS mapping along the route of the DCO corridor. All of the sites will be directly affected by the construction on a temporary basis:

Table 3.1 Priority sites for assessment

Ref	Site	Town	Local Authority
1	Quetta Park	Church Crookham, Fleet	Hart
2	Peter Driver Sports Ground	Church Crookham, Fleet	Hart
3	Southwood Sports Pitches	Farnborough	Rushmoor
4	West Heath Road	Farnborough	Rushmoor
5	Queen Elizabeth Park	Farnborough	Rushmoor
6	Farnborough Gate Sports Ground	Farnborough	Rushmoor
7	Balmoral Drive West	Frimley Green	Surrey Heath
8	South of Balmoral Drive	Frimley Green	Surrey Heath
9	SC Johnson	Frimley Green	Surrey Heath
10	Salesian School	Chertsey	Runnymede
11	Salesian School Playing Fields	Chertsey	Runnymede
12	Abbey Rangers Football Club	Chertsey	Runnymede
13	Fordbridge Park	Ashford	Spelthorne
14	Woodthorpe Road/Buxton Road	Ashford	Spelthorne
15	Entrance to Bronzefield Prison	Ashford	Spelthorne
16	Woodthorpe Road	Ashford	Spelthorne
17	Ashford Sports Club	Staines	Spelthorne

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Figure 3.1 Priority Sites for assessment



3.3. Amenity and Recreation space typology

3.3.1. Each of the amenity and recreation spaces identified in table 3.1 has been categorised in line with the typology set out in PPG17 ‘Planning for Open Space, Sport and Recreation’. These typologies are:

- 1. Parks and gardens;
- 2. Natural and semi-natural urban green spaces;
- 3. Green corridors;
- 4. Outdoor sports facilities;
- 5. Amenity greenspace;
- 6. Provision for children and teenagers;

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7. Allotments, community gardens, and city (urban) farms;
8. Cemeteries and churchyards;
9. Accessible countryside in urban fringe areas; and
10. Civic spaces, including civic and market squares, and other hard surfaced areas designed for pedestrians.

3.3.2. In the absence of updated guidance for amenity and recreation assessments, these typologies are still considered relevant.

3.4. Site visits

3.4.1. LDA Design visited all of the priority sites on the 25th and 26th of February 2019. The purpose of the visits was to assess the quality, functionality and estimate of usage levels of each of the sites and their surrounding context. In addition, the visits were used to assess how the DCO works would likely impact on each of the sites, and to scope any mitigation measures that could be applied.

3.5. Assessment of impacts

3.5.1. The assessment takes into account the likely impact of DCO works on the function and use of each of the prioritised amenity and recreation spaces.

3.5.2. The assessment does not form part of the Environmental Statement submitted with the DCO application and does not provide a formal assessment of the magnitude and significance of impacts. Furthermore, it does not take into account impacts relating to ecology, trees, air pollution, noise, visual intrusion or traffic as these are covered elsewhere in the DCO application.

3.5.3. The assessment of impacts is based on the extent of DCO working corridor, construction compounds and temporary access tracks, as set out in the Jacobs ProjectMapper System.

3.5.4. The context for assessing impacts is set by local planning authority open space and playing pitch studies. These studies, which inform Local Plan policies and allocations, are undertaken in accordance with NPPF paragraph 96. These studies highlight the qualitative need for open space, as well as quantifying deficits or surpluses, and identifying opportunities for new provision.

3.6. Identification of appropriate mitigation measures

3.6.1. Based on the findings of the impact assessment, generic and/or bespoke mitigation measures for each of the impacted amenity and recreation spaces are proposed. These mitigation measures are informed by national standards and guidance issued by bodies like Sport England, Fields in Trust and Play England wherever possible. In some cases, these mitigation recommendations have been informed by consultations held between Jacobs/Fisher German and the landowners or users.

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4.0 Site appraisals

4.1.1. This chapter sets out the assessments of the role, function and usage of each of the priority amenity and recreation sites along the DCO works corridor. The assessments identify how the DCO works are likely to impact the use of the sites and provide mitigation recommendations for minimising impact and/or ameliorating the sites post construction.

4.2. Site 1: Quetta Park

Location

4.2.1. Quetta Park is located within the settlement boundary of Church Crookham, near Fleet (Easting: 481739 Northing: 151010).

Typology

4.2.2. Parks and gardens.

Description of site and surroundings

- 4.2.3. Quetta Park is a 3.8 ha local park and garden, bound by Naishes Lane, Wakefords Park and roads forming part of Leipzig Barracks. Part of the boundary to Naishes Lane is formed by Quetta Park Community Hall and buildings belonging to the British Army.
- 4.2.4. The park predominantly comprises mown amenity grass, with occasional trees located at the park edges adjoining surrounding roads.
- 4.2.5. The park as a whole has a notable gradient, sloping gently down from Leipzig Barracks towards Naishes Lane (southeast to northwest). Shorter, slightly steeper gradients are evident at the boundaries with Wakefords Park and the westernmost roads of Leipzig Barracks, with the park sitting at a higher level to the surrounding houses on these boundaries.
- 4.2.6. A tarmacked cul-de-sac road comprising part of Leipzig Barracks extends into the centre of the park from the southeast. This road provides vehicle access to a small car park which serves users of the park. The road informally divides the park into two sections. The road continues as a footpath into a second car park serving the adjacent British Army building on Naishes Lane, providing a continuous surfaced link for pedestrians between Leipzig Barracks and Naishes Lane. The car park for the British Army building is outside the boundary of the park and it is assumed that use of this car park by the general public is not guaranteed.
- 4.2.7. A NEAP (kick wall) and LEAP (children’s playground) are located either side of the road towards the centre of the park.
- 4.2.8. No goalposts, pitch markings or other evidence of formal use for sports activities were identified on the day of the site visit, and the park is not identified as a playing pitch facility in Hart District’s Playing Pitch Strategy 2015 -2018.

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Access point/s

- 4.2.9. With the exception of a short, fenced stretch of boundary adjacent to the Naishes Lane/Wakefords Park junction, the park is not enclosed and has open access onto the grassed areas from all surrounding roads and from the car park of the British Army building on Naishes Lane. There are no formal entrances or signage to indicate arrival at the park.
- 4.2.10. The park is poorly defined in relation to its surroundings, and it is unclear if car parking in front of the British Army building and Quetta Park Community Hall is available for use by users of Quetta Park.

Figure 4.1 Quetta Park



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Facilities available

4.2.11. The following facilities are present on the site:

- Small car parking area adjacent to the children’s playground;
- NEAP (Kick wall);
- LEAP (children’s playground); and
- Single surfaced road and footpath.

4.2.12. The park does not contain any street furniture such as benches, bins or lighting.

Levels of usage

4.2.13. On the day of the site visit, few people were observed using the park, despite the fact that the weather was fine and sunny. However, surrounding streets - particularly Leipzig Barracks - were observed to be busy with children returning home from school.

4.2.14. The park is the largest area of greenspace in the immediate area and is easily accessible from all directions. Therefore, it is reasonable to assume that the park would be well used on weekends and at times of the year when people are more likely to be spend time outdoors, such as during school holidays and the summer months.

4.2.15. The park is known to be used for the ‘Soccer at Six’ initiative, aimed at giving young footballers professional coaching on their doorstep during May to August. While no other formal uses have been identified, it is possible that the park is used by other local community groups, and by the British Army whose buildings back onto the park.

Local Plan Policy

4.2.16. Amenity and Recreation spaces are protected from development under Policy URB21 ‘Loss of amenity and recreation open space’ of the Hart District Local Plan (Replacement) 1996:2006: Saved Policies.

4.2.17. Hart Local Plan Strategy and Sites 2016-2032 Proposed Submission Version Policy I4 ‘Open space, sport and recreation’ states that ‘existing open space, sports and recreational buildings and land, including playing fields should not be built on unless:

- a) An assessment has been undertaken which has clearly shown the open space, buildings or land to be surplus to requirements; or
- b) The loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location’.

Local Authority Amenity and Recreation Study findings

4.2.18. The Hart Open Space Study 2016 (HOSS) notes that the Church Crookham Parish Council area, within which Quetta Park lies, scores ‘Good’ for Quantity and Quality of open space provision overall, and ‘Average’ for Accessibility.

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- 4.2.19. The HOSS identifies Quetta Park as a local park and garden. The park has a Value Score of 58 and a Quality Score of 56, leading to a VQ rating of +- (High value/low quality). Spaces with a VQ rating of +- meet or exceed the required value standard but fall below the required quality standard.
- 4.2.20. The kick wall (NEAP) in the park has a Value Score of 1 and Quality Score of 5, leading to a VQ rating of +- (Low value/high quality).
- 4.2.21. The children’s playground (LEAP) in the park has a Value Score of 26 and Quality Score of 2, leading to a VQ rating of +- (High value/low quality).
- 4.2.22. The Study notes that responsibility for management of the park lies with Merlin, the management company for the wider ‘Crookham Park MOD - Quetta Park’ estate.

Impact of DCO works

- 4.2.23. The DCO Limits of Deviation will run parallel to Naishes Lane along the length of the park’s northwest boundary. Additionally, a construction compound will be located on a section of the park immediately adjacent to Wakefords Park (road).
- 4.2.24. The alignment of the replacement pipeline ensures that the majority of the park is unaffected, as most of the trenched construction works occur in the British Army’s car park on Naishes Lane and along the edge of Naishes Lane itself. A small corner of the park adjacent to the Naishes Lane/Wakefords Park junction will be taken out of use whilst the DCO works are undertaken.
- 4.2.25. The northeast corner of the park is elevated above the adjoining road network and the boundary has a slope up to that level. The construction compound would be located in the area at the top of the bank (and not on the bank itself), preventing views up to the centre of the park and restricting its use for formal sports recreation activities.
- 4.2.26. Overall, the total extent of the area that within the DCO Limits represents approximately 20% of Quetta Park, or only 10% of its grassed area. Furthermore, the areas affected are the least valuable parts of the park owing to their steeper gradients and proximity to adjacent roads which limit their use for sports recreation.
- 4.2.27. The NEAP, LEAP, footpath, potential pitch areas and dedicated parking area adjacent to Leipzig Barracks would be unaffected. The overall impact of the pipeline works on the open space resource is therefore considered to be limited.

Mitigation recommendations

- 4.2.28. Due to the limited impact of the replacement pipeline construction works on Quetta Park, no mitigation is considered necessary.

Impacts with mitigation

- 4.2.29. Not applicable.

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4.3. Site 2: Peter Driver Sports Ground

Location

4.3.1. Peter Driver Sports Ground is located in the parish of Church Cookham, near Fleet (Easting: 482076 Northing: 151741).

Typology

4.3.2. Outdoor sports facilities – football pitches.

Description of site and surroundings

4.3.3. Peter Driver Sports Ground is located in Church Cookham, off Bourley Road. The site comprises a large playing field, pavilion and car park. It is owned and managed by Church Crookham Parish Council.

4.3.4. The site lies on the eastern boundary of Church Crookham. It is bordered to the west by the B3013, with residential areas beyond. A care home and public house are situated to the north between the site and Bourley Road. A band of woodland runs along the eastern boundary, with Tweseldown Race Course beyond. A large office/production unit occupies a significant proportion of the site to the south.

Access point/s

4.3.5. Vehicular and pedestrian access to the site is from Bourley Road. Playing fields themselves are fenced off on all sides.

Facilities available

4.3.6. Facilities on site comprise:

- 2 adult size grass football pitches;
- A 3G 5 a-side pitch;
- A street snooker court;
- Outdoor gym;
- Sports pavilion;
- Storage shed; and
- Car park.

4.3.7. The football pitches and boundary fences are in reasonable condition.

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Figure 4.2 Peter Driver Sports Ground



Levels of usage

- 4.3.8. The Parish Council rents out the pitches on an ad hoc basis. The site is utilised for occasional fixtures by clubs playing in the Aldershot and District Football League and the Aldershot and Camberley Sunday League, as well as by Fleet Town Colts on Saturdays. Analysis of the fixture lists for all divisions in these leagues shows that the 2018/19 season extends between September 8th and April 20th.
- 4.3.9. In addition, Fleet and Crookham Athletic Club have their headquarters at Peter Driver Sports Ground. The Club has training sessions twice a week, and also use the all weather track in Aldershot every two weeks. Most runs start in the car park and take a variety of routes away from the ground. Track and field training takes place in Aldershot.

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Local Plan Policy

- 4.3.10. Amenity and Recreation spaces are protected from development under Policy URB21 ‘Loss of amenity and recreation open space’ of the Hart District Local Plan (Replacement) 1996:2006: Saved Policies.
- 4.3.11. Hart Local Plan Strategy and Sites 2016-2032 Proposed Submission Version Policy I4 ‘Open space, sport and recreation’ states that ‘existing open space, sports and recreational buildings and land, including playing fields should not be built on unless:
- c) An assessment has been undertaken which has clearly shown the open space, buildings or land to be surplus to requirements; or
 - d) The loss resulting from the proposed development would be replaced by equivalent or better provision in terms of quantity and quality in a suitable location’.

Local Authority Amenity and Recreation Study findings

- 4.3.12. The Hart District Council Playing Pitch Strategy 2015-2032 (published 2016) identifies that ‘overall, in terms of quantity, there is sufficient accessible and secured community use provision to meet current demand for football in the district as a whole’. It goes on to highlight that ‘the number of men’s senior league teams has declined slightly in the last 3 seasons. However, there are significant pressures on demand for access to good quality adult grass pitches at peak times, and there is some evidence from the club survey returns that lack of spare capacity of quality pitches is restricting clubs from growing the number of teams. The Strategy identifies Peter Driver Sports Ground as having usage levels that the site can sustain.

Impact of DCO works

- 4.3.13. The DCO Limits extend through approximately 35% of the playing field, taking in a significant proportion of both grass football pitches (including penalty boxes) and the current position of the street snooker court. Even with turfing of the pitches the recovery time required would likely impact on home fixtures of clubs playing in the Aldershot and District and Aldershot and Camberley Sunday Leagues, and any other football users.
- 4.3.14. Although lost home fixtures would impact on the income received by the Parish Council in the short term, it is considered likely that the two football clubs operating from the site could find alternative pitches to play on whilst the works are undertaken. In this regard, the Hart District Council Playing Pitch Strategy 2015-2032 identifies 9 adult-sized pitches at 6 sites across the borough as having capacity to accommodate increased levels of use. These are:
- Farnham Road Recreation Ground (4.1km from the site);
 - Long Sutton Recreation Ground (9.3km from the site);
 - Lord Wandsworth College (8.5km from the site);
 - Hartley Wintney Memorial Ground (7.3km from the site);
 - North Wanborough Old Boys FC (8.9km from the site); and
 - Rotherick Playing Fields (11.3km from the site).

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- 4.3.15. Alternatively, the clubs could potentially arrange to play their ‘home’ games at the ‘away’ clubs pitches for a temporary period.
- 4.3.16. The all weather 3G 5 a-side pitch and outdoor gym would be unaffected and the Athletics Club would be able to continue to operate, albeit on a smaller part of the field. The street snooker court can either be removed for the duration of the works or assembled elsewhere on the site.

Mitigation recommendations

- 4.3.17. To minimise impacts it is recommended that DCO works should commence immediately after the last game of the season, around mid April. To speed up the trenching through the site it is recommended that two teams of engineers operate from each end.
- 4.3.18. Upon completion of the works, the pitches should be reinstated to FA/Sport England Performance Quality Standards (PQS), with turf laying techniques and regular irrigation, to ensure that the playing surface is enhanced and returned to use as soon as possible. The appointment of an experienced turf laying contractor with a proven track record in sports development is key to ensuring that the correct surveys are undertaken and appropriate design specifications are applied.

Impacts with mitigation

- 4.3.19. The temporary impact is considered to be limited. Pre-season training would be able to commence on the northern part of the field but the southern section of the pitches could be impacted for some of the next season. However, although the reinstatement of the pitches is likely to impact on home games at at the beginning of the season, the evidence presented by the Hart Playing Pitch Strategy suggests that there are a number of adult pitches within a 10km radius of Church Crookham that could be used by the existing users while the surface recovers. The reinstatement of the pitch after works presents an opportunity to improve the playing surface in the longer term, as recommended in the Hart District Playing Pitch Strategy.

4.4. Site 3: Southwood Sports Pitches

Location

- 4.4.1. Southwood Sports Pitches are located in Farnborough (Easting: 485239 Northing: 155439).

Typology

- 4.4.2. Outdoor sports facilities – football and cricket pitches.

Description of site and surroundings

- 4.4.3. The site is comprised of two separate areas – Southwood Playing Fields and Cove Cricket Club.
- 4.4.4. Southwood Playing Fields is the larger of the two sites, comprising an extensive area of open playing fields bounded by Grasmere Road to the north, Ambleside Close and properties on Ively Close to the west, the Premier Inn Farnborough and Southwood Golf Course to the south, and an area of scrub and

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grassland to the east. Apart from mature trees and hedgerows around the perimeter, the fields are otherwise open and laid to mown amenity grass.

- 4.4.5. Southwood Playing Fields accommodate 10 football pitches of differing sizes. The surface of the pitches appears to be of good quality, befitting their status as the home ground of Rushmoor Community Football Club (RCFC). Additionally, the site accommodates a single cricket pitch during the summer months.
- 4.4.6. Immediately north of the playing fields lies a car park serving the fields and Southwood clubhouse providing changing room, toilet and clubroom facilities for the pitches.
- 4.4.7. Cove Cricket Club (CCC) occupies a separate self-contained site accessed from the eastern end of Grasmere Road, though the cricket club also uses the cricket pitch at Southwood Playing Fields during the summer months. A permissive footpath connecting the playing fields with Cove Road runs adjacent to the southern boundary of the cricket club's site, where a gate is located in the perimeter fencing. On the day of the site visit, this gate was locked.
- 4.4.8. CCC's site comprises a full-size cricket pitch, cricket nets, a pavilion, separate scoreboard and car park.

Access point/s

- 4.4.9. The primary access to Southwood Playing Fields is via a road and pedestrian footway from Ambleside Close at the northwest corner of the site. This leads directly to the car park and Southwood Pavilion.
- 4.4.10. The majority of the western boundary to Ambleside Close is enclosed by concrete posts and mesh fencing, but two narrow openings have been incorporated into the fence line to provide pedestrian access points from residential areas to the west. An additional pedestrian access point is located in the southeast corner of the site, which connects to a network of permissive paths linking the Rafborough area to West Heath. The existing Esso pipeline runs beneath this permissive path, which continues on through Southwood Golf Course to the south.
- 4.4.11. CCC's site is accessed via a single vehicle and pedestrian access at the eastern end of Grasmere Road. In addition, a pedestrian gate is located in the fence line along the southern boundary of the site, connecting to the network of permissive paths.

Facilities available

- 4.4.12. Southwood Playing Fields comprise the following facilities:
 - 3 x adult football pitches (Pitches 1, 2 & 4);
 - 3 x mini 5v5 football pitches (Pitches 3, 7 & 8);
 - 2 x youth 9v9 football (Pitches 5 & 6);
 - 1 x cricket pitch;
 - Pavilion building, including changing and toilet facilities and clubroom for RCFC; and
 - Dedicated car parking.

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4.4.13. No flood lighting infrastructure is in place to enable use of the pitches after dark.

4.4.14. Facilities at CCC's site include:

- 1 x cricket pitch;
- Pavilion, including changing facilities and function room;
- 2 x cricket nets; and
- Car park.

Figure 4.3 Southwood Sports Pitches



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4.4.15. CCC is progressing a project to upgrade the net practice facilities at the club through the addition of a third net. It is understood that the next stage in the project is to secure planning permission to undertake the works, though no planning application has been submitted to date. Following the grant of planning permission, fundraising efforts will continue, with financial support already pledged from the ECB and commitments from Rushmoor Borough Council to provide funding in 2019 and 2020.

Levels of usage

4.4.16. Southwood Playing Fields are the home of RCFC, a FA Charter Standard Community Club. According to the club's website, it has more than 40 teams and an active membership of around 600. Additionally, the club organises tournaments at Southwood Playing Fields. The 2018 tournament attracted over 140 football teams from across the region. RCFC also operates a booking system that enables members of the public to reserve pitches for use for league, cup and friendly matches.

4.4.17. CCC field four senior Saturday teams, a Sunday side and Ladies XI side. Additionally, the club fields girls teams at U11, U13 and U16, and boys teams at U7, U9, U11, U13, U15 and U17. District and County teams also use the sites. In addition, the club hires out its clubhouse building for private functions, events and wedding day receptions. Use of the club's private parking is included in hire packages.

Local Plan Policy

4.4.18. Rushmoor Local Plan Policy DE6 'Open space, sport and recreation' states that 'development will not be permitted on areas of open space used for recreation or outdoor sport or having visual amenity unless:

1. Re-provision is made elsewhere of equivalent or better community benefit in terms of quality and accessibility;
2. The development is for sports and recreation provision, the need for which clearly outweighs the loss; and
3. An assessment has been undertaken, which has clearly shown the open space to be surplus to requirements in meeting need in Rushmoor over the plan period.

4.4.19. Policy DE7 'Playing fields and ancillary facilities' states that resources will be protected for sport and recreational use unless:

1. Replacement new provision, in an accessible location, and of equivalent or better quality and quantity, is made elsewhere of equivalent community benefit; or
2. The development is for sports and recreation or ancillary provision, the need for which clearly outweighs the loss'.

Local Authority Amenity and Recreation Study findings

4.4.20. The 'Rushmoor Borough Council: Playing Pitch Strategy 2014-2020' identifies that provision of cricket facilities within the Borough are sufficient to meet identified needs. This is in part due to good availability of existing facilities within the borough, notably at Aldershot Cricket Club, CCC and public and school pitches. However, there is also a high proportion of trips to a purpose built indoor

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cricket centre eight miles outside the Borough at Eversley in Hampshire, which reduces pressure on facilities within Rushmoor.

