The Planning Inspectorate
Yr Arolygiaeth Gynllunio

SCOPING OPINION:

Proposed M25 Junction 10/A3 Wisley Interchange Improvement

Case Reference: TR010030

Adopted by the Planning Inspectorate (on behalf of the Secretary of State for Communities and Local Government) pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

January 2018

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1. INTRODUCTION

1.1 Background

1.1.1 On 08 December 2017, the Planning Inspectorate (the Inspectorate) on behalf of the Secretary of State (SoS) received a scoping request from Highways England (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed M25 Junction 10/A3 Wisley Interchange improvements (the Proposed Development).

1.1.2 In accordance with Regulation 10 of the EIA Regulations, an Applicant may ask the SoS to state in writing its opinion '*as to the scope, and level of detail, of the information to be provided in the environmental statement'.*

1.1.3 This document is the Scoping Opinion (the Opinion) provided by the Inspectorate on behalf of the SoS in respect of the Proposed Development. It is made on the basis of the information provided in the Applicant's report entitled 'Regional Investment Programme M25 Junction 10/A3 Wisley Interchange Environmental Scoping Report' (the Scoping Report). This Opinion can only reflect the proposals as currently described by the Applicant. The Scoping Opinion should be read in conjunction with the Applicant's Scoping Report.

1.1.4 The Applicant has notified the SoS under Regulation 8(1)(b) of the EIA Regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development. Therefore, in accordance with Regulation 6(2)(a) of the EIA Regulations, the Proposed Development is EIA development.

1.1.5 Regulation 10(9) of the EIA Regulations requires that before adopting a scoping opinion the Inspectorate must take into account:

(a) any information provided about the proposed development;

(b) the specific characteristics of the development;

(c) the likely significant effects of the development on the environment; and

(d) in the case of a subsequent application, the environmental statement submitted with the original application.

1.1.6 This Opinion has taken into account the requirements of the EIA Regulations as well as current best practice towards preparation of an ES.

1.1.7 The Inspectorate has consulted on the Applicant's Scoping Report and the responses received from the consultation bodies have been taken into account in adopting this Opinion (see Appendix 2).

1.1.8 The points addressed by the Applicant in the Scoping Report have been carefully considered and use has been made of professional judgement and experience in order to adopt this Opinion. It should be noted that when it comes to consider the ES, the Inspectorate will take account of relevant legislation and guidelines. The Inspectorate will not be precluded from requiring additional information if it is considered necessary in connection with the ES submitted with the application for a Development Consent Order (DCO).

1.1.9 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (eg on submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or associated development or development that does not require development consent.

1.1.10 Regulation 10(3) of the EIA Regulations states that a request for a scoping opinion must include:

(a) a plan sufficient to identify the land;

(b) a description of the proposed development, including its location and technical capacity;

(c) an explanation of the likely significant effects of the development on the environment; and

(d) such other information or representations as the person making the request may wish to provide or make.

1.1.11 The Inspectorate considers that this has been provided in the Applicant's Scoping Report. The Inspectorate is satisfied that the Scoping Report encompasses the relevant aspects identified in the EIA Regulations.

1.1.12 In accordance with Regulation 14(3)(a), where a scoping opinion has been issued in accordance with Regulation 10 an ES accompanying an application for an order granting development consent should be based on '*the most recent scoping opinion adopted (so far as the proposed development remains materially the same as the proposed development which was subject to that opinion)'*.

1.1.13 Inspectorate notes the need to carry out an assessment under The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). This document must be co-ordinated with the EIA, to avoid duplication of information between assessments. The Applicant should be aware that the 2010 Habitats Regulations (as amended) were replaced by new regulations on 30 November 2017 and must ensure that the assessment accords with the 2017 Habitats Regulations.