- 4.4.21. The strategy notes that the Council’s overall priority for cricket provision should be to ensure that pitches under its control offer high quality facilities, rather than offering several pitches of limited quality and use. It also notes that the RBC should work in partnership with CCC and ACC to encourage public use of their respective facilities.
- 4.4.22. The facilities at CCC are considered by the authors of the Playing Pitch Strategy to be of ‘Good’ quality (the highest rating).
- 4.4.23. With regards football, the strategy also notes that the quantity of provision in Rushmoor is sufficient to satisfy demand generated by the borough’s population.
- 4.4.24. Southwood Playing Fields are identified in the Playing Pitch Strategy as being of ‘Good’ quality, the highest rating, though improvement of car parking provision are seen as actions for future implementation.

Impact of DCO works

- 4.4.25. The route of the replacement pipeline will largely bypass Southwood Playing Fields. The only area of potential impact lies in the southeast corner of the fields, where the construction zone will pass in very close proximity to the corner of Pitch P9. While being the most distant pitch from Southwood Pavilion, Pitch P9 is a full size pitch and is likely to be well used as part of the RCFC’s activities.
- 4.4.26. Construction works associated with the pipeline will not encroach onto Pitch P9. Pitches will therefore be unaffected.
- 4.4.27. The DCO Extent of Deviation will not encroach onto CCC’s pitch or cricket nets. Construction access will however be achieved through the car park and southern fringe of the site.
- 4.4.28. Depending on the nature of works to be undertaken, it is possible that part of the CCC’s car park would be removed whilst the DCO works are undertaken. Whilst this could impact on parking provision at CCC’s permanent cricket pitch, there is considered to be more than adequate parking provision adjacent to the football pitches to meet match day requirements.

Mitigation recommendations

- 4.4.29. No specific mitigations are likely to be required with regards Southwood Playing Fields due to the fact that the construction zone does not encroach onto any of the football or cricket pitches. However, good construction practice should be followed with regards the attenuation of noise and suppression of dust to minimise effects on the amenity of users of the nearby pitches.

Impacts with mitigation

- 4.4.30. There will be no impact on the playing pitches.

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4.5. Site 4: West Heath Road

Location

4.5.1. West Heath Road is located in Cove, Farnborough (Easting: 485752 Northing: 155991).

Typology

4.5.2. Amenity greenspace.

Description of site and surroundings

4.5.3. The area to the north of West Heath Road primarily comprises mown amenity grass adjacent to Cove Brook, with a surfaced path cutting diagonally through the centre of the space from West Heath Road to the south to Glebe Road to the northwest. The edges of the space are defined by dense, tall boundary vegetation, including mature trees and bushes along the banks of the Cove Brook to the east. Trees adjacent to the site entrances from Glebe Road and West Heath Road screen and filter views from surrounding roads, helping to create a secluded character towards the centre of the space.

4.5.4. The site forms part of the Cove Brook Greenway. The Cove Brook Greenway extends to the railway line to the south, and to larger areas of amenity open space to the north. It provides local residents with an attractive pathed loop adjacent to, and around, the Cove Brook, with linkages to surrounding estates and facilities.

Access point/s

4.5.5. Both sections of the space have open boundaries to West Heath Road. North of West Heath Road, the footpath running up the centre of the site connects to Glebe Road.

4.5.6. South of West Heath Road, two footpaths run parallel to the Cove Brook on each side. These converge at the railway viaduct to the south, with footpaths continuing to run parallel to the viaduct in both east and west directions.

Facilities available

4.5.7. Bins and benches are present adjacent to the footpath cutting through the centre of the space to the north of West Heath Road. No other facilities are available.

Levels of usage

4.5.8. Due to its small size, the space is not suitable for informal sports or recreation activities that require a larger amount of space, such as ball games. The spaces do not have any equipped play areas that would attract children and families. As a result, the space is likely to be used primarily as a green ‘cut through’ for local residents moving around the neighbourhood, for short visits by people using the seating, and by users of the Cove Brook Greenway.

4.5.9. In the context of much larger areas of amenity open space at Blunden Road Park 300m to the north, the space has a more transitory character, rather than that of a destination.

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Figure 4.4 West Heath Road



Local Plan Policy

4.5.10. Rushmoor Local Plan Policy DE6 ‘Open space, sport and recreation’ states that ‘development will not be permitted on areas of open space used for recreation or outdoor sport or having visual amenity unless:

- Re-provision is made elsewhere of equivalent or better community benefit in terms of quality and accessibility;
- The development is for sports and recreation provision, the need for which clearly outweighs the loss; and

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- An assessment has been undertaken, which has clearly shown the open space to be surplus to requirements in meeting need in Rushmoor over the plan period'.

Local Authority Amenity and Recreation Study findings

4.5.11. The open space at West Heath Road is not specifically identified within the Rushmoor Open Space, Sport and Recreation Study 2014 (ROSS).

4.5.12. However, the ROSS notes that, in addition to audited sites, there are a large number of small amenity grassland sites surrounding housing that could be improved through providing elements of natural play and increasing biodiversity. The open space at West Heath Road is likely to fall into this category of open space.

4.5.13. The site also sits within a 'publicly accessible green corridor', the Cove Brook Greenway. The essential characteristics of green corridors are identified as:

- A range of habitats for nature conservation;
- Provides for informal recreation;
- Basic facilities including bins/dog bins;
- Contribute to local character; and
- Act as a buffer to local transport routes of industry.

4.5.14. The Cove Brook Greenway has a Value Scoring of ++, indicating that it is of High Quality and of High Value. This is due to it allowing for unrestricted public access and a range of features and facilities for informal recreation and biodiversity. The score applies to the Greenway as a whole and not the specific area affected by the replacement pipeline development.

Impact of DCO works

4.5.15. A large proportion of the site will be occupied by a construction compound for the duration of works in this area. The compound has been located to minimise tree loss and disruption to dense, mature vegetation around the perimeter of this area of open space, which adds to its naturalistic and tranquil qualities. However, the result is that the majority of the open grassland and the main footpath that runs through the open space between West Heath Road and Glebe Road will be closed for the duration of works.

4.5.16. South of West Heath Road, construction works will partly be confined underground due to the use of directional drilling and trenchless construction, with only minor enabling works at ground level. However, some temporary disruption and closure of the space is possible.

4.5.17. The implications of closing the pedestrian links through the spaces could have broader implications on open space resource, as the links form a key part of the Cove Brook Greenway linking Moor Road Park, Blunden Road Park and Southwood Playing Fields.

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Mitigation recommendations

- 4.5.18. In the context of the naturalistic environment along the length of the Cove Brook Greenway, and the availability of larger, open areas of space in the vicinity, it is not considered that alternative provision of open space will need to be provided to mitigate the temporary loss of amenity green space at West Heath Road.
- 4.5.19. Although the site forms part of the Cove Brook Greenway, the circular route can be maintained via Glebe Road, facilitated by temporary diversion signage.

Impacts with mitigation

- 4.5.20. Subject to connectivity being maintained along the Cove Brook for the duration of construction works, residual impacts after mitigation are likely to be minimal.

4.6. Site 5: Queen Elizabeth Park

Location

- 4.6.1. Queen Elizabeth Park (QEP) is located within the settlement boundary of Farnborough (Easting: 486791 Northing: 156201).

Typology

- 4.6.2. Parks and gardens.

Description of site and surroundings

- 4.6.3. QEP is a large park located to the north of Farnborough Railway Station. The park is bound by the rear of properties on Empress Avenue and Pierrefonds Avenue to the north, the A325 Farnborough Road to the east, the South Western Main Line railway and the rear of properties fronting Highgate Lane to the south, and Cabrol Road to the west.
- 4.6.4. The park is characterised by extensive tree and rhododendron cover, giving it an enclosed, woodland feel. A clearing at the centre of the park provides the only open area of amenity grass.
- 4.6.5. A shared pedestrian cycle path runs parallel to the southern boundary of the site, connecting Cabrol Road to the west with the A325 Farnborough Road to the east. This connects with a network of informal paths within the park. The ROSS notes that this network of footpaths is of good quality, but that it could be better connected to the wider rights of way network.
- 4.6.6. An equipped children’s playground is located in the southwest corner of the park, close to the entrance from Cabrol Road.
- 4.6.7. The park also contains two areas of car parking, adjacent to the site entrances at Cabrol Road and the A325 Farnborough Road.

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Figure 4.5 Queen Elizabeth Park



Access point/s

- 4.6.8. QEP has three access points. The primary vehicle and pedestrian accesses are located at Cabrol Road to the west and from the A325 Farnborough Road to the northeast. Each of these access points connects into a car park, from which park users can walk into the park.
- 4.6.9. A second access from the A325 Farnborough Road is located in the southeast corner of the site. The access is for pedestrian and cycles only, connecting to a shared use path that runs parallel to the southern boundary of the site between Farnborough Road and Cabrol Road.

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Facilities available

4.6.10. QEP contains the following facilities:

- NEAP (children’s playground);
- Good footpath network;
- Benches;
- Bins;
- Interpretation signage related to biodiversity within the park; and
- 2 x car parks

Levels of usage

4.6.11. QEP is well used by the local community. The ROSS identifies at Table 4.3 that it was the third most used open space in the borough according to one survey, and the play area is highly valued.

4.6.12. On the day of the site visit, the equipped play area adjacent to the western car park was in constant use by young children accompanied by adults. Most users of the play area were observed arriving on foot from Cabrol Road, with unused car parking spaces observed for the duration of the site visit. However, the visit occurred between 12 and 1pm on a weekday, and it is possible that demand for car parking spaces is higher during busier periods, such as at weekends and out of school term time.

4.6.13. Further into the park, people were observed using the main shared use path running adjacent to the southern boundary and several people walking dogs and jogging were observed on secondary paths and on grassed areas towards the centre of the park.

4.6.14. The car park at the eastern end of the park, accessed via A325 Farnborough Road, appeared to be a more popular arrival point for people arriving by car.

Local Plan Policy

4.6.15. Rushmoor Local Plan Policy DE6 ‘Open space, sport and recreation’ states that ‘development will not be permitted on areas of open space used for recreation or outdoor sport or having visual amenity unless:

- Re-provision is made elsewhere of equivalent or better community benefit in terms of quality and accessibility;
- The development is for sports and recreation provision, the need for which clearly outweighs the loss; and
- An assessment has been undertaken, which has clearly shown the open space to be surplus to requirements in meeting need in Rushmoor over the plan period’.

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Local Authority Amenity and Recreation Study findings

- 4.6.16. According to the Rushmoor Open Space Strategy (ROSS), QEP has a ‘Value Quality’ (VQ) score of ++, indicating it is of both high Value and Quality, and is one of the two largest parks in the borough. Its current VQ score is above the required benchmark for value and quality.
- 4.6.17. However, the VQ score of the play area (defined as a NEAP) is +, indicating it is of Low Value and High Quality. Para 8.62 of the ROSS states ‘The play area within Queen Elizabeth Park is considered to achieve the required benchmark for quality but scores lower than other sites for play value; this is partly due to the site not offering other items of play aside from the play area’.
- 4.6.18. The ROSS identifies an under provision of NEAPs in Farnborough of -1.09 per 1000 head of the population aged 15–19, below the benchmark standard of 1.16 sites per 1000. Additionally, most NEAPs are outside the benchmark accessibility distance of 600m/15 minute walk to users. The closest alternative NEAP to the playground located in QEP is at Sycamore Road/King George V Fields, 1.77km to the east.
- 4.6.19. The QEP NEAP adjacent to Cabrol Road is identified as having provision for a wide age range (i.e. it could also serve the purpose of a LEAP or a LAP), and it is, therefore, also included at Figure 8.13 and 8.14 of the ROSS showing LEAPs and LAPs respectively. The Accessibility benchmark for LEAPs is 240m from intended users, and 60m for LAPs.
- 4.6.20. The closest LEAP/LAP to QEP is 382m away between Cove Road and Prospect Road (on the opposite side of the railway tracks). Blunden Road Park and another smaller LAP are approximately 800m to the northwest.

Impact of DCO works

- 4.6.21. The proposed route of the replacement pipeline enters the park in the southwest corner from Cabrol Road, running parallel to the southern boundary of the park before exiting in the south corner onto A325 Farnborough Road. The proposed alignment of the replacement pipeline will affect several features of the park:
- The entrance from Cabrol Road will be closed for the duration of works to enable construction traffic access;
 - The western car park will be closed for the duration of works to allow construction traffic access and the erection of a construction compound on part of the car park and adjoining open space;
 - The equipped area of play will be closed and equipment removed for the duration of works to enable construction of the pipeline;
 - The main shared use path along the southern boundary of the park will be closed for the duration of works to enable trenched construction of the pipeline between the western car park and the pipeline’s point of exit on Farnborough Road (A325);
 - The tranquillity and naturalistic qualities of the park are likely to be temporality diminished due to:

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- Increased noise associated with construction of the pipeline. Sources of noise may include construction vehicle traffic, plant and machinery involved in the excavation of trenches and laying of the pipeline, and general noise from construction workers.
- Visual intrusion of construction hoarding, fencing and signage, particularly in the south west of the park and along the boundary of the construction route; and
- Limited loss of trees and vegetation required along the proposed route of the pipeline.

4.6.22. Overall, the impact of the proposed pipeline works is likely to be high in this location. This is due to the quality and popularity of the open space provision, and the closure of key elements of this provision, notably the equipped children’s play area and the main pedestrian and cycle route through the park.

Mitigation recommendations

4.6.23. Policy CP12 of the Core Strategy specifically lists QEP as one of the open spaces where provision and accessibility should be maintained and improved.

4.6.24. Measures should be explored to mitigate the impact of the works on the equipped children’s play area and the main route through the park.

4.6.25. The park is broadly flat, with numerous secondary paths and well-worn naturalistic areas that are already used by people walking, walking dogs, jogging and for general recreational purposes. There is scope to identify an alternative main pedestrian and cycle route through the park, potentially by joining together existing paths where possible.

4.6.26. Localised works may be required to more clearly define path surfaces and/or mark out routes through signage or low marker posts. The alignment of this route should be as direct as possible to match the function of the existing route, connecting the southwest corner of the park to the A325 Farnborough Road in the southeast.

4.6.27. In order to achieve this, safe pedestrian and cycle access from Cabrol Road should be maintained throughout the duration of the works. The proposed alignment of the pipeline indicates that it will not be possible to maintain the existing pedestrian and cycle access to A325 Farnborough Road in the southeast corner of the park. Consideration should be given to providing an alternative pedestrian and cycle access to the north of the construction route.

4.6.28. The existing under-provision of NEAPs in Farnborough, and the distance to the nearest alternative site, means that a reduction in provision would be highly undesirable. It is therefore recommended that a smaller equipped children’s play area (NEAP) should be relocated close to the southern car park. This could be accommodated within the DCO Limits, by rerouting the proposed haul road closer to the compound, thereby creating space to the north. The existing NEAP should be reinstated post construction.

4.6.29. Alternatively, as Rushmoor Council have plans to replace equipment in the existing NEAP there may be an opportunity to negotiate a financial contribution towards the provision of a new NEAP elsewhere in QEP before DCO works commence. Two broad areas have been identified within the park that may provide a suitable location for a new NEAP (see Figure 4.5 labels A and B). Area B appears to

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be the least constrained location, comprising a flat area of amenity grass with relatively few surrounding trees. Area B is accessed from an existing path, which could be improved, but will be approximately 150m from the nearest car parking provision once the western car park is closed during construction of the pipeline.

- 4.6.30. Area A is located in the eastern side of the park, adjacent to the eastern car park. Area A is broadly flat, but is in closer proximity to mature and semi mature trees which surround the flatter land on all sides. Limited tree felling and/or pruning of low branches may be required to facilitate relocation of the entire play area to Area A. Alternatively, consideration could be given to reducing the available seating in the play area or relocating only a proportion of the existing play equipment to minimise tree felling and/or pruning.
- 4.6.31. On balance, Area A appears to be the preferable location due to its closer proximity to car parking provision, which is likely to be valued by parents with younger children. It is also at a further distance to the proposed construction zone, minimising impacts on children from construction noise and dust, and allows the existing amenity grassland at Area B to be retained for other recreational uses e.g. informal ball games, picnics, sunbathing etc.
- 4.6.32. Amenity impacts arising from construction noise should be mitigated as far as possible through good construction management, such as use of acoustic fencing, use of plant and machinery compliant with relevant British Standards.
- 4.6.33. The limited loss of trees and vegetation along the construction route will have a very limited effect on the recreational value of the open space when considered in isolation. However, replanting of trees and vegetation along the route of the pipeline following completion of construction works has the potential to improve the amenity value of the main path through replanting with more varied planting with year round interest and greater sensory value.

Impacts with mitigation

- 4.6.34. Subject to the implementation of the mitigation outlined above, impacts are likely to be limited to a reduction in tranquillity through increased construction noise, and inconvenience arising from the temporary closure of the western car park and NEAP and rerouting of the main pedestrian and cycle route through the site.

4.7. Site 6: Farnborough Gate Sports Ground

Location

- 4.7.1. Farnborough Gate Sports Ground is located within the settlement boundary of Farnborough (Easting: 487444 Northing: 157123).

Typology

- 4.7.2. Outdoor sports facilities – football pitches.

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Description of site and surroundings

- 4.7.3. Farnborough Gate Sports Ground comprises a single football pitch. It adjoins an outdoor bowling facility which is outside the DCO Limits. The site is served by a single clubhouse and large car park.
- 4.7.4. The site is bounded by residential areas to the west, a retail park to the north, a railway to the east and a cemetery and allotments to the south. The boundaries of the site are well treed.

Access point/s

- 4.7.5. Vehicular access to the site is from Ringwood Road. This extends into a car park which was full at the time of the site visit, despite no football or bowls taking place. The vehicular access continues into the site itself, finishing at the clubhouse. A pedestrian route is provided into the site from the west, linking to Mariners Drive.

Facilities available

- 4.7.6. Facilities on site include a football pitch, bowling green and clubhouse. The football field is grass and relatively well maintained. The goal posts were down at the time of the site visit and the pitch looked relatively unused. The netting surrounding the northern and western edges of the pitch was badly damaged at the time of the visit, also indicating a recent lack of use and investment.
- 4.7.7. Farnborough Gate Bowls Club is a well maintained facility. The clubhouse faces onto the bowling green, with doors backing onto the football pitch. Benches surround the bowling green but not the football pitch.

Levels of usage

- 4.7.8. In 2014, when the Rushmoor Borough Council Playing Pitch Strategy 2014-2020 was published, the pitch was leased to Old Salesians Football Club. The club has since become Chertsey Old Salesians FC and has moved to Victory Park Road in Addlestone. The pitch was mown and line painted at the time of the site visit, but it is unclear whether or not another club has taken on the lease.

Local Plan Policy

- 4.7.9. Rushmoor Local Plan Policy DE6 ‘Open space, sport and recreation’ states that ‘development will not be permitted on areas of open space used for recreation or outdoor sport or having visual amenity unless:
 - Re-provision is made elsewhere of equivalent or better community benefit in terms of quality and accessibility;
 - The development is for sports and recreation provision, the need for which clearly outweighs the loss; and
 - An assessment has been undertaken, which has clearly shown the open space to be surplus to requirements in meeting need in Rushmoor over the plan period’.

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4.7.10. Policy DE7 ‘Playing fields and ancillary facilities’ will be protected for sport and recreational use unless:

- Replacement new provision, in an accessible location, and of equivalent or better quality and quantity, is made elsewhere of equivalent community benefit; or
- The development is for sports and recreation or ancillary provision, the need for which clearly outweighs the loss’.

Figure 4.6 Farnborough Gate Sports Ground



Local Authority Amenity and Recreation Study findings

4.7.11. The Rushmoor Borough Council Playing Pitch Strategy 2014-2020 (published in 2014) identifies a total of 47 football pitches serving 49 main adult and youth clubs. It states that overall the level of provision

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is adequate to meet existing and projected demand. At the time of reporting in 2014, Farnborough Gate was identified as being licenced to Old Salesians Football Club and not available for public use. The quality of the facility is categorised as being ‘standard’.

Impact of DCO works

4.7.12. The whole football pitch will be taken out of action during the course of the DCO works. This could be for multiple months as trenchless techniques will be adopted through the Blackwater Valley, between the pitch and the other side of the adjacent railway line to the east of the site. The bowling green and clubhouse will be unaffected, although vehicular access to the site could be impacted if works are still underway when the bowls season starts.

Mitigation recommendations

4.7.13. Given the narrowness of the site, surrounding uses and requirement for trenchless techniques below the railway, there is little scope for protecting the pitch during the DCO works. The works will need to commence immediately upon the conclusion of the football season in May and be completed as soon as feasibly possible. Although the following season will be impacted, the reinstatement of playing surface could be sped up by laying turf instead of seeding, with continued irrigation to help establishment.

4.7.14. The surface should be reinstated to FA/Sport England Performance Quality Standards (PQS), with appropriate turf laying techniques and regular irrigation, to ensure that the playing surface is enhanced and returned to use as soon as possible. The appointment of an experienced playing pitch contractor with a proven track record in sports development is key to ensuring that the correct surveys are undertaken and appropriate design specifications are applied.

4.7.15. In the meantime, any current users would need to play a proportion of their home fixtures at alternative facilities across the Borough. The fact that, in 2014, there were 47 pitches serving 49 adult and youth teams, suggests that there may be capacity to accommodate current user needs in the short term while DCO works and pitch reinstatement are completed.

4.7.16. Pedestrian access to the bowls club throughout the DCO works should be remain unhindered as far as possible.

Impacts with mitigation

4.7.17. The adoption of appropriate re-turfing techniques, with regular irrigation, will help to ensure that the facility is returned to use as soon as feasibly possible. This will impact on current users, who will need to host home fixtures on other available facilities in the Borough. However, once completed, it is considered that the reinstatement works will help to improve the quality of the playing surface, which, in turn, should help to improve the playing capacity of the pitch.