1.2 The Planning Inspectorate's Consultation

1.2.1 In accordance with Regulation 10(6) of the EIA Regulations the Inspectorate has consulted the consultation bodies before adopting a scoping opinion. A list of the consultation bodies formally consulted by the Inspectorate is provided at Appendix 1. The consultation bodies have been notified under Regulation 11(1)(a) of the duty imposed on them by Regulation 11(3) of the EIA Regulations to make information available to the Applicant relevant to the preparation of the ES. The Applicant should note that whilst the list can inform their consultation, it should not be relied upon for that purpose.

1.2.2 The list of respondents who replied within the statutory timeframe and whose comments have been taken into account in the preparation of this Opinion is provided, along with copies of their comments, at Appendix 2, to which the Applicant should refer in undertaking the EIA.

1.2.3 The ES submitted by the Applicant should demonstrate consideration of the points raised by the consultation bodies. It is recommended that a table is provided in the ES summarising the scoping responses from the consultation bodies and how they are, or are not, addressed in the ES.

1.2.4 Any consultation responses received after the statutory deadline for receipt of comments will not be taken into account within this Opinion. Late responses will be forwarded to the Applicant and will be made available on the Inspectorate's website. The Applicant should also give due consideration to those comments in carrying out the EIA.

1.3 Article 50 of the Treaty on European Union

1.3.1 On 23 June 2016, the United Kingdom (UK) held a referendum and voted to leave the European Union (EU). On 29 March 2017 the Prime Minister triggered Article 50 of the Treaty on European Union, which commenced a two year period of negotiations regarding the UK's exit from the EU. There is no immediate change to legislation or policy affecting national infrastructure. Relevant EU Directives have been transposed into UK law and those are unchanged until amended by Parliament.

2. THE PROPOSED DEVELOPMENT

2.1 Introduction

2.1.1 The following is a summary of the information on the Proposed Development and its site and surroundings prepared by the Applicant and included in their Scoping Report. The information has not been verified and it has been assumed that the information provided reflects the existing knowledge of the Proposed Development and the potential receptors/resources.

2.2 Description of the Proposed Development

2.2.1 The Applicant's description of the Proposed Development, its location and technical capacity (where relevant) is provided in the Scoping Report in Sections 1.1, 2.1-2.4 and in Chapter 19 which consists of the location and design plans.

2.2.2 The Proposed Development is part of the Government's Road Investment Strategy (RIS) for the Strategic Road Network (SRN) and aims to improve the movement of traffic and road safety on the M25 at the Junction 10 Interchange with the A3 road to Wisley. The proposals include; increasing the capacity of the M25 roundabout, widening the A3 from Ockham to M25 Junction 10 and M25 Junction 10 to Painshill, widening the A245 between the Painshill junction and the B365 Seven Hills junction, and associated works. The widening of the A3 will result in the closure of existing direct accesses to it and therefore the Proposed Development includes alternative provisions. These will involve the creation of new and replacement bridge structures and new access roads. New non-motorised user routes are proposed to be incorporated within these works. Works to upgrade existing Public Rights of Way (PRoW) and to provide new routes, including new sections of bridleways/cycleway, footpaths, and NMU crossings at the Ockham interchange.

2.2.3 The Scoping Report states that the Proposed Development will result in land-take from designated nature conservation sites and common land (see below) and therefore the proposals include replacement land in four locations. These areas of land are shown on the Route Protection Plan provided in Chapter 19 of the Scoping Report. The permanent land take of the proposals is stated in the Scoping Report as being approximately 26ha. The temporary land-take is estimated as 33ha in the Scoping Report, which states that it has been included within the proposed DCO boundary presented. The estimates for the permanent land-take in hectares from designated nature conservation habitats are shown in paragraphs 7.5.2 to 7.5.7 of the Scoping Report.

2.2.4 The application site is part of the existing south western section of the M25 London Orbital Motorway, at the M25 Junction 10/A3 Wisley Interchange. The M25 is a major route between Gatwick and Heathrow airports and London. The A3 is a main route between London and

Portsmouth. The application site is located south-west of London, north-east of Guildford, north-west of Dorking, east of Woking and south-east of Slough. The town of Byfleet is adjacent to the application site to the north-west and Cobham lies to the west of the Painshill junction of the A3.