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4.8. Site 7: Balmoral Drive West

Location

4.8.1. Balmoral Drive West is located within the settlement boundary of Frimley Green (Easting: 488528 Northing: 157659).

Typology

4.8.2. Amenity greenspace.

Description of site and surroundings

4.8.3. Balmoral Drive West is a large area of amenity greenspace on either side of Balmoral Drive. Much of the area is densely wooded, apart from the grass verges and a sustainable urban drainage system (SUDs) at the northeast end. There is little evidence to suggest that the amenity greenspace to the south of Balmoral Drive is utilised by the public. The same is true of much of the wooded area to the north of Balmoral Drive apart from a well-used path along the stream, situated between the SUDs and the Community Centre at the western end, and a pavement along the road itself. The SUDs area is well landscaped, providing an attractive setting for dog walking and relaxation. The paths through it link residential areas with surrounding facilities.

Access point/s

4.8.4. Access to the amenity greenspace to the north of Balmoral Drive is obtained via footpaths. There is limited off road parking provision along Balmoral Drive. Pedestrian linkages are from residential areas in the northeast corner as well as from the west. These link along the stream to the Community Centre in the western part of the site. Although it is possible to access the grass verges to the south of Balmoral Drive, there are no formal paths and little evidence of use.

Facilities available

4.8.5. The area around the SUDs in the northeast corner is well landscaped and has a number of benches and dog waste bins. The western part of the site includes a community centre, with parking and recycling bins.

Levels of usage

4.8.6. At the time of the site visit there were no people using the site, apart from those directly accessing the Community Centre and/or its recycling bins. However, the proximity of residential areas and the well-worn nature of the path between the SUDs and the Community Centre indicate that the flatter sections of the site to the north of Balmoral Drive are well used. The opposite is true for the amenity greenspace to the south of Balmoral Drive, which has little sign of public use.

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Figure 4.7 Balmoral Drive West



Local Plan Policy

4.8.7. The site is allocated under ‘Green Space and Recreational Facilities’ under Policy DM15 of the Surrey Heath Core Strategy and Development Management Policies Document 2012. This policy states that ‘green spaces in settlement areas will be protected by restricting development to appropriate informal recreation uses or recreation facilities that are of a scale commensurate with the size of the space’. It goes on to specify that ‘existing formal recreation facilities will be protected unless it can be demonstrated that such facilities are to be co-located in dual use facilities, are to be provided within appropriate replacement facilities or are surplus to requirements and there is no demand for any other recreational purpose’.

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Local Authority Amenity and Recreation Study findings

- 4.8.8. The Surrey Heath Open Space Assessment (September 2016) identifies 57 amenity spaces in the Borough, covering a combined total of 104 ha. Provision is described as being relatively evenly spread across the Borough, with 1.24 ha per 1,000 population in urban areas and 1.09 ha per 1,000 people in rural areas.
- 4.8.9. The Fields in Trust ‘Guidance for Outdoor Sport and Play: Beyond the Six Acre Standard’ publication identifies people should have access to an amenity green space within 480m of their homes. Balmoral Drive West is part of a grouping of amenity greenspaces, along with ‘South of Balmoral Drive’ and ‘Hillside Crescent’, within a 5 minute walk of a densely populated part of Frimley Green.
- 4.8.10. The Open Space Assessment awards each of the amenity green spaces in the Borough with a quality and value score. The quality score is based on a range of indicators including physical access, personal safety, parking, equipment and facilities, security, maintenance and cleanliness. The Value score is based on a range of indicators including level of use, context of site in relation to other open spaces, landscape, ecological, educational, social and other benefits. Balmoral Drive West scores 64.6% for quality and 22.1% for value. These are above the acceptable threshold scores of 60% and 20% for quality and value respectively.

Impact of DCO works

- 4.8.11. The DCO works would be focussed on the grass verges either side of Balmoral Drive. Given that visual inspections of the verges and woodland to the south of the Balmoral Drive indicate that it is not used by the public, it is considered that there will be no impact. Provided the pavement through the site is unhindered by the DCO works, the functionality of the amenity greenspace to the north of Balmoral Drive should not be impacted.

Mitigation recommendations

- 4.8.12. It is recommended that the DCO Limits of Deviation are restricted to the tarmacked area of Balmoral Drive as far as feasibly possible. The pathways to the north of Balmoral Drive should be kept open and access to the site from the residential areas to the south should be retained during the construction programme.

Impacts with mitigation

- 4.8.13. Providing DCO works are contained along the southern verge and Balmoral Drive itself, it is unlikely that the current usage of the amenity greenspace would be hindered throughout the construction phase. The impact would therefore be temporary and minimal.

4.9. Site 8: South of Balmoral Drive

Location

- 4.9.1. South of Balmoral Drive is located within the settlement boundary of Frimley Green (Easting: 488757 Northing: 157776).

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Typology

4.9.2. Amenity greenspace.

Description of site and surroundings

4.9.3. The site comprises two grassed areas split by a stream with wooded banks. The land is flat with a network of tarmac paths running through and around it. It forms part of a green amenity corridor along Balmoral Drive, serving as a resource for densely developed residential areas situated to the north and south.

Access point/s

4.9.4. The amenity greenspace is set in a central location between two dense housing estates either side of Balmoral Drive. Pedestrian footpaths extend across it although the gentle gradient of the site means access is unconstrained.

4.9.5. The site adjoins site 7 ‘West of Balmoral Drive’, forming an extensive amenity greenspace resource for local residents with a network of footpaths.

Facilities available

4.9.6. There are no facilities on site apart from a number of dog waste bins.

Levels of usage

4.9.7. Although there were no users on site at the time of the visit, it is likely that it is an important amenity space for local residents for dog walking and games. It is considered that usage levels are limited by the lack of benches, landscaping and play space. The nearest LAP is situated in Frimley Green Recreation Park, 600m from the site up a steep hill, whilst the closest LEAP is 1km away at Chobham Road.

Local Plan Policy

4.9.8. The site is allocated under ‘Green Space and Recreational Facilities’ under Policy DM15 of the Surrey Heath Core Strategy and Development Management Policies Document 2012. This policy states that ‘green spaces in settlement areas will be protected by restricting development to appropriate informal recreation uses or recreation facilities that are of a scale commensurate with the size of the space’. It goes on to specify that ‘existing formal recreation facilities will be protected unless it can be demonstrated that such facilities are to be co-located in dual use facilities, are to be provided within appropriate replacement facilities or are surplus to requirements and there is no demand for any other recreational purpose’.

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Figure 4.8 South of Balmoral Drive



Local Authority Amenity and Recreation Study findings

- 4.9.9. The Surrey Heath Open Space Assessment (September 2016) identifies 57 amenity spaces in the Borough, covering a combined total of 104 ha. Provision is described as being relatively evenly spread across the Borough, with 1.24 ha per 1,000 population in urban areas and 1.09 ha per 1,000 people in rural areas.
- 4.9.10. The Fields in Trust ‘Guidance for Outdoor Sport and Play: Beyond the Six Acre Standard’ publication identifies people should have access to an amenity green space within 480m of their homes. South of Balmoral Drive is part of a grouping of amenity greenspaces, along with ‘West of Balmoral Drive’ and ‘Hillside Crescent’, within a 5 minute walk of a densely populated part of Frimley Green.

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4.9.11. The Open Space Assessment awards each of the amenity green spaces in the Borough with a quality and value score. The quality score is based on a range of indicators including physical access, personal safety, parking, equipment and facilities, security, maintenance and cleanliness. The Value score is based on a range of indicators including level of use, context of site in relation to other open spaces, landscape, ecological, educational, social and other benefits. South of Balmoral Drive scores 55.6% for quality and 33.7% for value. These are below the acceptable threshold score of 60% for quality but above the 20% standard for value.

Impact of DCO works

4.9.12. As part of the construction proposals, the DCO Limits of Deviation extend along Balmoral Drive, taking in a small proportion of the grassed area to the north of the stream. A construction compound would be placed over the western section of grassed area (north of the stream) within the DCO Limits. A proportion of the amenity greenspace would therefore remain accessible to local residents.

Mitigation recommendations

4.9.13. It is recommended that the network of paths be retained throughout the site. These provide important linkages between housing estates, facilities and to other sections of the amenity greenspace along Balmoral Drive. Plating over a section of trench may be required to facilitate this.

4.9.14. Once DCO works are complete the land should be reseeded.

Impacts with mitigation

4.9.15. The impact will be temporary and, providing the mitigations are applied, usage is unlikely to be hindered to a great degree during the DCO works. In the longer term, once DCO works have been completed and the landscaping of the site has been improved, the quality and value of the amenity greenspace could be raised, thereby enhancing the role of the site, and adjacent local centre, as a focal point for community life.

4.10. Site 9: SC Johnson

Location

4.10.1. SC Johnson is located within the settlement boundary of Frimley Green (Easting: 487707 Northing: 157542).

Typology

4.10.2. Outdoor sports facilities – football pitches.

Description of site and surroundings

4.10.3. The site is within the grounds of the SC Johnson factory on the edge of Frimley Green. It comprises a football pitch, tennis courts and golf holes that are operated by the SC Johnson social club. The grassed areas lie within a Flood Zone 3b area, indicating that drainage is relatively poor.

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4.10.4. The SC Johnson factory is immediately to the south of the site. Frimley Green Road and housing lie to the east of the site, with residential areas and woodland adjoining the north and west boundaries respectively.

Access point/s

4.10.5. The site is private, only accessible to SC Johnson staff and friends. The only point of access is through the main entrance to the SC Johnson factory from Frimley Green Road which is operated by security staff. The remainder of the site is surrounded by high security fencing.

Figure 4.9 SC Johnson



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Facilities available

4.10.6. The facilities on site include an adult size grass football pitch, two hard surface tennis courts and a series of pitch and putt golf holes.

Levels of usage

4.10.7. The facilities are only available for SC Johnson staff and friends to use. There is no evidence of an official football club regularly using the playing pitch and no markings were observed during the site visit.

4.10.8. The 2015 Surrey Heath Employment Land Review reports that the SC Johnson site ‘is now only partly used, with much of the original building lying vacant. A section of the offices at the front (east) of the site remain in use, primarily for administration purposes. However, the site is no longer used for manufacturing products’. This indicates that SC Johnson employee use of the sports facilities is likely to have declined in line with falling staff numbers over the last decade.

Local Plan Policy

4.10.9. The site is allocated under ‘Green Space and Recreational Facilities’ under Policy DM15 of the Surrey Heath Core Strategy and Development Management Policies Document 2012. This policy states that ‘green spaces in settlement areas will be protected by restricting development to appropriate informal recreation uses or recreation facilities that are of a scale commensurate with the size of the space’. It goes on to specify that ‘existing formal recreation facilities will be protected unless it can be demonstrated that such facilities are to be co-located in dual use facilities, are to be provided within appropriate replacement facilities or are surplus to requirements and there is no demand for any other recreational purpose’.

Local Authority Amenity and Recreation Study findings

4.10.10. The Surrey Heath Council Playing Pitch Assessment (2016) identifies 102 grass football pitches within Surrey Heath across 44 sites. Of these pitches, 75 are available at some level for community use across 30 sites. Of the 75 available pitches, 36 are adult size.

4.10.11. The assessment identifies that there is current spare capacity in rural areas of 4.5 match equivalent sessions, and a shortfall of 4 match equivalent sessions in urban areas. Therefore, there is currently spare capacity of 0.5 match equivalent sessions on adult pitches across the Borough overall.

Impact of DCO works

4.10.12. During the course of the DCO works the site would be utilised as a temporary car park for SC Johnson staff, with vehicular access achieved directly from Frimley Green Road. This would result in the whole site being taken out of use.

4.10.13. Based upon the findings of the Surrey Heath Council Playing Pitch Assessment it is considered likely that SC Johnson staff would be able to find available playing pitches elsewhere in the Borough to play football while the DCO works are underway.

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Mitigation recommendations

- 4.10.14. The tennis courts are considered to be in good condition and should be protected and made accessible to SC Johnson staff whilst the site is being used for a construction compound.
- 4.10.15. Once the temporary car park has been removed, the playing surface of the football pitch should be reinstated as soon as possible, using appropriate re-seeding/re-turfing and regular irrigation to speed recovery.

Impacts with mitigation

- 4.10.16. If the tennis courts remain readily available for SC Johnson staff use it is considered that the impact on the site will be minimal. Any use of the football pitch could potentially be accommodated elsewhere in Frimley Green or within the wider Borough during the DCO works. The playing surface could be enhanced through the reinstatement works, helping to improve the capacity of the site to accommodate increased levels of use in the longer term.

4.11. Site 10: Salesian School

Location

- 4.11.1. Salesian School is located in the Green Belt, to the west of Chertsey (Easting: 503057 Northing: 165941).

Typology

- 4.11.2. Outdoor sports facilities – rugby and football pitches.

Description of site and surroundings

- 4.11.3. The sites affected by the DCO works are located to the east and west of Guildford Road, near Chertsey. The Salesian School campus lies to the east of Guildford Road. Salesian School is a split site Roman Catholic secondary school. Years 7 to 11 (aged 11-16) are exclusively based at the Guildford Road campus, whilst the sixth form centre (ages 16-18) is based at Highfield Road north east of the M25. Overall it has an enrolment of 1,500 pupils.
- 4.11.4. Agricultural fields extend to the west of Guildford Road. This undulating site is currently in pasture and is surrounded in thickly wooded hedgerows. Planning application RU.18/1279 for the formation of sports pitches, associated earthworks and pavilion with associated access, car parking and landscaping was granted on the site to the west of Guildford Road on December 6th 2018. Once delivered, this proposal will see the creation of a football pitch (97m x 61m) and a full size rugby pitch. The new playing pitches are being delivered to replace existing rugby pitches to the north of the M25 that are being developed for 158 dwellings (planning application number RU.18/1280). The discharging of pre-commencement conditions on both sites indicates that construction works are likely to start in the next six months.

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Access point/s

4.11.5. Access to the site to the west of Guildford Road is currently achieved from Hardwick Lane (to the south). A new access point from Guildford Road, directly opposite the Salesian School campus, will be delivered as part of planning application RU.18.1279. A pelican crossing will be constructed between the school campus and the new playing pitches.

Figure 4.10 Salesian School



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Facilities available

- 4.11.6. The new rugby pitch will be sited on the northern side of the site, with a 1:3 embankment proposed to the south of the pitch. The football pitch will be located on a lower plateau in the south eastern area of the site. A single storey pavilion containing a clubroom, changing rooms, kitchen and toilets is proposed close to the northern boundary of the site.
- 4.11.7. The orientation of the proposed pitches is informed by the undulating land and positioning of the existing ESSO pipeline and other utilities through the site.
- 4.11.8. An AstroTurf and 4 hard tennis courts are located on the eastern side of Guildford Road, within the main Salesian School campus.

Levels of usage

- 4.11.9. The land west of Guildford Road is currently in agricultural use. Once constructed, the site will become the main grass pitches for the school.
- 4.11.10. The AstroTurf and tennis courts within the main school campus east of Guildford Road are in good condition and are in regular use by pupils. These facilities are also made available for community hire.

Local Plan Policy

- 4.11.11. Playing pitches are protected from development through Policy R1 'General provision' of the Runnymede Local Plan 2001. This policy states that 'the Council will resist development that would result in the loss of or reduced availability of existing open spaces and buildings (without their replacement on alternative sites acceptable to the Council) which make a valuable contribution to recreation and leisure facilities in the Borough). The Council will encourage the provision of facilities where deficiencies exist if this is appropriate and feasible'.
- 4.11.12. Runnymede 2030 Submission Local Plan is due to be examined later this year. Draft policy SL28 highlights that the 'Council will not permit the loss or displacement of existing playing pitches and/or playing fields to other uses unless it can be demonstrated, through up-to-date and robust evidence, that:
 - a) There is a proven surplus of provision and the site is no longer needed, or is unlikely to be required in the following years
 - b) The benefit of the proposed development to the community, with regard to sport, health and wellbeing outweighs the harm caused by the loss of the facility; or
 - c) An alternative sporting facility of an equal quantity and quality or higher standard will be provided in at least an equally convenient and accessible location to serve the same local community to be guided by the Council's Playing Pitch Strategy. Where it has been demonstrated that alternative on site provision is not feasible or viable, off site financial contributions may be considered acceptable'.

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Local Authority Amenity and Recreation Study findings

- 4.11.13. The site is currently agricultural fields in the Green Belt. However, the site has permission for playing fields. Therefore, Policy R1 ‘General provision’ of the Runnymede Local Plan 2001 applies.
- 4.11.14. The Runnymede Playing Pitch Strategy (2018) provides the following conclusions for different types of football pitch across the Borough:
- Adult (11v11) pitches – weekly spare capacity of +19.0 and a collective peak time capacity of +1.0 equivalent sessions;
 - Youth (11v11) pitches – weekly spare capacity of +3.0 and a balanced collective peak time capacity; and
 - Youth (9v9) pitches - weekly spare capacity of +8.0 and a collective peak time capacity of -3.0 equivalent sessions.
- 4.11.15. The Strategy also identifies that Runnymede has sufficient rugby pitch capacity to meet all current needs.

Impact of DCO works

- 4.11.16. Trenchless techniques would be used into and out of the site to the west of Guildford Road. Trenchless techniques would continue to be used under the main school campus to the other side of the M25. The proposed DCO works would however involve trenching in an east-west direction through the middle section of the site to the west of Guildford Road. As the developers of the playing pitches are already discharging conditions associated with planning application RU.18/1279 it is anticipated that earth works are likely to commence in 2019. If this is the case, the DCO works would impact on the proposed rugby pitch and the operation of the pavilion, whilst the football pitch would be unaffected.

Mitigation recommendations

- 4.11.17. The evidence presented in the Runnymede Playing Pitch Strategy suggests that there is a spare capacity in outdoor sports provision across the Borough. It is therefore likely to be practical for Salesian School to host home rugby matches elsewhere in the local area whilst DCO works are undertaken. The other options available are to either:
- Support the continued use of the existing rugby pitches to the north of the M25 while DCO works are completed. This might mean seeking a financial settlement to delay the commencement of the housing development;
 - Complete the trenching works and reinstate the playing surface of the rugby pitch during the summer months (there will not be a cricket pitch on site). Reinstatement works should involve appropriate re-seeding/re-turfing and irrigation to help ensure that the pitch is ready for use from the start of the next season; or
 - Seeking agreement to switch the location of the proposed rugby to the site of the proposed football pitch, with football matches to be played on the AstroTurf on the main campus. This could involve seeking a non-material amendment to planning permission RU.18/1279.

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Impacts with mitigation

- 4.11.18. Providing one of the mitigation options is delivered, there will be little or no impact on rugby and football provision at Salesian School.

4.12. Site 11: Salesian School Playing Fields

Location

- 4.12.1. Salesian School playing pitches are located in the Green Belt to the south of Chertsey (Easting: 504137 Northing: 165907).

Typology

- 4.12.2. Outdoor sports facilities – football and rugby pitches.

Description of site and surroundings

- 4.12.3. The site is used solely by Salesian School. The site has capacity for two youth pitches, either football or rugby. However, at the time of the site visit the playing surface appeared unprepared and poorly maintained. There is a small storage hut on site and goal posts, but no pavilion or changing facilities.
- 4.12.4. A thick line of mature tree planting around the east, west and south edges borders the site. A railway borders the northeast edge of the site. Residential areas, a graveyard and Salesian Sixth Form College are situated to the north of the railway. A golf course is located to the south of the site.
- 4.12.5. The site is located in the Green Belt. The land to the west, bordering the railway line, has been largely built out for residential uses. The playing field to the west is allocated as a safeguarded housing site under Policy H06 of the adopted Local Plan and has a planning permission (RU.18/1280) on it for 158 dwellings. Planning permission was granted on the basis that a new playing pitch facility will be re-provided on Guildford Road, opposite the main Salesian School campus (planning application RU.18/1279 discussed under section 4.10, Site 10: Salesian School above).

Access point/s

- 4.12.6. The only visible access point to the site is via a pedestrian bridge over the railway. This links to the Salesian School Sixth form campus via a graveyard. There is no vehicular access.
- 4.12.7. The playing pitch to the west is accessed via a poorly maintained entrance from Hanworth Trading Estate.

Facilities available

- 4.12.8. At the time of the site visit the playing pitches did not appear to be in regular use. Analysis of aerial photography indicates that in the past it has accommodated either one or two junior pitches (rugby and/or football). There are no changing or toilet facilities on site and no fencing between the site and the railway, indicated that their use for sports may have ceased.

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Levels of usage

- 4.12.9. The playing pitch assessment submitted with planning application RU.18/1279 notes that the playing pitch adjacent to the site includes a full sized rugby pitch, used currently by Salesian School. However, it goes on to highlight that ‘there is a distance of around 1.5km between the main Salesian School campus and the Hanworth Lane site, with access through a well-used industrial area. The Hanworth Lane site also suffers from drainage issues and, as a result, it is used infrequently by the school’.
- 4.12.10. Analysis of the Salesian School fixture lists for 2018/19 indicates that all football home fixtures are played on the main school campus. All rugby fixtures are away games.

Figure 3.11 Salesian School Sports Pitches



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Local Plan Policy

- 4.12.11. Playing pitches are protected from development through Policy R1 ‘General provision’ of the Runnymede Local Plan 2001.
- 4.12.12. Runnymede 2030 was submitted for examination to the Secretary of State on 31st July 2018, with examination due to take place later this year. Draft policy SL28 relates specifically to provision of playing pitches unless it can be demonstrated that:
- a) “There is a proven surplus of provision and the site is no longer needed, or is unlikely to be required in the following years
 - b) The benefit of the proposed development to the community, with regard to sport, health and wellbeing outweighs the harm caused by the loss of the facility; or
 - c) An alternative sporting facility of an equal quantity and quality or higher standard will be provided in at least an equally convenient and accessible location to serve the same local community to be guided by the Council’s Playing Pitch Strategy. Where it has been demonstrated that alternative on site provision is not feasible or viable, off site financial contributions may be considered acceptable’.