2.2.5 The application site comprises the existing M25 motorway and interchange with the A3 there are also residential and other community buildings such as schools, farms, the Royal Horticultural Society (RHS) head office at Wisley, and a nursing home in the surrounding area. Existing buildings, overbridges, overhead power lines, and other structures, are shown in the Figures accompanying the Scoping Report.

2.2.6 The Thames Basin Heaths Special Protection Area (SPA) and Ockham and Wisley Commons Site of Special Scientific Interest (SSSI), which is also designated as a Local Nature Reserve (LNR), Site of Nature Conservation Interest (SNCI) and Ancient Woodland, are located adjacent to the application site. A number of other international, national, and locally designated sites for nature conservation are located within the vicinity of the application site. The RHS gardens at Wisley are located immediately south-west of Junction 10, and Painshill Park is to the north-east of Junction 10, both these receptors are Registered Parks and Gardens of Historic Interest. The application site is located within an area of Registered Common Land (Wisley Common and Chatley Heath). Also within the vicinity of the application site are several listed buildings, disused landfill sites, areas of public open space, and existing waterbodies and watercourses. The application site is within proximity of the Air Quality Management Area (AQMA) at Cobham north-east of Junction 10. There are a number of other AQMAs within the local area of the application site. The environmental constraints are shown in Figures 2.1-5.1 of the Scoping Report.

2.3 The Planning Inspectorate's Comments

Description of the Proposed Development

2.3.1 Chapter 2 of the Scoping Report includes a description of the main components of the Proposed Development. The Inspectorate expects that at the ES which accompanies the application for DCO should include a detailed description of the Proposed Development which includes all of the works for which development consent is sought.

2.3.2 The length of the Proposed Development (in km) and the size of the application site (in hectares) should be specified in the ES. Details of components such as signage, gantries, lighting, drainage features, landscaping, and environmental mitigation features should be provided in the ES particularly where these components are relevant to the assessment.

2.3.3 The Scoping Report states that the temporary land-take, in which construction activities may take place, is included in the proposed DCO

boundary provided and that construction site areas are shown in the Engineering General Arrangement drawings 1-9 in the Scoping Report (Chapter 19). The Inspectorate notes that despite the statement above the construction compound locations are not yet confirmed. Information relevant to land use during construction should be provided in the ES and should illustrate both temporary and permanent land-take. The Inspectorate recommends that the ES should include detailed information on any requisite demolition works and land use requirements during the construction and operation phases. The ES should clearly identify the land that would be temporarily required during construction (eg the location of construction compounds, material stockpiles, borrow pits, and haul roads), as well as the land that would be required for the operational phase. The proposed DCO boundary applied for must allow for the land-take associated with all works and project elements proposed as part of the application.

2.3.4 Where flexibility is sought, the ES should set out the parameters that would apply for all components of the Proposed Development including footprint, heights and proposed limits of deviation. The description in the ES should address each stage of the Proposed Development including construction. The ES should make appropriate use of figures/drawings to support the description provided.

2.3.5 The ES should explain how a phased approach to construction (if adopted) would occur. The explanation should address the likely duration and location of construction activities. The Inspectorate notes the information in paragraph 2.4.15 of the Scoping Report regarding the anticipated year of construction and operation and would expect this to be incorporated into the ES. The anticipated traffic management measures (including construction traffic routes) and road closures or diversions during construction should be explained in the ES and particularly where this information influences the assessment.

2.3.6 The ES should include a description of the nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) to be used during construction. The ES should describe and assess the likely significant effects associated with any particular technologies or substances proposed to be used for the construction phase.

2.3.7 The Scoping Report provides a description of the location of the Proposed Development in Sections 1.1 and 2.1-2.4, and in Chapter 19 within the location and design plans. This information should be expanded in the ES to provide a detailed description of the existing land uses and features across the application site and surrounding area. The Inspectorate notes that all existing footways and other non-motorised routes including Rights of Way in the vicinity of the Proposed Development are to be identified through a desk based assessment supported where applicable by the findings of user surveys that have been undertaken (paragraph 13.7.43). This information should be described in detail in the ES, in particular within the appropriate aspect assessments.