Local Authority Amenity and Recreation Study findings

- 4.12.13. The Runnymede Playing Pitch Strategy (2018) provides the following conclusions for different types of football pitch across the Borough:
- Adult (11v11) pitches – weekly spare capacity of +19.0 and a collective peak time capacity of +1.0 equivalent sessions;
 - Youth (11v11) pitches – weekly capacity of +3.0 and a balanced collective peak time capacity; and
 - Youth (9v9) pitches - weekly spare capacity of +8.0 and a collective peak time capacity of -3.0 equivalent sessions.
- 4.12.14. The Strategy also identifies that Runnymede has sufficient rugby pitch capacity to meet all current needs.
- 4.12.15. The Strategy identifies the site and adjacent field to the west as being used by Salesian School and not available for community use. The Strategy notes that the site and adjacent field accommodate two adult football pitches and a rugby pitch.

Impact of DCO works

- 4.12.16. The DCO works only run across a small part of the southern section of the site. They would impact on the playing area of one of the two junior playing pitches that can be accommodated on site. Given that the pitches appear to have limited or no current use by Salesian School, there would be no or minimal impact.

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Mitigation recommendations

- 4.12.17. Although the site is barely, if at all, used at the moment it is still protected by Local Plan policy. Whilst the creation of new rugby and football grass pitches opposite the main Salesian School campus mean that the site's use may be limited further, it may be retained in the longer term as an amenity recreation asset for residents of the neighbouring sites to the east. If the south-eastern pitch is used, and the DCO corridor cannot be narrowed to avoid the playing area of the impacted pitch, it is recommended that trenching and reinstatement works are undertaken outside the core football season months. The reinstatement works should seek to provide an enhanced playing surface, with improved drainage.
- 4.12.18. If the pitch is unused, no mitigation during construction is necessary.

Impacts with mitigation

- 4.12.19. The DCO works are unlikely to impact on the site as it is currently in poor condition with limited or no use and no changing or toilet facilities. The reinstatement works should seek to improve the playing surface, thereby improving the usability of the facility.

4.13. Site 12: Abbey Rangers Football Club

Location

- 4.13.1. Abbey Rangers Football Club is located on the western edge of Chertsey (Easting: 505060, Northing: 165918).

Typology

- 4.13.2. Outdoor sports facilities – football pitches.

Description of site and surroundings

- 4.13.3. Abbey Rangers FC is a large, flat playing field situated within the southeast boundary of Chertsey, to the north of Addlestone. The facility is split into six football pitches. The site is owned and managed by Abbey Rangers FC. It is also used by Chertsey High School and Pulse Chertsey Academy.
- 4.13.4. Chertsey High School occupies land immediately adjacent to the western boundary of the site. This school is currently undergoing a significant upgrade and expansion that is due to be completed by September 2019.
- 4.13.5. Philip Southcote School occupies land to the south of the site.
- 4.13.6. The remaining boundaries comprise industrial uses to the north and open amenity space to the east, with the River Thames beyond.

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Access point/s

4.13.7. Vehicular and pedestrian access to Abbey Rangers is currently via a single access point from the south from Addlestone Moor. Pedestrian access to the playing pitches is also available from Chertsey High School.

Figure 4.12 Abbey Rangers Football Club



Facilities available

4.13.8. The Abbey Rangers facility comprises six pitches, including 3 x adult (11v11), 1x youth (9v9), 1x mini (7v7) and 1x mini (5v5) pitch. There is also room for a further 2 mini 5v5 pitches, although these were not marked out at the time of the site visit. The main pitch, immediately to the north of the clubhouse,

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is to FA size standards, with floodlights, dug outs and temporary spectator stands. This pitch has had investment to resolve drainage issues, including the application of sand on an annual basis. A clubhouse with changing rooms and a bar area is situated in the southern section of the site. A car park and maintenance area adjoin the clubhouse.

4.13.9. The adult 11v11 pitch in the northwest section of the site, adjoining the Chertsey High School campus, will shortly be redeveloped to provide an AstroTurf area. The AstroTurf area will include a full size pitch, with eight marked up mini pitches within it. It will be flood lit.

Levels of usage

4.13.10. The facility is utilised by Abbey Rangers FC, Pulse Chertsey Academy and Chertsey High School. Abbey Rangers FC operates 38 teams across different age groups, with a membership of 480 people. The adult men 1st team play in the Cherry Red Record Combined Counties League Premier Division and play in the preliminary rounds of the FA Cup on an annual basis. The football season lasts between the first week of August and extends until mid May. In addition, the club hosts an annual fund raising event every July, which is well attended.

4.13.11. Chertsey High School currently has 280 students. It will increase in size to take on a further 180 new year 9 students from September 2019. The pupils currently have access to the playing pitches and will share the new AstroTurf with Abbey Rangers FC.

4.13.12. Pulse Chertsey Academy is a two year full time education and football development programme for 16 to 18 year olds that is operated by the SCL education group.

Local Plan Policy

4.13.13. Playing pitches are protected from development through Policy R1 ‘General provision’ of the Runnymede Local Plan 2001.

4.13.14. Runnymede Submission Local Plan 2015-2030 Policy SL28: Playing Pitches states that the Council will not permit the loss of existing playing pitches and/or playing fields to other uses unless it can be demonstrated, through up-to-date and robust evidence, that:

- a) ‘There is a proven surplus of provision and the site is no longer needed, or is unlikely to be required over the lifetime of the plan; or
- b) The benefit of the proposed development to the community, with regard to sport, health and wellbeing outweighs the harm caused by the loss of the facility; or
- c) A replacement playing pitch of an equal quantity and quality or higher standard will be provided in at least an equally convenient and accessible location to serve the same local community to be guided by the Council’s Playing Pitch Strategy. In exceptional circumstances, where it has been demonstrated that on site provision is not feasible or viable, off site financial contributions may be considered acceptable’.

Local Authority Amenity and Recreation Study findings

4.13.15. The Runnymede Playing Pitch Strategy (2018) provides the following conclusions for different types of football pitch across the Borough:

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- Adult (11v11) pitches – weekly spare capacity of +19.0 and a collective peak time capacity of +1.0 equivalent sessions;
- Youth (9v9) pitches - weekly spare capacity of +8.0 and a collective peak time capacity of -3.0 equivalent sessions;
- Mini soccer pitches (7v7) - weekly spare capacity of +19.0 and a collective peak time capacity of -6.0 equivalent sessions;
- Mini soccer pitches (5v5) - weekly spare capacity of +12.0 and a collective peak time capacity of -7.0 equivalent sessions.

4.13.16. The authors of the Playing Pitch Strategy have categorised the playing pitches and changing rooms at Abbey Rangers FC as being 'good'. The following conclusions are drawn on the capacity of the site:

- Adult (11v11) pitches – weekly spare capacity of +12.0 equivalent sessions and a balanced peak time capacity;
- Youth (9v9) pitches - weekly spare capacity of -1.0 and a collective peak time capacity of -2.0 equivalent sessions;
- Mini soccer pitches (7v7) - weekly balanced capacity and a collective peak time capacity of -2.0 equivalent sessions;
- Mini soccer pitches (5v5) - weekly spare capacity of +1.0 and a collective peak time capacity of -1.0 equivalent sessions.

Impact of DCO works

4.13.17. Due to the constrained nature of the site, trenching along the DCO corridor would ultimately result in two adult (11v11) pitches, including the FA standard pitch, being taken out of action for part or potentially all of a football season while the surface recovers, along with the youth (9v9), mini (7v7) and mini (5v5) pitches. Although the proposed AstroTurf could accommodate some of the fixtures, the DCO works could have a significant impact on Club income and prevent the annual summer fund raising event from taking place, and could potentially affect the ability of the Club to play all of its home competitive matches at the site for a temporary period.

4.13.18. Analysis of the Runnymede Playing Pitch Strategy shows that playing pitch provision in the Borough is already at or over capacity, particularly at peak times. It would therefore be difficult to accommodate an already constrained fixture list for 38 teams within the Borough. Furthermore, it may be difficult for the adult men's first team to find alternative FA standard pitches in the Borough to host their home fixtures for half a season or more.

4.13.19. The Club could potentially arrange to play its 'home' games at the 'away' clubs pitches for a temporary basis.

Mitigation recommendations

4.13.20. The priority is to reduce impact on usage levels as far as possible, and protect the long-term playing surface of the FA standard pitch in particular.

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- 4.13.21. Employing trenchless techniques from the southwest corner through the FA standard pitch and Philip Southcote School would help to ensure that the main floodlit pitch is unaffected, in terms of both usage levels and playing surface.
- 4.13.22. Continuing the remaining trenched sections around the southern perimeter of the site would help to ensure that the two other full size pitches are unaffected. There is potentially scope to move these pitches northwards if needed, to allow space to the south for trenching. Player access to these pitches would need to be obtained around the western edge of the FA standard pitch and then between it and the new AstroTurf.
- 4.13.23. A mini (7v7) pitch in the northeast corner and a mini (5v5) pitch in the southwest section would have to be taken out of action during the DCO works. Depending on the width of the working corridor there could still be scope to provide one or two re-orientated 5 a side pitches in their place. Regardless of this, however, the development of an AstroTurf over the adult pitch in the northwest corner will help to mitigate against any temporary loss of smaller pitches. The proposed AstroTurf will be flood lit and will include a full size pitch, with eight marked up mini pitches of varying sizes within it. It will therefore be a superior quality facility to the existing grass pitch provision, offering round the clock usage, with minimal maintenance required.
- 4.13.24. It is recommended that the trenched areas of the pitch are worked on as quickly as possible, preferably with engineering teams working from either end during the close season. The surface should be reinstated to FA/Sport England Performance Quality Standards (PQS), with appropriate reseeding/turf laying techniques and regular irrigation, to ensure that the playing surface is enhanced and returned to use as soon as possible. The appointment of an experienced playing pitch contractor with a proven track record in sports development is key to ensuring that the correct surveys are undertaken and appropriate design specifications are applied.
- 4.13.25. In summary, therefore, the mitigation strategy is to employ trenchless techniques under the FA standard pitch, and trench around the perimeter of the remainder of the site. The capacity of smaller pitches affected during the works will be more than compensated for by the construction of the proposed AstroTurf prior to the DCO works.

Impacts with mitigation

- 4.13.26. The mitigation approach is dependent upon achieving construction vehicle access from the eastern side of the site. If the proposed mitigation approach is deliverable, it is considered that the temporary impact on the use and operation of Abbey Rangers FC, the Pulse Chertsey Academy and Chertsey High School would be minimal. This approach would therefore be compliant with Runnymede Submission Local Plan Policy SL28 ‘playing pitches’.

4.14. Site 13: Fordbridge Park

Location

- 4.14.1. Fordbridge Park is located in Ashford (Easting: 506050 Northing: 170896).

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Typology

4.14.2. Parks and gardens.

Description of site and surroundings

4.14.3. Fordbridge Park is a large urban park and garden in Fordbridge. The park is broadly bound by the A308 Staines Bypass to the north, B377 to the east, Kingston Road to the south and Celia Crescent and Woodthorpe Road to the west.

4.14.4. The park is irregularly shaped, comprised of a large, open area of amenity grassland at its centre, with more wooded areas located around the park perimeter and particularly in the eastern and western corners of the park. A network of footpaths extends around the site perimeter to provide a series of circular walks. One 'spine' path extends diagonally across approximately two thirds of the park's length, connecting the park's southeast boundary with the B377 to the northwest boundary adjacent to the Staines Bypass.

4.14.5. Celia Crescent, a lightly trafficked residential street, extends into the park from the west, forming a T junction with the main park access road from Kingston Road. In the vicinity of Celia Crescent, within the site is a cluster of sports and amenity facilities including tennis courts, a bowling green, toilet block, café, pavilion building and car park serving park users. North of Celia Crescent, the park has a more naturalistic, parkland character.

4.14.6. However, the northern boundary and easternmost extent of the park is characterised in part by the presence of high voltage overhead electricity pylons, and noise from the adjacent Staines Bypass and Fordbridge Roundabout.

Access point/s

4.14.7. The main vehicular access to the park is via a dedicated access road from Kingston Road on the southern boundary. Secondary vehicular access is provided from Celia Crescent to the west. Two pedestrian access points are located on Woodthorpe Road to the west, with a further two on Kingston Road and the B377 to the east. Due to the presence of the adjacent Staines Bypass, no access points exist along the northern boundary.

Facilities available

4.14.8. The park contains the following facilities:

- 4 x tennis courts (3 floodlit);
- 4 x mini tennis courts;
- 1 x bowling green;
- Toilets;
- Pavilion;
- Café (summer months only); and

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- Car parking.

Figure 4.13 Fordbridge Park



Levels of usage

4.14.9. Fordbridge Park appears to be a well-used community asset. On the day of the site visit, the footpaths were in regular use by people walking dogs, jogging or simply strolling in the park. This included family groups with young children in pushchairs, and older groups, including those of limited mobility who were observed to be using walking aids.

4.14.10. The flat topography, good quality path surfacing and choice of circular routes available are likely to make the park particularly popular. While the day of the site visit was unseasonably warm, usage of

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the park is likely to be even greater during the consistently warmer summers months and during peak times such as weekends and school holidays.

- 4.14.11. The sports facilities were not in use at the time of the site visit, but are assumed to be well-used owing to their quality and availability of car parking.

Local Plan Policy

- 4.14.12. Spelthorne Core Strategy and Policies Development Plan Document (adopted February 2009), Policy EN4 'Provision of open space and sport and recreation facilities' highlights that existing open spaces used, or capable of use, for sport and recreation will be retained where:
1. 'There is a need for the site for sport and recreation purposes; or
 2. The site as a whole is clearly visible to the general public from other public areas and its openness either:
 - a. Makes a significant contribution to the quality and character of the urban area by virtue of its prominence, layout and position in relation to built development in the locality; or
 - b. Is of particular value to local people where there is a shortage of open space in the locality; or
 - c. The site is of particular nature conservation value, of at least SNCI or equivalent quality.
- 4.14.13. Exceptionally, development may be allowed on part of a site within the urban area which should otherwise be maintained for the above reasons where:
- The remainder of the site is enhanced so its public value in visual and functional terms is equivalent to the original site or better; or
 - Essential ancillary facilities are proposed to support outdoor recreational use of the site; or
 - The sport or recreational use is relocated to an alternative site of equivalent or greater value in terms of quantity, quality and accessibility to users of the original site, and other factors do not justify retention'.

Local Authority Amenity and Recreation Study findings

- 4.14.14. Spelthorne Borough Council has indicated its intention to produce an updated Open Space Assessment as part of the Evidence Base for its new Local Plan. However, at the time of writing this report, an updated assessment had not been produced.
- 4.14.15. Therefore, the most recent open space assessment is the 'Assessment of Open Space, Sport and Recreation Provision in Spelthorne', which was published in September 2005. This document is over 10 years old references to park qualities and projects may no longer be accurate.
- 4.14.16. The assessment notes that, overall, there is a general feeling that the quantity of open space in the borough is sufficient and that most parks are within walking distance of people. This is particularly

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the case in areas close to the Royal Estate, where Fordbridge Park and Green Field Recreation Ground are in close proximity and existing footpaths connect to farmland to the south.

- 4.14.17. However, the report notes gaps in provision across the borough, notably a lack of children’s playgrounds and provision for older children.
- 4.14.18. The assessment also noted that while accessibility to open space was generally considered to be good, disabled access for pathways was considered to be poor. A lack of car parking was also identified as an issue, leading to inappropriate car parking on grass verges and in nearby residential areas.
- 4.14.19. Quality of parks was considered to be generally good with regard to grass cutting and vegetation management, with Fordbridge Park earning special mention.
- 4.14.20. Fordbridge Park was due to be the beneficiary of investment to create walking routes and a ‘trim trail’ as part of a government funded ‘Liveability Parks Project’, but it is unclear if these projects have been implemented.
- 4.14.21. The assessment also noted two proposals (P28 and P35) for a children’s equipped playground in the Local Plan at the time had not been implemented. On the basis of the site visits undertaken as part of this 2019 assessment, P28 remains unimplemented. The intended location of P35 was outside of the study area for this assessment, to the north of the A308 Staines Bypass, and therefore was not inspected. However, a search of aerial mapping and council documents indicates that this proposal has also not been delivered.

Impact of DCO works

- 4.14.22. The route of the replacement pipeline will enter Fordbridge Park from the east, following a line across the park in close proximity to the northern boundary before exiting under Staines Bypass in the northwest corner of the park. Due to the constraints posed by the existing high voltage electricity pylons which are located along the park’s northern boundary, the DCO Extents of Deviation cannot run immediately adjacent to the northern boundary. Overall, approximately 31% of the 7.3 ha park will be within the DCO Limits, reduced to 18% for the Limits of Deviation.
- 4.14.23. The construction corridor will require the closure of a number of footpaths within the park, including:
 - The majority of the footpath along the northern boundary;
 - All footpaths in the south east and north east corners of the park;
 - Two separate stretches of the ‘spine’ footpath that follows a diagonal alignment across the park, including its junction with the B377.
- 4.14.24. Benches and bins located within the Limits of Deviation would also require removal for the duration of works.
- 4.14.25. Additionally, the works will require the temporary closure of two pedestrian accesses in the park from the B377 and Kingston Road.

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- 4.14.26. While pedestrian accesses into the park from Woodthorpe Road to the west will remain open, these would effectively be ‘cut off’ from the sports facilities and open grassed area of the park due to the extent of construction works elsewhere. The primary and secondary vehicle accesses from Kingston Road and Celia Crescent, which also permit pedestrian access, would remain unaffected.
- 4.14.27. Without mitigation, the pipeline works would have adverse effects on users due to the scale of well-used footpaths that would be closed for the temporary duration of the works within the site. The connections between footpaths that ordinarily allow users to follow a circular route around the park would also be lost.
- 4.14.28. The large open area of grass at the centre of the park would remain largely intact, with only a small section of the grassed area lying within the construction zone. However, users of this space are likely to be affected by increased noise associated with construction activities, which may deter some people from using the park for quiet recreation and relaxation.
- 4.14.29. While the sports facilities, car parking and amenities located in the southern area of the park would not be directly affected, some users may face a longer journey to access the facilities due to the closure of pedestrian access points, particularly users travelling on foot from the north or east.
- 4.14.30. With regards the café and sports facilities for hire, there is potential for lost revenue if users are deterred from using the park due to the impact of construction works (perceived and actual). This could have an indirect adverse effect if lost revenue equates to reduced investment in the upkeep of park facilities.

Mitigation recommendations

- 4.14.31. The effects of the construction works should be minimised through the timing of construction works and by ensuring that as much as the park as possible remains open and accessible during the works.
- 4.14.32. Use of the park is likely to be highest during the summer school holidays. Therefore, works should be timed to avoid these periods where possible. For example, works could commence immediately following the end of school summer holidays, with the bulk of disruptive works undertaken during the autumn, winter and early spring when use of the park will be lower. This might enable some areas of the park to be reopened in time for the spring or summer months.
- 4.14.33. While it will be impossible to avoid disruption entirely, it is important that all users are able to access unaffected areas of the park and use them for their normal purposes as far as possible for the duration of construction works. Therefore, alternative paths should be created, maintaining a circular route around the park and ensuring continued connectivity between the eastern and western boundaries and the sports facilities clustered around Celia Crescent. These paths will need to be meet statutory requirements in regards to accessibility and provision for all users.
- 4.14.34. Where the construction zone spans the entire width of the park, consideration should be given to keeping movement routes open through plating over construction trenches.

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Impacts with mitigation

- 4.14.35. The scale of works being undertaken at Fordbridge Park means that the total size and quality of open space provision would be reduced for the duration of construction works even after mitigation. However, through undertaking the works in the ‘off-season’, disturbance from noise and construction dust would be minimised, and provision of alternative paths would ensure that all current users would be able to continue to use the park.

4.15. Site 14: Woodthorpe Park/Buxton Road

Location

- 4.15.1. The site is located immediately to the south of the entrance to HMP Bronzefield in Ashford and forms part of an extensive belt of amenity greenspace (Easting: 505795 Northing: 171362).

Typology

- 4.15.2. Amenity greenspace.

Description of site and surroundings

- 4.15.3. The site comprises an area of amenity green space bound by Buxton Road to the north, Woodthorpe Road to the east, the River Ash to the south and Ruggles-Brise Road to the west. A children’s playground (LEAP) is located at the centre of the site, providing a range of children’s play equipment set within defined, fenced boundaries. Benches facing into the open space are located adjacent to the boundary with Ruggles-Brise Road, and bins are located within the space adjacent to Buxton Road.
- 4.15.4. The boundaries to the open space are entirely open, with walk-on access from surrounding roads and pavements. Mature specimen trees and clusters of intermittent hedges line each of the boundaries to Buxton Road, Woodthorpe Road and Ruggles-Brise Road. The boundary with the River Ash to the south has a more naturalistic feel, characterised by mature trees and vegetation growing along the banks of the River Ash, which can be seen and heard at close range.
- 4.15.5. A footpath adjacent to the River Ash continues off-site to the west, where it enters a much larger area of green space between HMP Bronzefield and Ruggles-Brise Road. Footpath links through this space extend onto Shortwood Common. In total, the overall amenity greenspace resource, including the site, land to the north of it, and adjoining open spaces, extends to approximately 31 ha.

Access point/s

- 4.15.6. The space is openly accessible from all of the surrounding roads and pavements - Buxton Road, Woodthorpe Road and Ruggles-Brise Road. Access can also be obtained from the footpath adjacent to the River Ash, which enters the site from west. This footpath links to Shortwood Common.

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Figure 4.14 Woodthorpe Road/Buxton Road



Facilities available

4.15.7. The site contains the following facilities:

- Children's playground (LEAP);
- Benches; and
- Bins.

4.15.8. The site does not benefit from any further facilities.

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Levels of usage

- 4.15.9. The space is well located in relation to surrounding houses on Ruggles-Brise Road, Woodthorpe Road and Ferndale Road to the east.
- 4.15.10. The children’s playground at the centre of the space is likely to be the biggest driver of footfall, owing to its size and the wide choice and quality of equipment available.
- 4.15.11. Although relatively under-used at the time of the site visit, it is likely that usage would be higher at other times such as after school and during school holidays.
- 4.15.12. The presence of benches and bins indicates that the space is also used for informal recreation, including walking and jogging. However, a much larger area of open amenity grassland lies opposite the space to the north of Buxton Road which offers similar amenity recreation provision and is likely to be more suitable for informal ball-games.
- 4.15.13. A large area of semi-natural greenspace also lies on the opposite side of houses on Ruggles-Brise Road, accessed from the space via the footpath adjacent to the River Ash, which is likely to be more attractive to dog walkers or people seeking a secluded space due to its distance from the road.
- 4.15.14. Therefore, while the space excluding the playground is likely to be reasonably well-used, this is in the context of it forming one part of a much larger area of open space extending along the length of Woodthorpe Road, and the proximity of alternative open space beyond Ruggles-Brise Road and Shortwood Common beyond.

Local Plan Policy

- 4.15.15. Spelthorne Core Strategy and Policies Development Plan Document (adopted February 2009), Policy EN4 ‘Provision of open space and sport and recreation facilities’ highlights that existing open spaces used, or capable of use, for sport and recreation will be retained where:
 - ‘There is a need for the site for sport and recreation purposes; or
 - The site as a whole is clearly visible to the general public from other public areas and its openness either:
 - Makes a significant contribution to the quality and character of the urban area by virtue of its prominence, layout and position in relation to built development in the locality; or
 - Is of particular value to local people where there is a shortage of open space in the locality; or
 - The site is of particular nature conservation value, of at least SSSI or equivalent quality.
- 4.15.16. Exceptionally, development may be allowed on part of a site within the urban area which should otherwise be maintained for the above reasons where:
 - The remainder of the site is enhanced so its public value in visual and functional terms is equivalent to the original site or better; or
 - Essential ancillary facilities are proposed to support outdoor recreational use of the site; or

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- The sport or recreational use is relocated to an alternative site of equivalent or greater value in terms of quantity, quality and accessibility to users of the original site, and other factors do not justify retention’.

Local Authority Amenity and Recreation Study findings

- 4.15.17. Spelthorne Borough Council has indicated its intention to produce an updated Open Space Assessment as part of the Evidence Base for its new Local Plan. However, at the time of writing this report, an updated assessment had not been produced.
- 4.15.18. Therefore, the most recent open space assessment is the ‘Assessment of Open Space, Sport and Recreation Provision in Spelthorne’, which was published in September 2005. The document is dated and, therefore, references to park qualities and projects may no longer be accurate.
- 4.15.19. The assessment notes that, overall, there is a general feeling that the quantity of open space in the borough is sufficient and that most parks are within walking distance of people.
- 4.15.20. However, the assessment notes gaps in provision across the borough, notably a lack of children’s playgrounds and provision for older children. While the assessment did not set a benchmark standard, it noted that existing provision for children and young people (CYP) was 0.038ha per 1000 population, against the National Playing Field Association’s 6 Acre Standard recommended ratio of 2.43ha of playing space and 0.81ha of children’s playing space per 1000 population. When surveyed, 60% of respondents to a consultation undertaken as part of the assessment stated that they did not think there was sufficient provision for CYP across the borough. Overall, it is therefore clear that at the time of the assessment in 2005, there was a deficiency of CYP provision in Spelthorne.
- 4.15.21. The assessment specifically noted that intimidation of younger children by older children at the Woodthorpe Road open space was a recognised problem.
- 4.15.22. It identifies a site at Woodthorpe Road as a potential location for a CYP facility to serve the surrounding residential area. It is believed that this has now been implemented in the form of the playground within the boundary of the site that is subject to this 2019 assessment.
- 4.15.23. The assessment also noted that while accessibility to open space was generally considered to be good, disabled access for pathways was considered to be poor. Additionally, a lack of car parking was identified as an issue, leading to inappropriate parking on grass verges and in nearby residential areas.
- 4.15.24. Quality of parks was considered to be generally good. However, the assessment notes that while most sites with a high level of use would normally have good or very good quality and accessibility, some actually have high use but are identified as being of poor quality and/or accessibility.
- 4.15.25. Woodthorpe Road Open Space, incorporating the site that is subject to this 2019 assessment, is listed as one of these sites. The assessment notes that further investigation of these sites is required and that their enhancement should be a priority. The subsequent provision of the CYP should be seen in this context.

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Impact of DCO works

- 4.15.26. The DCO Limits extend along to the full length of the site stretching north to south. The DCO Limits will impact on approximately 70% of the amenity space, with the Limits of Deviation extending over 50% of the site.
- 4.15.27. A narrow stretch of amenity grassland within the space, adjacent to Ruggles-Brise Road, will remain available for public use for the duration of works. However, the primary impact of the works in this location will be the removal of the children’s playground during the DCO works, which will have an adverse impact on equipped play provision in the local area.
- 4.15.28. The removal of the amenity grassland will have an impact on amenity recreation provision for residents of the neighbouring roads, particularly in the context of the closure of amenity recreation space north of Buxton Road (Site 15). However, the temporary loss of this space has to be considered in relation to the extensive amenity greenspace resource in the wider area. This amenity greenspace resource extends to 31.5 ha when Shortwood Common is added, and up to 40 ha when Fordbridge Park is included. The temporary loss of amenity space along Woodbridge Road therefore only impacts on a very small proportion of the total amenity space resource in the area.

Mitigation recommendations

- 4.15.29. To mitigate the effects of removing the childrens’ playground, the LEAP should be relocated or a satisfactory alternative provided for the duration of construction works. This is particularly important in light of the recognised deficiency in CYP provision noted in the 2005 Open Space Assessment. Where possible, alternative provision should be in place prior to the closure of the existing playground.
- 4.15.30. There are areas within the DCO Limits, outside of the Limits of Deviation, to the north of Buxton Road (see site 15 ‘Entrance to Bronzefield Prison’) that could offer a potential temporary location for alternative provision, being in close proximity to existing users and visible and accessible from Woodthorpe Road.
- 4.15.31. A children’s playground of equal or better quality should be reinstated in the location of the current playground following completion of construction works, unless evidence indicates that user needs would be better served by alternative provision of equal or better quality in the local area.
- 4.15.32. Given the availability of alternative amenity green space to the north of Buxton Road and semi-natural greenspace west of Ruggles-Brise Road, which connects to Shortwood Common, no additional provision is considered necessary to mitigate for the loss of this open space type.

Impacts with mitigation

- 4.15.33. Subject to the provision of a children’s playground in an alternative location for the duration of construction works, and the replacement of the existing LEAP as part of the reinstatement works, effects on open space resource within the site are considered to be limited.

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4.16. Site 15: Entrance to Bronzefield Prison

Location

4.16.1. The site is located both sides of the main access road to Bronzefield Prison in Ashford, Staines (Easting: 505813 Northing: Y171503).

Typology

4.16.2. Amenity greenspace/Natural and semi-natural urban greenspaces.

Description of site and surroundings

- 4.16.3. The site comprises an area of amenity greenspace and semi-natural greenspace bound by Woodthorpe Road Sports Centre to the north, Woodthorpe Road to the east, Buxton Road to the south, and the rear gardens of properties on Ruggles-Brise Road to the west. The access road to HMP Bronzefield to the west bisects the open space, effectively dividing it into two distinct areas. North of the access road to HMP Bronzefield, the site has more of a semi-natural green space feel, with taller tufty grass, low shrubs, young trees and hedges creating a more unkempt, naturalistic character. An informal network of unsurfaced, but well-used, paths traverses this area. A single, shared use path runs parallel to the fenced boundary with Woodthorpe Road Sports Club to the north, linking Woodthorpe Road to the east with Rowan Close to the west via the HMP Bronzefield car park and an overbridge of the railway line. The path is surfaced and illuminated with CCTV coverage at the Woodthorpe Road end.
- 4.16.4. South of the HMP Bronzefield access road, the open space comprises a large, regular shaped field of mown amenity grassland. A car park comprising approximately 30 spaces is accessed from the prison access road, lying immediately adjacent to the northern boundary. There is no signage to indicate usage restrictions on the car park and it is assumed that it is freely available for users of the surrounding open space.
- 4.16.5. Mature specimen trees and clusters of intermittent hedges line each of the boundaries to Buxton Road, Woodthorpe Road and Ruggles-Brise Road, with a denser cluster of trees located at the northeast corner adjacent to the junction with the access road. The alignment of hedges, benches and metal bollards adjacent to Woodthorpe Road creates an informal boundary, albeit with gaps allowing visibility to and walk-on access from Woodthorpe Road.
- 4.16.6. The site forms part of an extensive amenity greenspace resource that extends around HMP Bronzefield and onwards to Shortwood Common. In total, the overall amenity greenspace resource, including the site, land to the south of it, and adjoining open spaces, extends to approximately 31 ha.

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Figure 4.15 Entrance to Bronzefield Prison



Access point/s

4.16.7. The space is openly accessible from all of the surrounding roads and pavements – Buxton Road, Woodthorpe Road and via the shared use path from Rowan Close to the west. Formal and informal paths connect it with the wider amenity greenspace resource to the west which extends to Shortwood Common.

Facilities available

4.16.8. The site contains the following facilities:

- Car park

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- Benches;
- Bins; and
- Footpaths (north of HMP Bronzefield access road).

Levels of usage

- 4.16.9. The space is well located in relation to surrounding houses on Ruggles-Brise Road, Woodthorpe Road and Ferndale Road to the east, and is also in close proximity to HMP Bronzefield and the Woodthorpe Road Sports Club to the north.
- 4.16.10. The large area of amenity open space is therefore likely to be popular with nearby residents as well as staff at HMP Bronzefield as a place for informal recreation and sports. While few people were observed using the field on the day of the site visit, usage would be expected to be higher during peak times, such as weekends, school holidays and during the summer months.
- 4.16.11. A small number of people were observed walking dogs and making use of benches around the site.
- 4.16.12. In the northern part of the space, the shared use path is evidently a well-used part of the movement network in the area, with comparatively high numbers of people seen walking and cycling along the path during the site visit. While these people appeared to be using the route as a ‘cut through’ on their way to other destinations, including Shortwood Common, it indicates that the open space surrounding the path might attract visitors from a wider catchment area.
- 4.16.13. The space forms part of a wider network of open spaces in the area, including the smaller area of amenity open space and children’s playground south of Buxton Road (see site 14 ‘Woodthorpe Road/Buxton Road), a large area of semi-natural greenspace on the opposite side of houses on Ruggles-Brise Road, and Shortwood Common.
- 4.16.14. Therefore, while the space is likely to be reasonably well used, this is in the context of it forming one part of a much larger area of open space providing users with a range of options.

Local Plan Policy

- 4.16.15. Spelthorne Core Strategy and Policies Development Plan Document (adopted February 2009), Policy EN4 ‘Provision of open space and sport and recreation facilities’ highlights that existing open spaces used, or capable of use, for sport and recreation will be retained where:
- ‘There is a need for the site for sport and recreation purposes; or
 - The site as a whole is clearly visible to the general public from other public areas and its openness either:
 - Makes a significant contribution to the quality and character of the urban area by virtue of its prominence, layout and position in relation to built development in the locality; or
 - Is of particular value to local people where there is a shortage of open space in the locality; or
 - The site is of particular nature conservation value, of at least SNCI or equivalent quality.

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- 4.16.16. Exceptionally, development may be allowed on part of a site within the urban area which should otherwise be maintained for the above reasons where:
- The remainder of the site is enhanced so its public value in visual and functional terms is equivalent to the original site or better; or
 - Essential ancillary facilities are proposed to support outdoor recreational use of the site; or
 - The sport or recreational use is relocated to an alternative site of equivalent or greater value in terms of quantity, quality and accessibility to users of the original site, and other factors do not justify retention’.

Local Authority Amenity and Recreation Study findings

- 4.16.17. Spelthorne Borough Council has indicated its intention to produce an updated Open Space Assessment as part of the Evidence Base for its new Local Plan. However, at the time of writing this report, an updated assessment had not been produced.
- 4.16.18. Therefore, the most recent open space assessment is the ‘Assessment of Open Space, Sport and Recreation Provision in Spelthorne’, which was published in September 2005. The document is dated and therefore references to park qualities and projects may no longer be accurate.
- 4.16.19. The assessment notes that, overall, there is a general feeling that the quantity of open space in the borough is sufficient and that most parks are within walking distance of people
- 4.16.20. However, the assessment notes gaps in provision across the borough, notably a lack of children’s playgrounds and provision for older children. The assessment notes that intimidation of younger children by older children at the Woodthorpe Road open space is an issue.
- 4.16.21. It also identifies a site at Woodthorpe Road as a potential location for children and young people’s provision to serve the surrounding residential area. It is believed that this has now been implemented in the form of the playground within the boundary of the ‘Woodthorpe Road South’ site, adjacent to the ‘HMP Bronzefield/Woodthorpe Road North’ site that is subject to this assessment.
- 4.16.22. The assessment also noted that while accessibility to open space was generally considered to be good, disabled access for pathways was considered to be poor across the borough. A lack of car parking was also identified as an issue, leading to inappropriate car parking on grass verges and in nearby residential areas.
- 4.16.23. Quality of parks was considered to be generally good. However, the assessment notes that while most sites with a high level of use would normally have good or very good quality and accessibility, some actually have high use but are identified as being of poor quality and/or accessibility.
- 4.16.24. Woodthorpe Road Open Space, incorporating the site that is subject to this 2019 assessment, is listed as one of these sites. The assessment notes that further investigation of these sites is required and that their enhancement should be a priority.

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Impact of DCO works

- 4.16.25. The DCO Limits extend adjacent to the full length of Woodthorpe Road, incorporating a large proportion of open space on the site. The works will require the temporary closure of approximately half of the amenity grassland south of the HMP Bronze field access road, and one third of the semi-natural greenspace north of the access road.
- 4.16.26. Additionally, a small number of car parking spaces may be temporarily lost at the eastern end of the car park. This car park is however situated outside the DCO Limits of Deviation.
- 4.16.27. Most of the bins and benches currently within the space lie within the construction zone and would require removal for the duration of construction works.
- 4.16.28. Approximately half of the amenity open space within the site, adjacent to the rear gardens of properties on Ruggles-Brise Road, will remain available for public use for the duration of works, together with approximately two thirds of the semi natural greenspace.
- 4.16.29. It is considered that the removal of the amenity open space will only have a minor adverse effect on amenity recreation provision in the local area. The temporary loss of the space needs to be considered in relation to the extensive 31 ha of greenspace resource within which the site and the amenity space to the south of Buxton Road sit, which more than provides for the open space requirements of local residents.

Mitigation recommendations

- 4.16.30. Given the continued availability of amenity green space within the site, and the presence of extensive semi-natural greenspace west of Ruggles-Brise Road and Southwood Common beyond, no additional open space provision is considered necessary to mitigate for the temporary loss of this open space.
- 4.16.31. It should be noted that as part of the proposed mitigation for works being undertaken to the south of Buxton Road (see site 14 ‘Woodthorpe Road/Buxton Road’), a LEAP would ideally be accommodated within the DCO Limits on part of the site for the duration of construction works. While not forming part of the mitigation for this site, it would have a temporary beneficial effect on the quality of facilities available locally.

Impacts with mitigation

- 4.16.32. Subject to continued access being provided to amenity green space on site and in the wider area, effects on open space resource arising as a result of construction are considered to be limited.

4.17. Site 16: Woodthorpe Road

Location

- 4.17.1. The site is located off Woodthorpe Road in Ashford (Easting: 505970 Northing: 171717).

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Typology

4.17.2. Amenity greenspace (formerly outdoor sports facilities).

Description of site and surroundings

4.17.3. The site is an open field that lies adjacent to the active parts of Woodthorpe Road Sports Club. It comprises scrubby grassland, with occasional self-seeded young trees and brambles. A low bund is present running parallel to the western boundary of the site. A small number of abandoned items of machinery were observed across the site.

4.17.4. It is bound by Woodthorpe Road to the south, the sports club to the west, a railway line to the north and low density housing to the east.

4.17.5. The boundary with the active parts of the sports club is comprised of tall leylandii trees, screening the site from the parts of the sports club that remain in use. The boundaries to Woodthorpe Road and housing to the east are comprised of fencing and low-medium height hedges and bramble, affording visibility into the site from the houses. The boundary with the railway line to the north is a high metal wire fence, with open views to the railway line and the rear of houses further north on Queens Walk. Trains passing to the north have a visual and noise impact on the site due to the lack of any visual or acoustic screening.

4.17.6. The site is an open field of scrubby grassland, with occasional self-seeded young trees and brambles. A low bund is present running parallel to the western boundary of the site. A small number of abandoned items of machinery were observed on the site, such as a lawn mower.

4.17.7. It is believed the site was formerly used by Woodthorpe Road Sports Club or its predecessor, from which the only access exists. However, the field appears to have been unused for formal sports for a considerable period of time. There is no evidence of any current use, either formal or informal, and the field currently resembles an area of semi-natural grassland rather than a sports facility. The overgrown state, uneven ground and presence of abandoned machinery would render its use for sports and recreation unsafe without significant improvement work.

4.17.8. Due to its disused status and virtually complete screening from the rest of the sports club, for the purpose of this assessment it is treated as a self-contained site independent from the rest of the club.

Access point/s

4.17.9. The only useable access to the field is via Woodthorpe Road Sports Club. The field is accessed via a pedestrian gate set within a gap in the leylandii trees on the western boundary. This was unlocked on the day of the site visit. The gate connects to a narrow path between tennis courts 6 and 7 of the sports club, emerging outside the club's pavilion building.

4.17.10. From here, access to the wider urban area outside of the club grounds can be gained by crossing the club car park and exiting via the main gate onto Woodthorpe Road.

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4.17.11. A locked metal gate is located on the field's southern boundary to Woodthorpe Road. The poor condition of the gate implies it is no longer in use. Furthermore, the area behind the gate within the site is overgrown with woody and bramble vegetation, which would prevent access to the field even if it were possible to open the gate.

Figure 4.16 Woodthorpe Road



Facilities available

4.17.12. The site does not contain any facilities that support or encourage its use for recreation. The current poor condition of the field renders its use unsafe for formal or informal sport.

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Levels of usage

4.17.13. The field is disused and there is no evidence of any informal or unauthorised use by other third parties or individuals.

Local Plan Policy

4.17.14. Spelthorne Core Strategy and Policies Development Plan Document (adopted February 2009), Policy EN4 'Provision of open space and sport and recreation facilities' highlights that existing open spaces used, or capable of use, for sport and recreation will be retained where:

- 'There is a need for the site for sport and recreation purposes; or
- The site as a whole is clearly visible to the general public from other public areas and its openness either:
 - Makes a significant contribution to the quality and character of the urban area by virtue of its prominence, layout and position in relation to built development in the locality; or
 - Is of particular value to local people where there is a shortage of open space in the locality; or
 - The site is of particular nature conservation value, of at least SNCI or equivalent quality.

4.17.15. Exceptionally, development may be allowed on part of a site within the urban area which should otherwise be maintained for the above reasons where:

- The remainder of the site is enhanced so its public value in visual and functional terms is equivalent to the original site or better; or
- Essential ancillary facilities are proposed to support outdoor recreational use of the site; or
- The sport or recreational use is relocated to an alternative site of equivalent or greater value in terms of quantity, quality and accessibility to users of the original site, and other factors do not justify retention'.

Local Authority Amenity and Recreation Study findings

4.17.16. Spelthorne Borough Council has indicated its intention to produce an updated Open Space Assessment as part of the Evidence Base for its new Local Plan. However, at the time of writing this report, an updated assessment had not been produced.

4.17.17. Therefore, the most recent open space assessment is the 'Assessment of Open Space, Sport and Recreation Provision in Spelthorne', which was published in September 2005. The document is dated and therefore references to park qualities and projects may no longer be accurate.

4.17.18. The assessment notes that, overall, there is a general feeling that the quantity of open space in the borough is sufficient and that most parks are within walking distance of people

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4.17.19. With regards outdoor sports facilities, the assessment set the existing provision of all outdoor sports facilities at the time - 2.37ha per 1000 population - as the benchmark standard. Therefore, there is not a recognised deficiency of outdoor sports facilities in the borough.

4.17.20. However, the assessment did note that public feedback indicated demand for pitches, and in particular football pitches, was not being met. The assessment concluded that increases in provision of pitches to meet demand could be achieved through improving access to existing facilities and opening up school sports pitches that were not available for community use.

Impact of DCO works

4.17.21. The entire site is required for the erection of a temporary construction compound for the duration of the replacement pipeline construction works. This will require the 'closure' of the entire site.

4.17.22. However, as the site is already effectively closed, disused and not accessible to the public for amenity or recreation purposes, no actual impacts are anticipated.

Mitigation recommendations

4.17.23. As no impacts will arise as a result of the temporary construction works on this site, no specific mitigation measures are necessary.

4.17.24. Following completion of the works, there is an opportunity to leave the site in a better condition than it currently is through the levelling of the ground and reseeded with more appropriate grass-types.

4.17.25. This could facilitate the field's future use for amenity and recreation purposes.

Impacts with mitigation

4.17.26. No residual impacts are anticipated.

4.17.27. If reinstatement works following the end of construction can facilitate the site's future reuse for amenity and recreation purposes, the long-term impact of the replacement pipeline construction may be positive.

4.18. Site 17: Ashford Sports Club

Location

4.18.1. Ashford Sports Club is located in Staines (Easting: 506925 Northing: 173552).

Typology

4.18.2. Outdoor sports facilities – football and cricket pitches.

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Description of site and surroundings

- 4.18.3. Ashford Sports Club is a well-maintained sports complex that incorporates a large playing field, AstroTurf, hard court, clubhouse and car park. The facilities were constructed and opened after obtaining consent for a change of use from the Stanwell Centre in 1997 (Planning application reference 97/00073/FUL).
- 4.18.4. The site is surrounded by residential areas to the north and west. An agricultural field and graveyard lie to the south of the site, with the A30 London Road beyond. At the time of the visit, substantial construction works were commencing on the land to the east of the site.

Figure 4.17 Ashford Sports Club



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Access point/s

4.18.5. Vehicular and pedestrian access to the site is via a single entry point off Short Lane, to the east of the site. This access point leads to a substantial car park. The remainder of the site is surrounded by security fencing.

Facilities available

4.18.6. There is a good range of high quality sports facility provision on site, including:

- 2 x cricket pitches and cricket nets;
- 2 x grass football pitches;
- An AstroTurf (hockey and 5 a-side football) with flood lights;
- A hard court area (netball, basketball and 5-a-side football);
- A clubhouse; and
- A storage shed/scoreboard.

Levels of usage

4.18.7. Ashford Sports Club is an amalgamation of five local sports clubs. The Cricket Club operates 5 adult men’s teams and 3 friendly teams, 8 age group teams and 3 female teams. The Hockey Club operates 4 adult men teams, 4 adult female teams and 6 age group teams.

4.18.8. At the time of the site visit there were a number of dog walkers on site.

Local Plan Policy

4.18.9. Spelthorne Core Strategy and Policies Development Plan Document (adopted February 2009), Policy EN4 ‘Provision of open space and sport and recreation facilities’ highlights that existing open spaces used, or capable of use, for sport and recreation will be retained where:

- ‘There is a need for the site for sport and recreation purposes; or
- The site as a whole is clearly visible to the general public from other public areas and its openness either:
 - Makes a significant contribution to the quality and character of the urban area by virtue of its prominence, layout and position in relation to built development in the locality; or
 - Is of particular value to local people where there is a shortage of open space in the locality; or
 - The site is of particular nature conservation value, of at least SSSI or equivalent quality.

4.18.10. Exceptionally, development may be allowed on part of a site within the urban area which should otherwise be maintained for the above reasons where:

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- The remainder of the site is enhanced so its public value in visual and functional terms is equivalent to the original site or better; or
- Essential ancillary facilities are proposed to support outdoor recreational use of the site; or
- The sport or recreational use is relocated to an alternative site of equivalent or greater value in terms of quantity, quality and accessibility to users of the original site, and other factors do not justify retention’.

Local Authority Amenity and Recreation Study findings

4.18.11. The Spelthorne Playing Pitch Strategy 2013-2018 identifies the following shortfalls/surpluses in playing pitches during periods of peak demand:

- Adult football – a surplus of 13.5 pitches across the Borough
- Junior football – a deficit of 29 pitches (with shortfall played on adult pitches)
- Mini football – a deficit of 2.7 pitches
- Cricket – a deficit of 5.1 pitches
- Hockey – a deficit of 4.1 pitches.

Impact of DCO works

4.18.12. The extent of the DCO works cut across the eastern edge of the sports field, avoiding the grass football pitches a cricket pitch, the AstroTurf and all weather court. The only potentially impacted pitch could be the cricket pitch closest to Short Lane. The DCO works could impact on the full extent of the boundary but not the cricket square. Perhaps the most important impact will be the impact on the main access point and much of the car park. Unless an appropriate form of mitigation is applied to ensure access and alternative parking is provided on site during the DCO works, significant parking is likely to be offset to Short Lane, which only has limited layby provision.

Mitigation recommendations

4.18.13. It is recommended that DCO works are undertaken immediately after the last cricket game of the season (likely late September). The DCO corridor should be narrowed if possible to avoid the extent of the cricket pitch boundary. Ashford Cricket Club could potentially utilise their westerly cricket wickets at the start of the season whilst the outfield recovers. If this cannot be achieved, appropriate re-seeding/re-turfing and irrigation of the pitch should be undertaken in order to ensure that the pitch is ready for use at the beginning of the following season.

4.18.14. If possible, vehicular access to the Sports Club should only be removed for a short period during a lull in home hockey/football fixtures, with plating over the trench to allow access at all other times. If a proportion of the car park cannot be retained during the works it may be necessary to create new car parking spaces on site. There appears to be room to achieve this adjacent to the existing car park, either on a permanent or temporary basis.

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Impacts with mitigation

- 4.18.15. The implementation of the recommended mitigation approach would ensure that the sports facilities on site can be accessed and that their use will not be impeded.

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5.0 Conclusions and recommendations

- 5.1.1. This report provides an assessment of the potential impacts to the functionality of amenity and recreation spaces resulting from the construction of the Southampton to London Pipeline. Where required, it proposes suitable mitigation to manage any potentially adverse impacts on these spaces.
- 5.1.2. The study was commissioned to ensure DCO compliance against the NPS for Energy (EN-1) in particular. EN-1 states that consent should not be granted unless an assessment has been undertaken which has shown that open space is surplus to requirements or unless it is determined that the benefits of the project (including need) outweigh the potential loss of such facilities. This should take into account any positive proposals made by the applicant to provide new, improved or compensatory land or facilities.
- 5.1.3. The assessment focusses on the impacts of the construction phase of the project on 17 sites in particular. For each of these sites it is considered that impacts will be temporary and that, whilst there will be some disruption to existing usage levels during the DCO works, the impacts can be managed through either mitigation measures and/or, in the case of playing pitches, the reorganisation of home fixtures whilst surfaces recover.
- 5.1.4. Table 5.1 provides a summary of proposed mitigations for each of the 17 sites that, if adopted, will either help to ensure that the spaces:
 - Remain functional during construction; or
 - Are only removed from functional use for a short time during a period of low activity.

Table 5.1 Summary of recommended mitigation measures

Ref	Site	Recommended mitigation
1	Quetta Park	No mitigation required. Reinstate to existing condition.
2	Peter Driver Sports Ground	Minimise disruption to football pitch use by deploying additional work teams to the location to speed up DCO works. Reinstate playing pitches to enhanced condition using turf-laying techniques.
3	Southwood Sports Pitches	No mitigation required. Reinstate to existing condition.
4	West Heath Road	Temporary diversion of Cove Brook Greenway users via Grebe Road.
5	Queen Elizabeth Park	Temporary NEAP to be re-provided within DCO Limits, close to existing site. Reinstate existing NEAP post construction. Allow continued pedestrian access from Cabrol Road and ensure a network of footpaths provides connections within and across the site for the duration of construction works. Existing paths to be reinstated post-construction.

May 2019

Southampton to London Pipeline

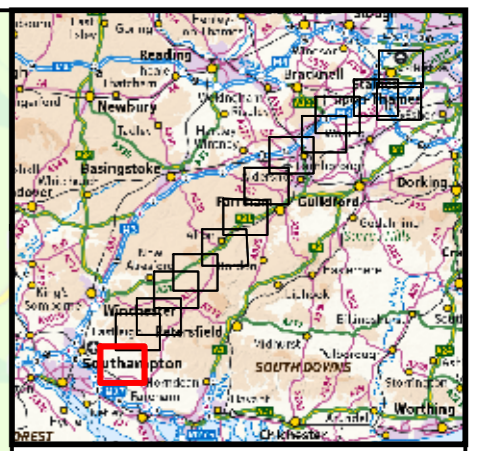
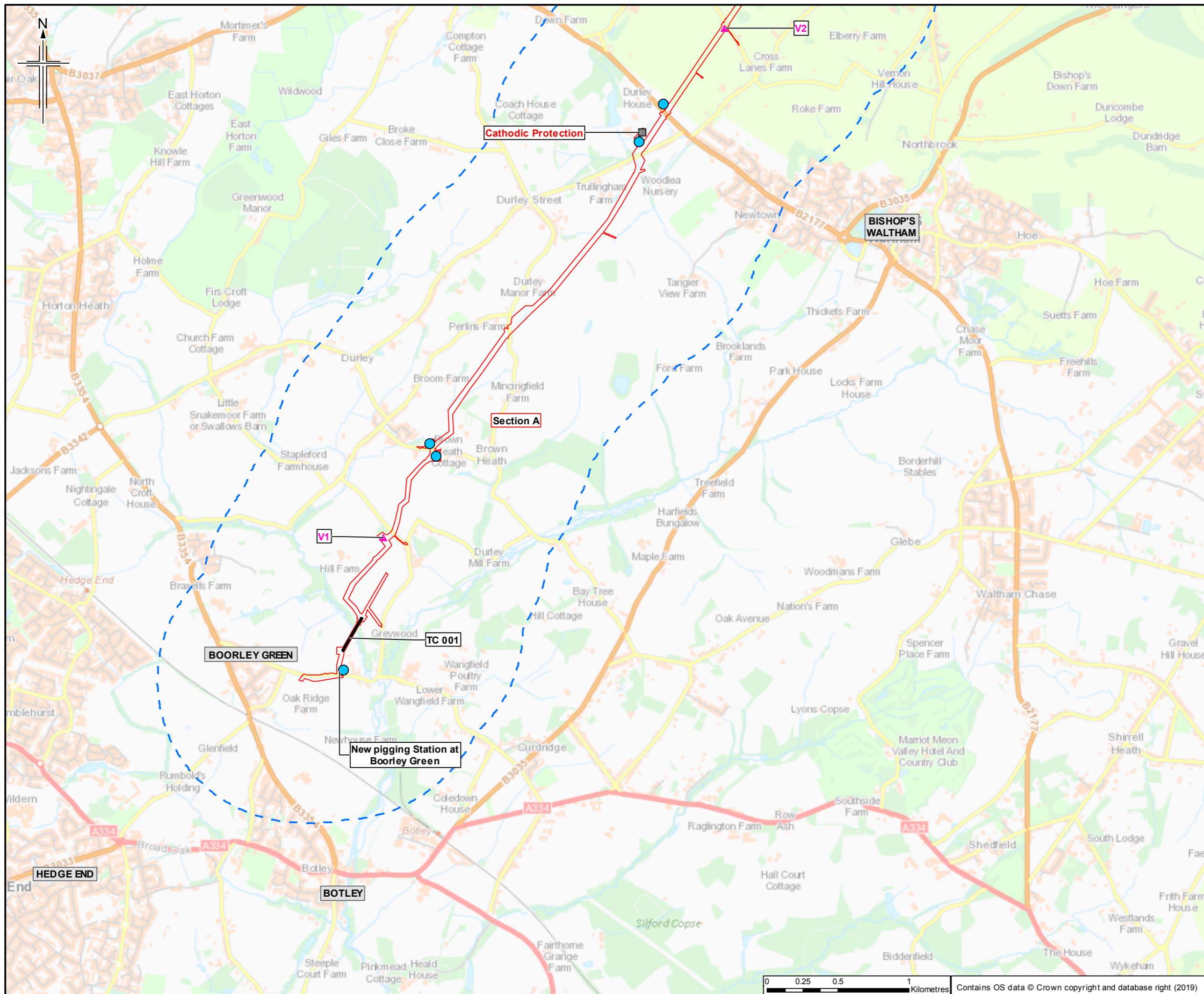
Ref	Site	Recommended mitigation
7	Balmoral Drive West	Seek to contain DCO works to Balmoral Drive. Ensure that pedestrian routes are unrestricted.
8	South of Balmoral Drive	Seek to retain pedestrian routes through site.
9	SC Johnson	Avoid tennis courts. Reinstate pitch to enhanced condition.
10	Salesian School	Assuming new pitches have already been installed, conduct DCO works outside rugby season. Ensure AstroTurf and tennis courts are accessible to pupils and community at all times.
11	Salesian School Playing Fields	No mitigation required. Reinstate to existing condition.
12	Abbey Rangers Football Club	Commence DCO works during football close season. Assess potential for employing trenchless techniques underneath FA standard pitch and restrict remainder of DCO Limits of Deviation to perimeter of field.
13	Fordbridge Park	Conduct DCO works outside school summer holidays. Seek to retain pedestrian access between Woodthorpe Road and other access points and ensure provision of connected footpaths within the park for the duration of construction works. Existing paths to be reinstated post-construction.
14	Woodthorpe Road/Buxton Road	Relocate/re-provide LEAP to site 15 'Entrance to Bronzefield Prison' during DCO works.
15	Entrance to Bronzefield Prison	No mitigation required. Seek to accommodate LEAP from site 14 'Woodthorpe Road/Buxton Road' on site.
16	Woodthorpe Road	No mitigation required.
17	Ashford Sports Club	Conduct DCO works outside cricket season. Seek to retain access to site at key times and, if necessary, extend car park.



Figure



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- Legend**
- Order Limits
 - Order Limits 1km buffer
 - Section break
 - Section break
 - Logistic hub
 - Construction compound
 - ▲ Valves V14
 - Trenchless crossing TC 008
 - Cathodic Protection

Sheet displays part of Section A

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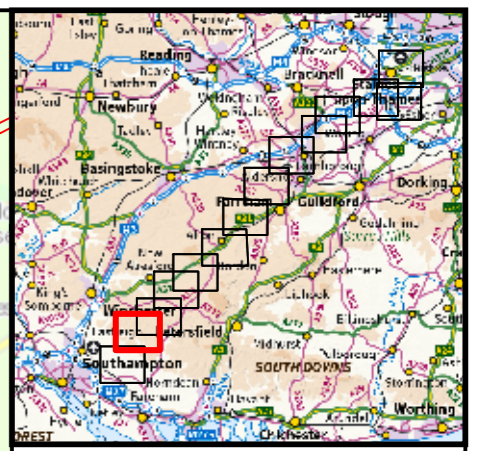
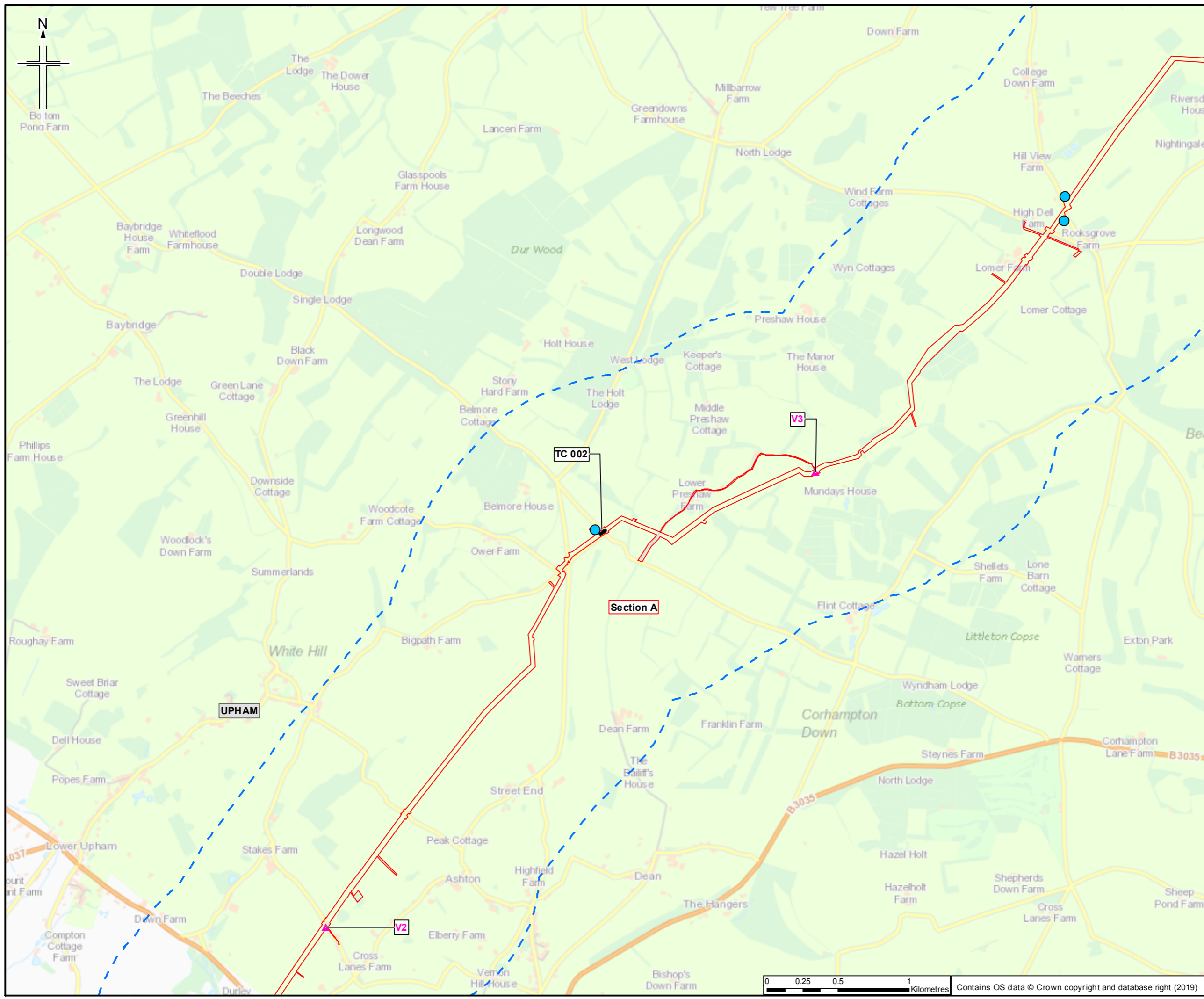


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- Legend**
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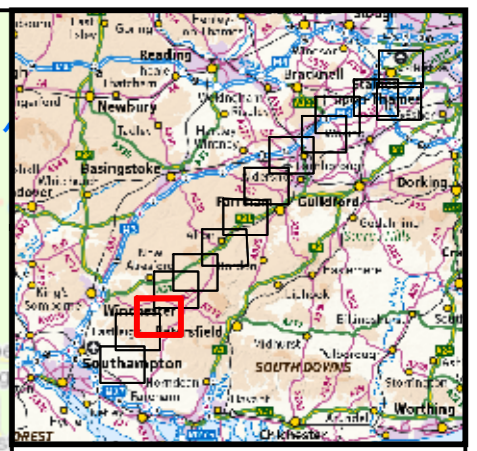
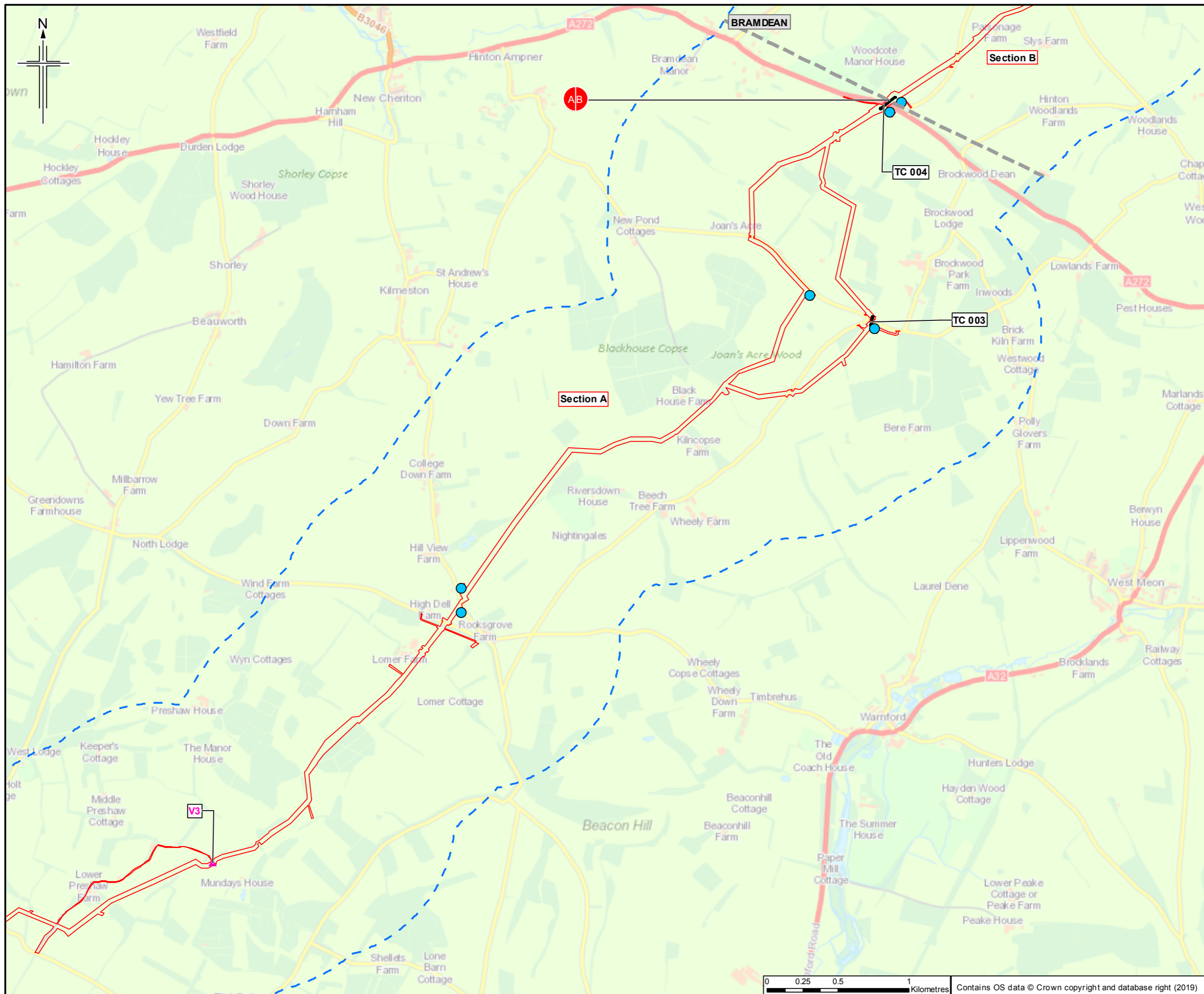
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- Legend**
- Order Limits
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Sheet displays parts of Section A and Section B

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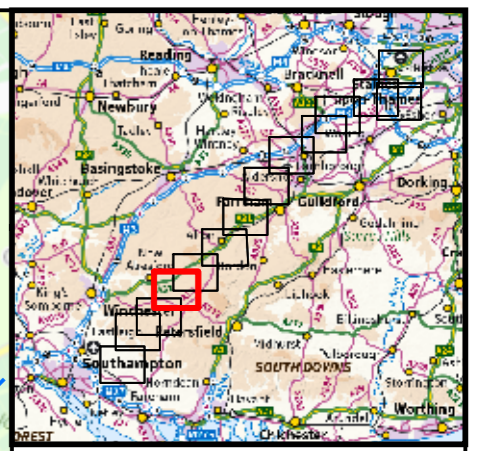
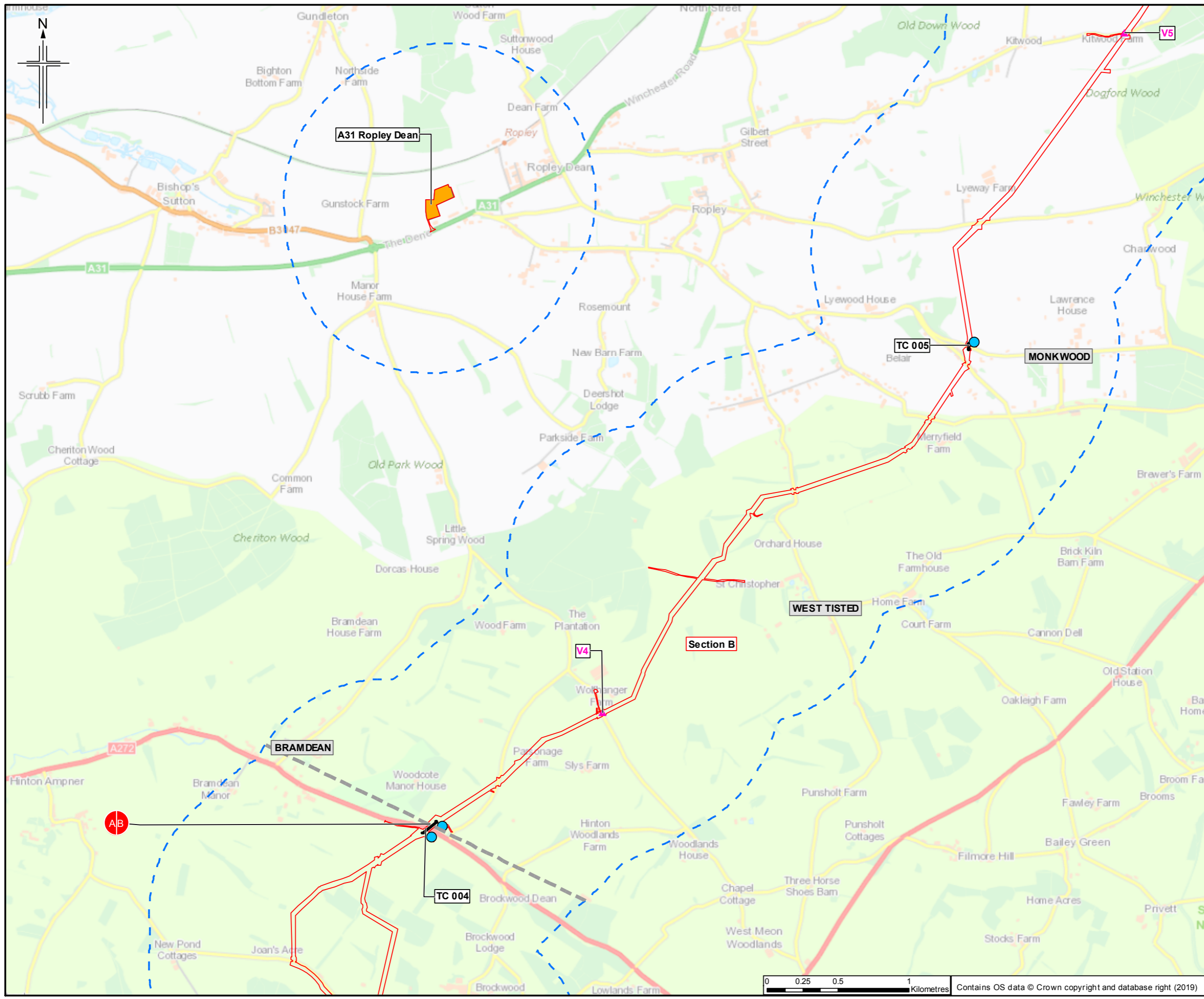


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- Legend**
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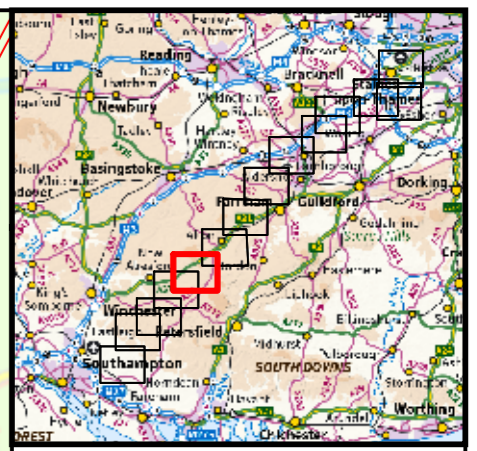
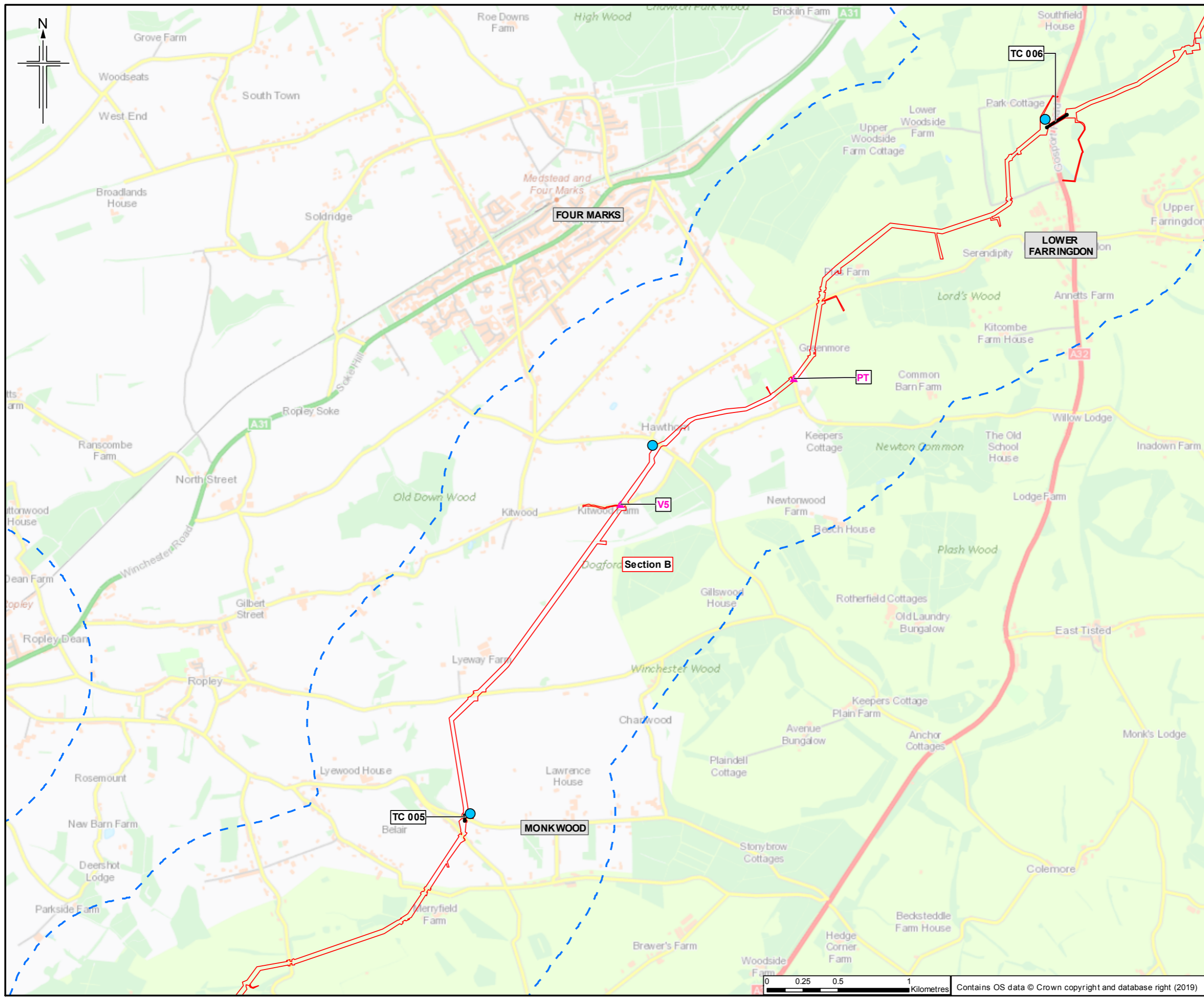


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- Legend**
- Order Limits
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 - Cathodic Protection

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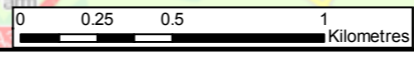


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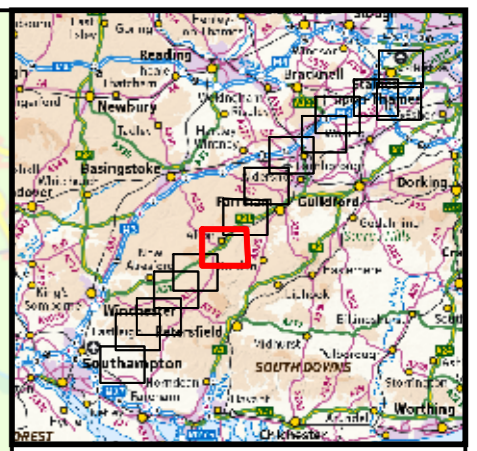
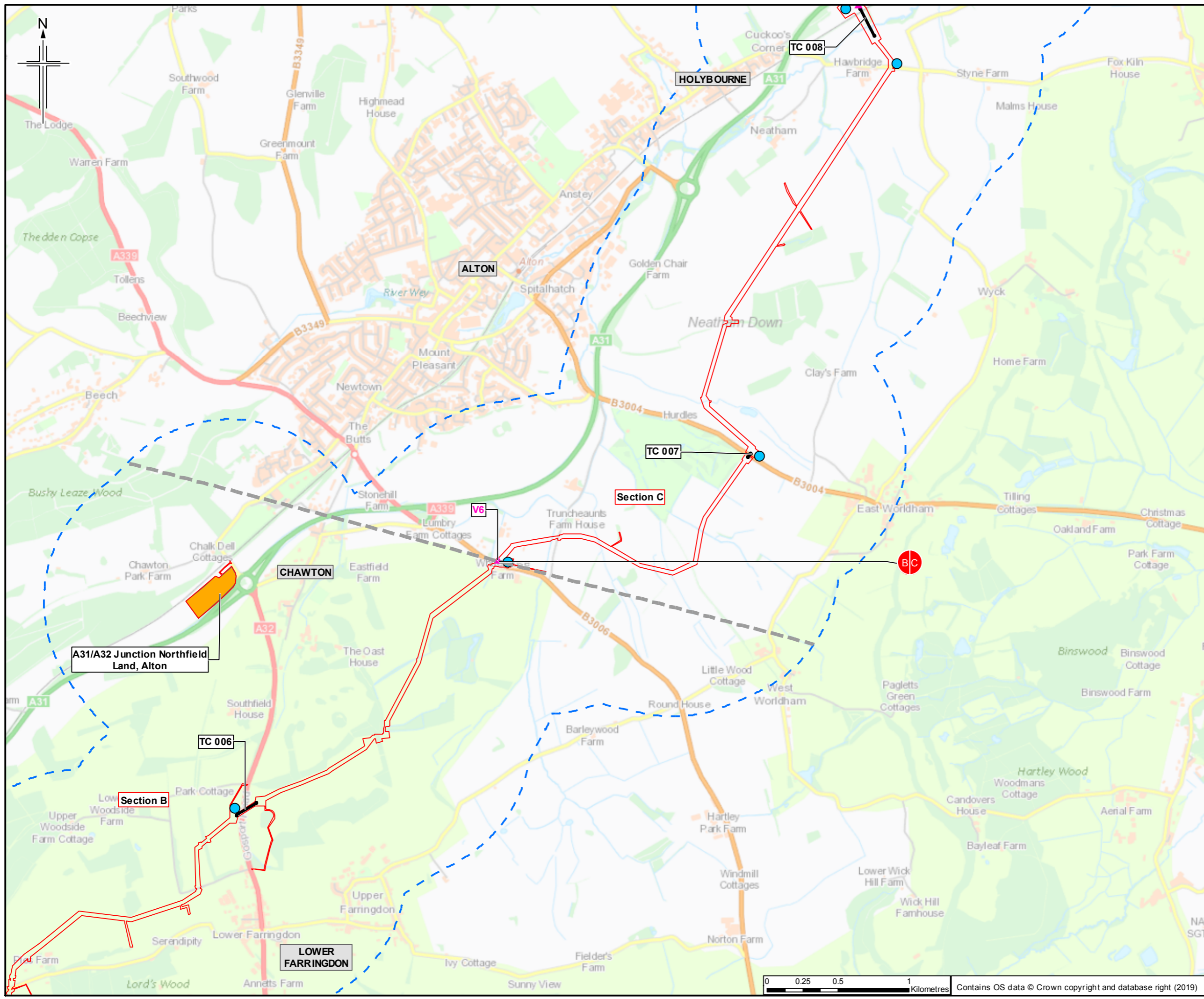


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 - Order Limits 1km buffer
 - Section break
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Sheet displays parts of Section B and Section C

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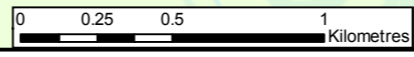
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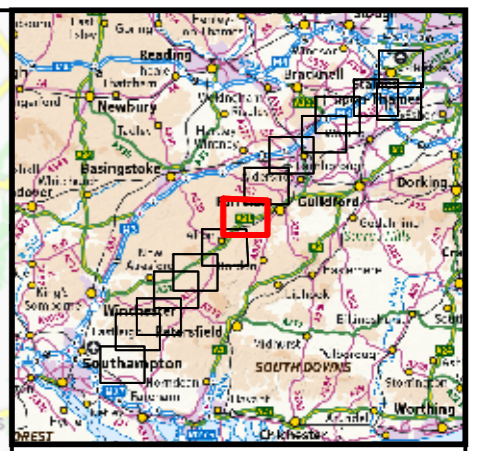
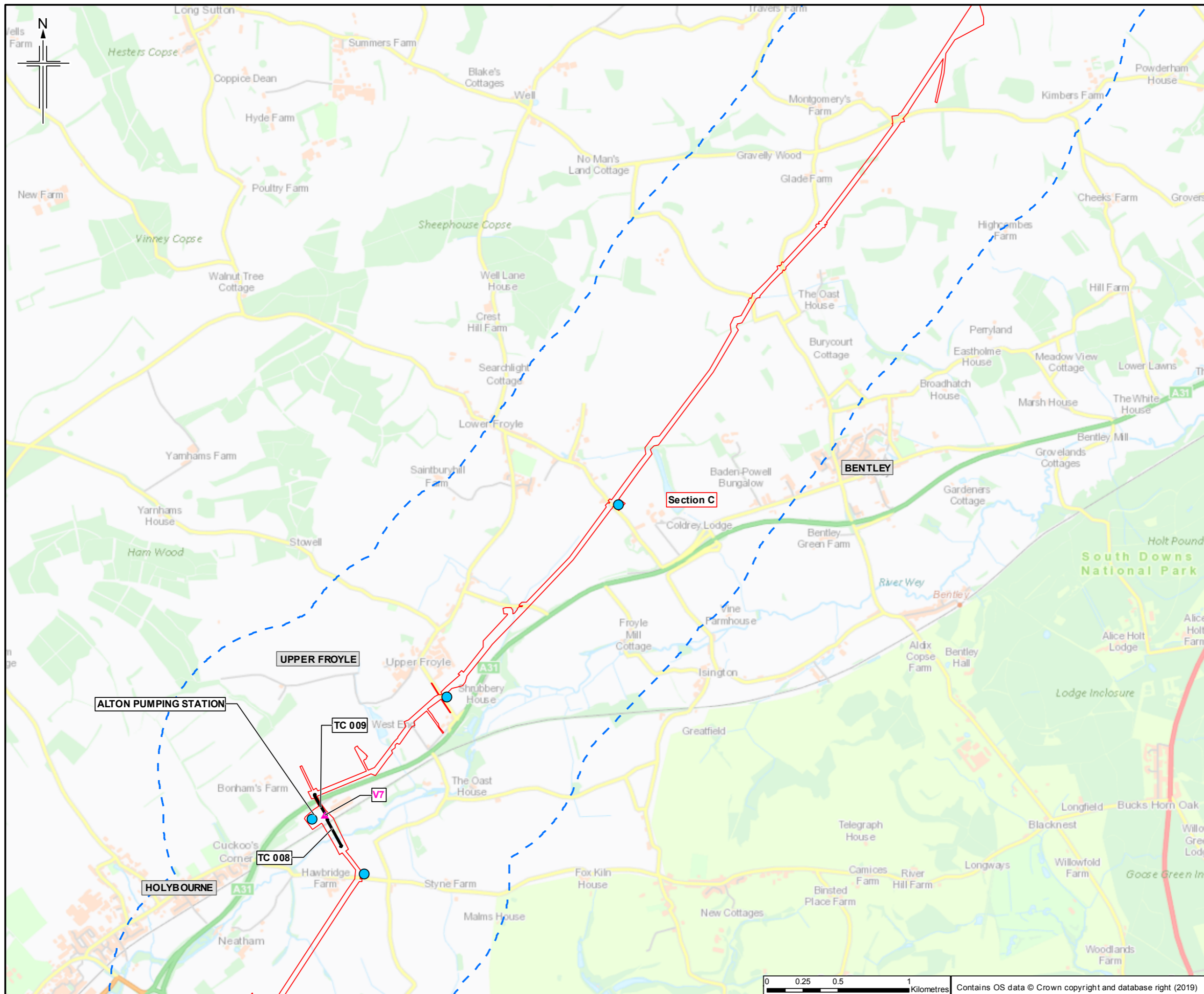
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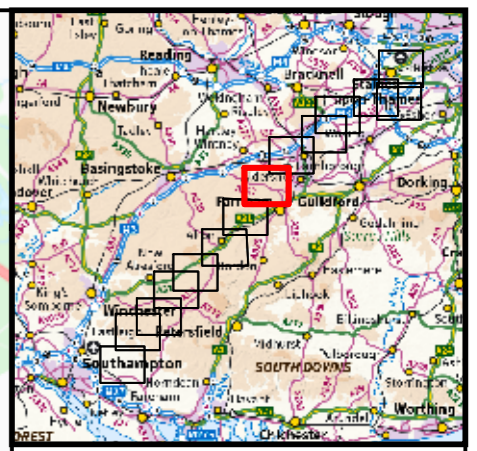
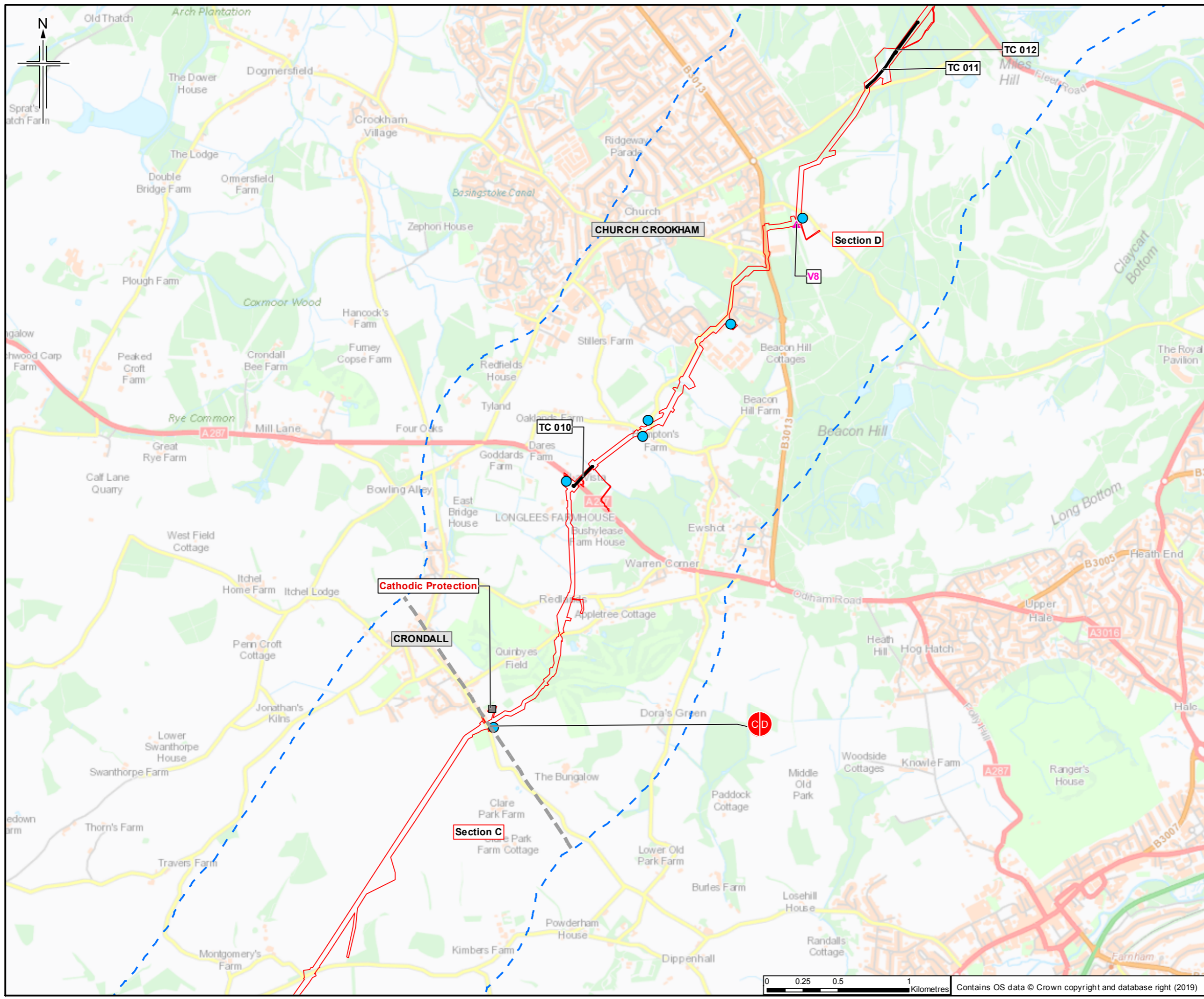


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- Legend**
- Order Limits
 - Order Limits 1km buffer
 - Section break
 - Section break
 - Logistic hub
 - Construction compound
 - ▲ Valves V14
 - Trenchless crossing TC 008
 - Cathodic Protection

Sheet displays parts of Section C and Section D

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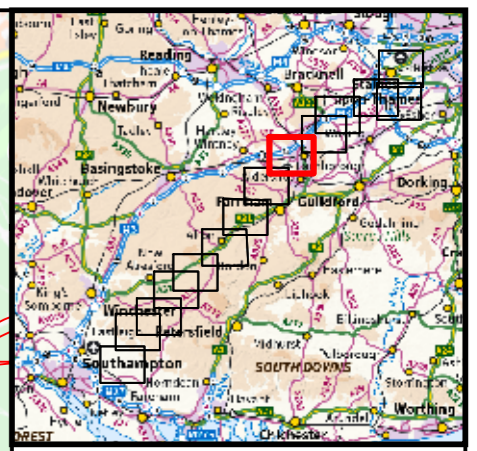


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- Legend**
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 - Section break
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 - Logistic hub
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Sheet displays parts of Section D and Section E

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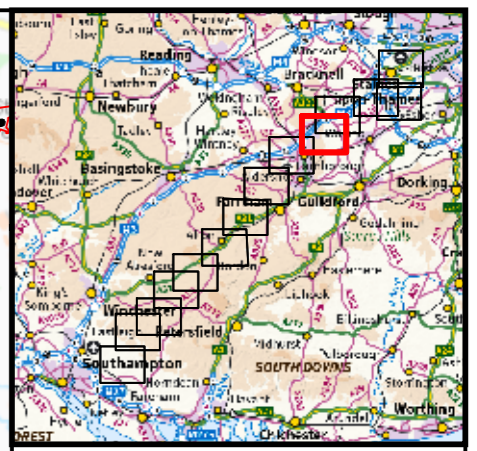
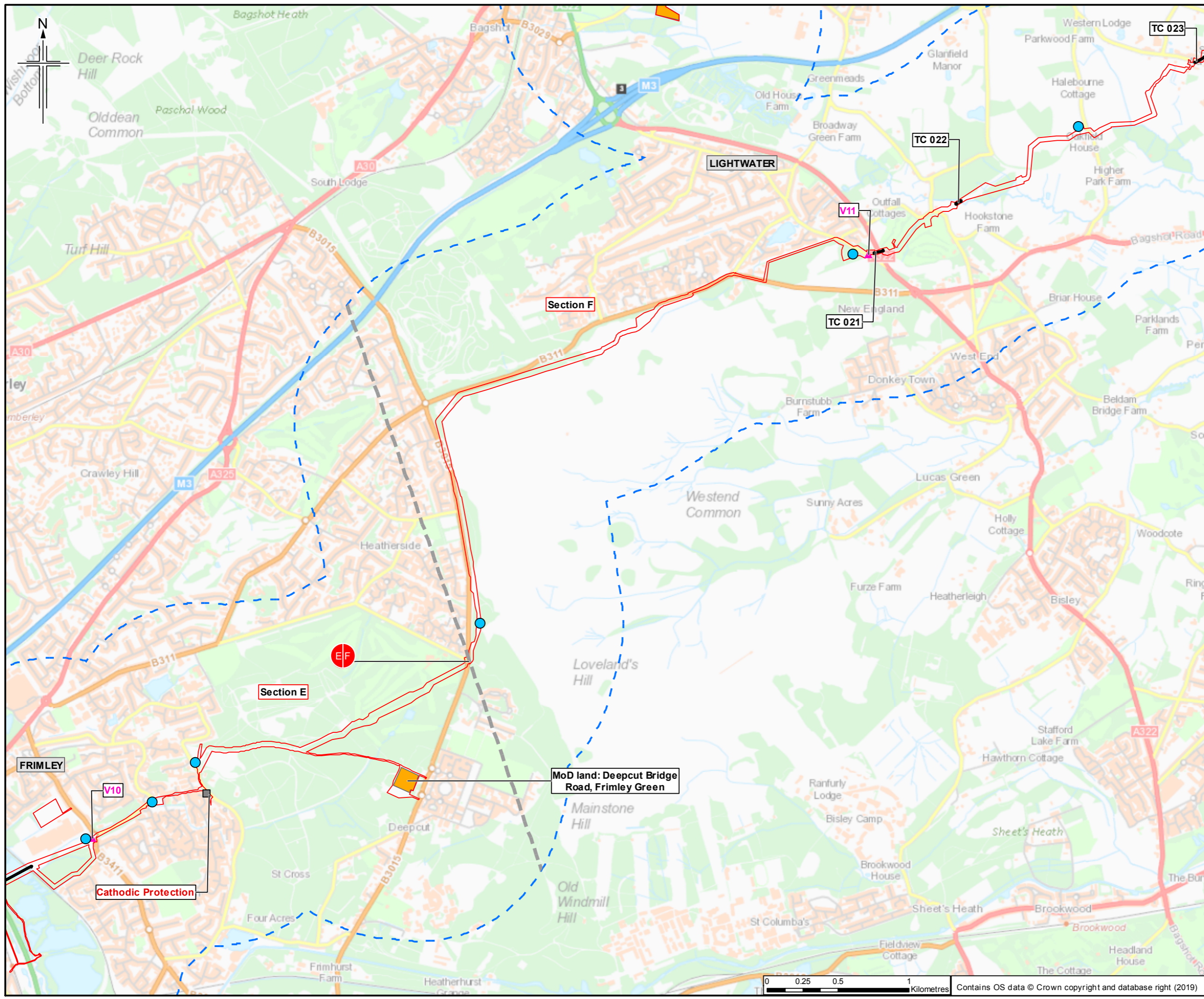


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- Legend**
- Order Limits
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Sheet displays parts of Section E and Section F

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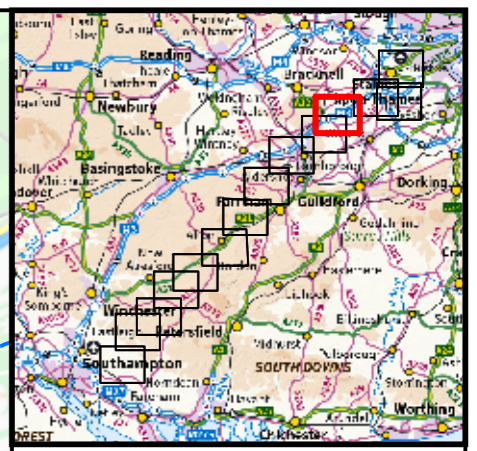
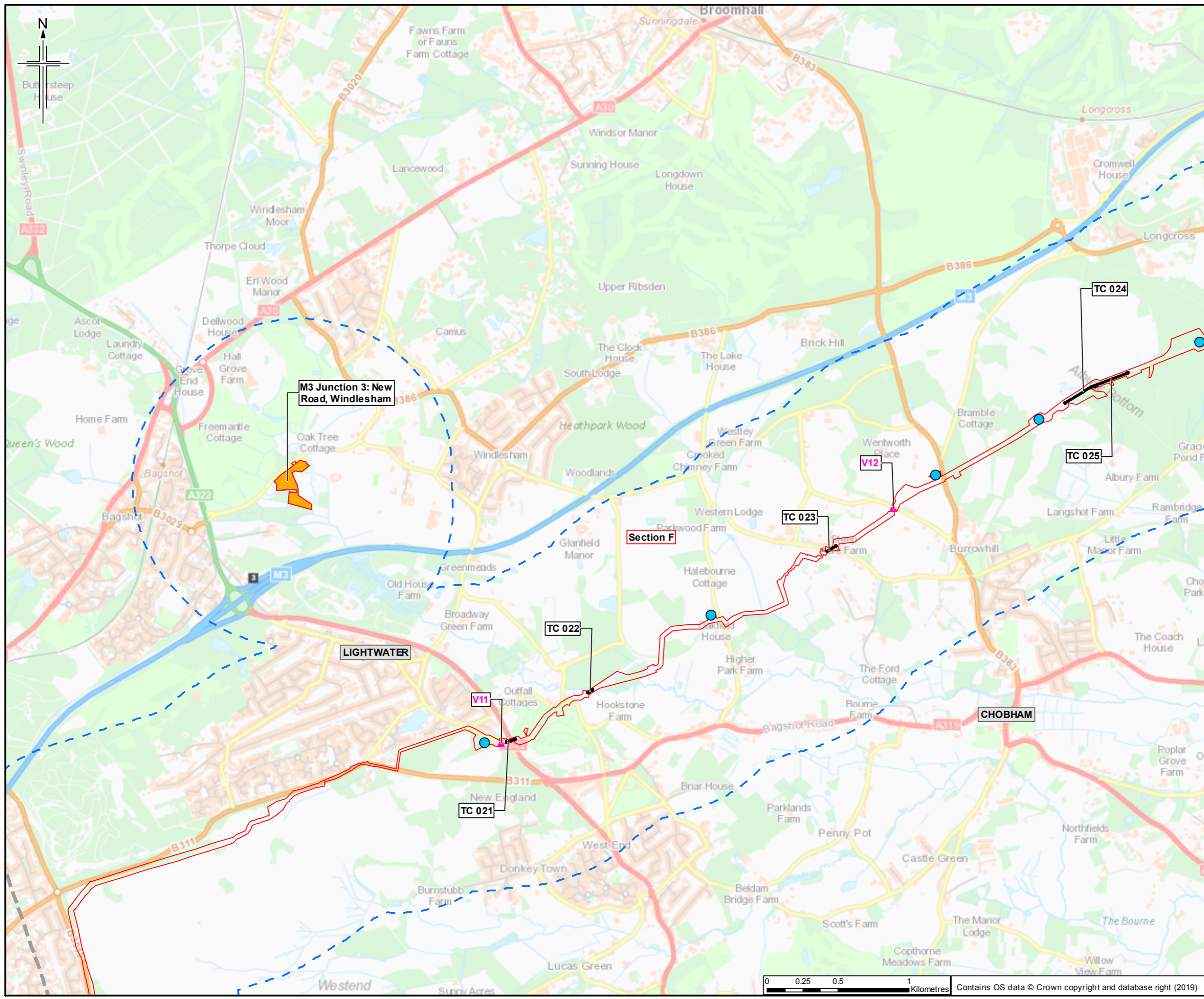
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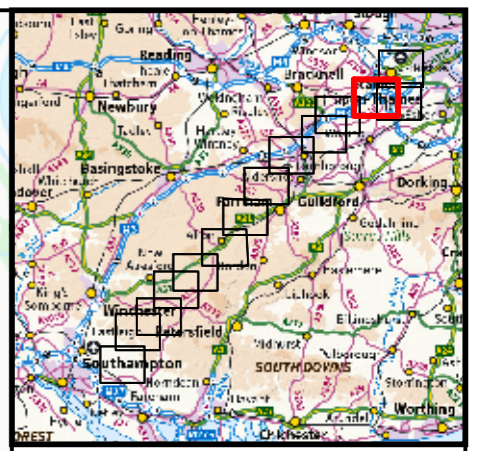


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 - Order Limits 1km buffer
 - Section break
 - Section break
 - Logistic hub
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Sheet displays parts of Section F, Section G and Section H

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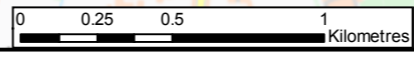
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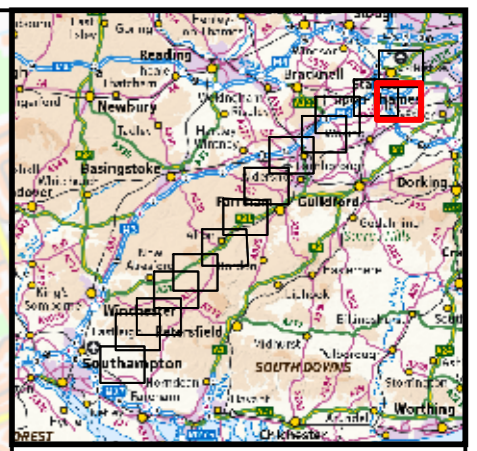
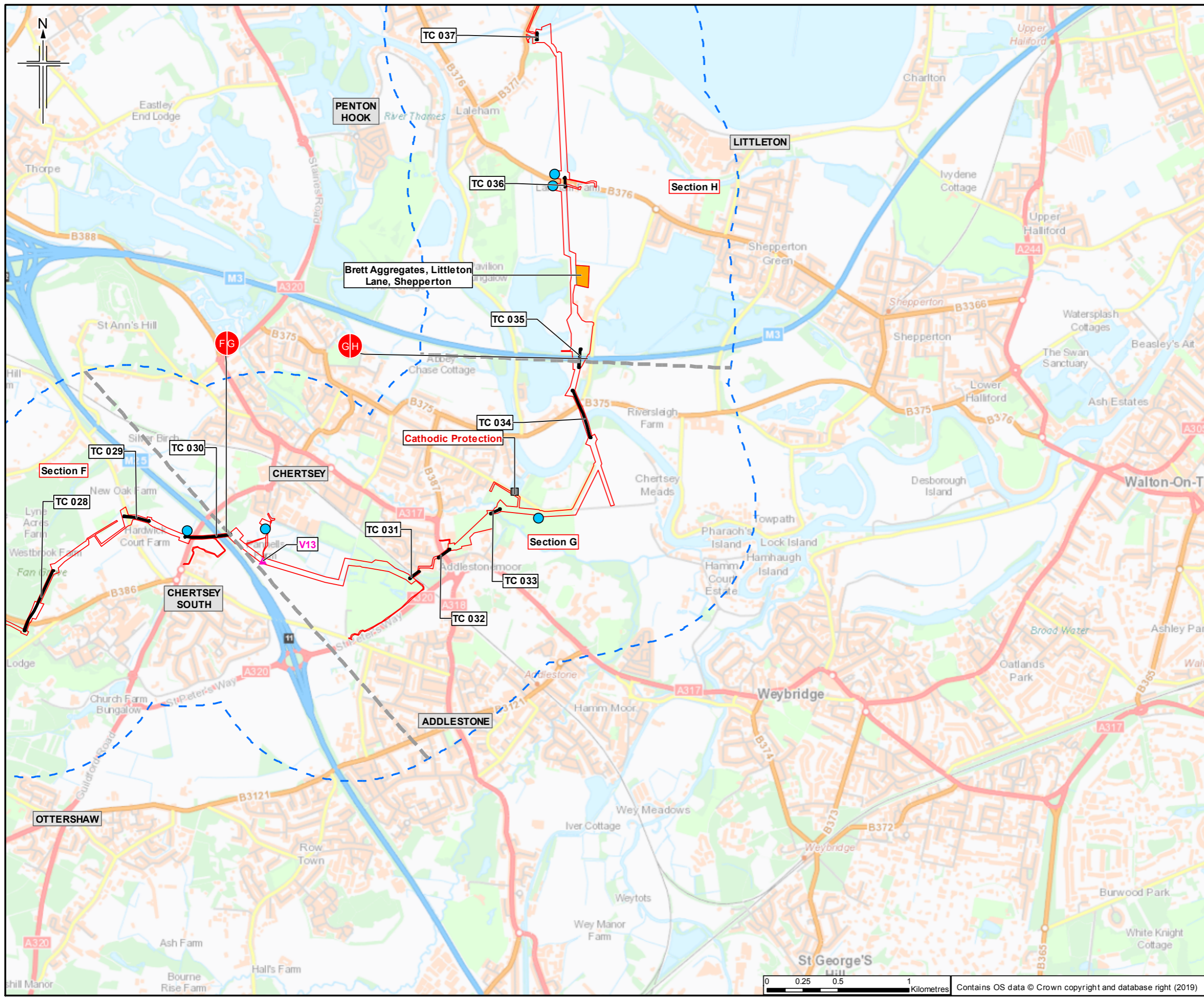
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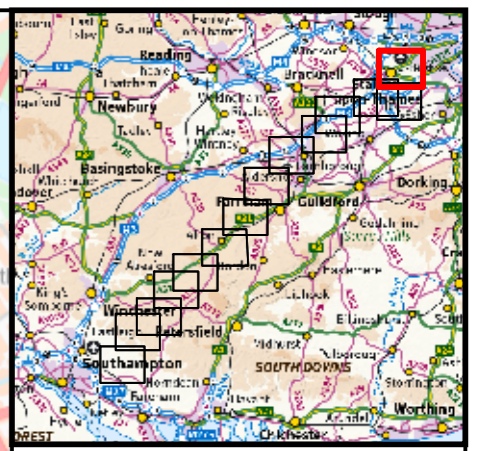
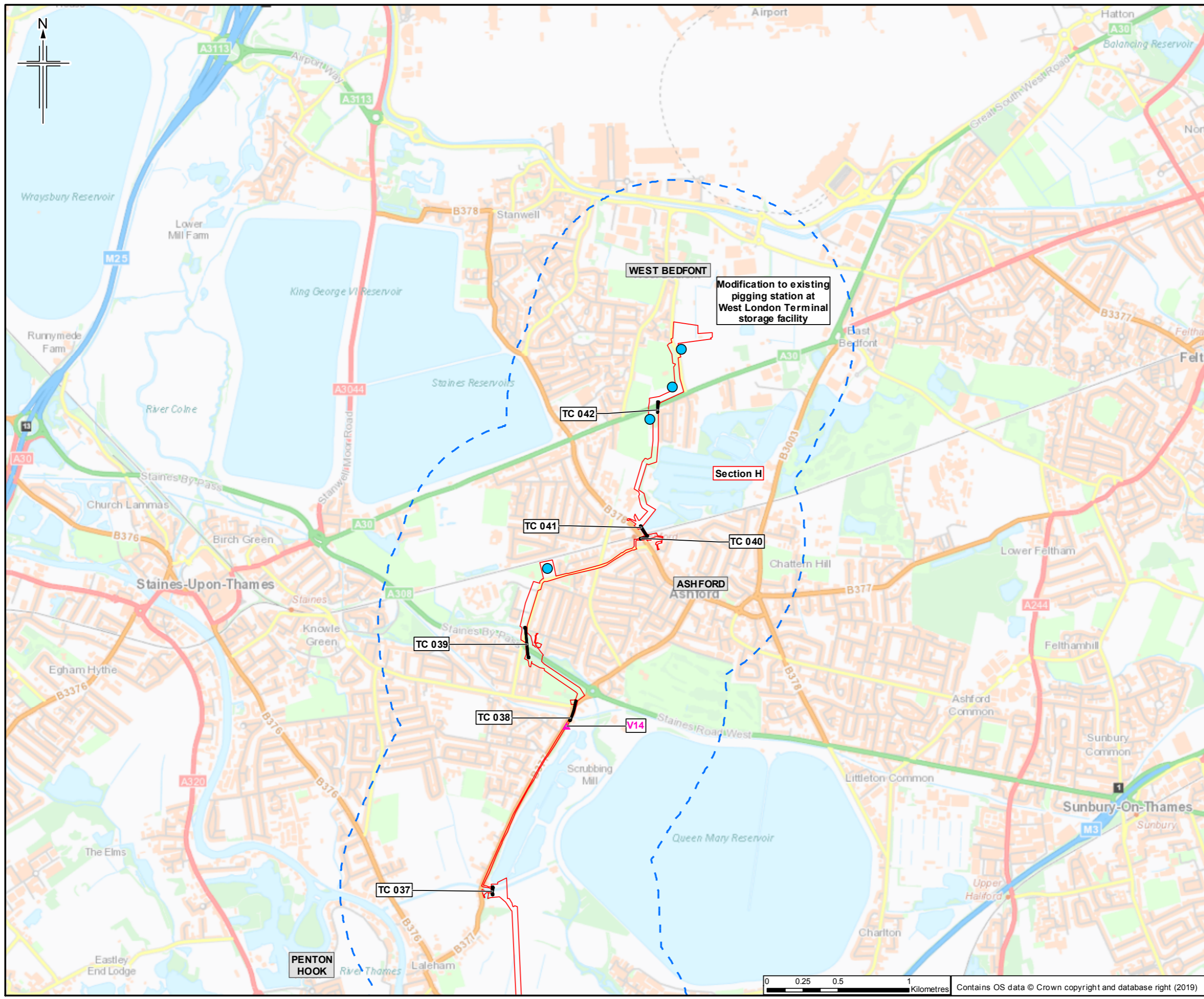


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