2.3.8 The Scoping Report and the accompanying Environmental Constraints Plan (Figure 2.1 of the Scoping Report) identify a number of landscape, nature conservation, historic, and other features in the immediate vicinity of the application site. These features are not individually identified or referenced and it would provide greater clarity to do so. The plans accompanying the ES should include labels on features such as settlements and road names which will support the reader to identify the application site and improve overall clarity. Figures submitted with the ES should be sufficient to cover the full extent of the study area(s) applied in the relevant aspect assessment.

Alternatives

2.3.9 The EIA Regulations require that the Applicant provide 'a description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects'.

2.3.10 The Inspectorate would expect to see a discrete section in the ES that provides details of the alternatives considered and the reasoning for the selection of the chosen option(s), including a comparison of the environmental effects.

2.3.11 Chapter 3 of the Scoping Report ('Alternatives') sets out the approach taken in developing options for the Proposed Development. This chapter provides an overview of the options and the reasons for choosing the final option, including regard to environmental considerations. Section 3.2 refers to an assessment of the options in terms of environmental impact, and in terms of meeting legal and policy considerations. To address alternative this information should be provided with the ES so that it can be understood how environmental effects, and the responses of stakeholders, have been taken into account in the choices made.

2.3.12 The Inspectorate also expects that environmental impacts will be taken into account when considering alternatives to the detailed elements of the Proposed Development design (eg the installation of culverts or single span bridges) and that this should be reported in the ES.

Flexibility

2.3.13 The Inspectorate notes that the Applicant intends to apply the Rochdale Envelope approach to the application for the Proposed Development (paragraphs 2.4.1 and 4.3.16, Scoping Report) in accordance with the

Inspectorate's Advice Note 9 'Using the 'Rochdale Envelope'[1], which provides details on the recommended approach.

2.3.14 The Applicant should attempt to narrow the range of options and explain clearly in the ES which elements of the Proposed Development have yet to be finalised and provide the reasons. At the time of application, any Proposed Development parameters should not be so wide-ranging as to represent effectively different developments. The Inspectorate notes the intention in this regard stated in paragraphs 4.3.15 to 4.3.16 of the Scoping Report. The development parameters will need to be consistently and clearly defined in both the draft DCO (dDCO) and the accompanying ES. It is a matter for the Applicant, in preparing an ES, to consider whether it is possible to robustly assess a range of impacts resulting from a large number of undecided parameters. The description of the Proposed Development in the ES must not be so wide that it is insufficiently certain to comply with the requirements of Regulation 14 of the EIA Regulations.

2.3.15 It should be noted that if the Proposed Development changes substantially during the EIA process prior to submission of the DCO application the Applicant may wish to consider requesting a new scoping opinion.

[1] Advice Note nine: Using the Rochdale Envelope. 2012. Available at: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

3. EIA APPROACH

3.1 Introduction

3.1.1 This section contains the Inspectorate's specific comments on the scope and level of detail of information to be provided in the Applicant's ES. General advice on the presentation of an ES is provided in the Inspectorate's Advice Note 7 'Environmental Impact Assessment: Process, Preliminary Environmental Information, and Environmental Statements[2] and associated Annex.

3.1.2 Aspects/matters are not scoped out unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by the Inspectorate. The ES should be based on the Scoping Opinion in so far as the Proposed Development remains materially the same as the Proposed Development described in the Applicant's Scoping Report. The Inspectorate has set out in this Opinion where it has/has not agreed to scope out certain aspects or matters on the basis of the information available at this time. The Inspectorate is content that this should not prevent the Applicant from subsequently agreeing with the relevant consultees to scope such aspects/matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the aspects/matters have been appropriately addressed, the ES should explain the reasons for scoping them out and justify the approach taken.

3.1.3 Where relevant, the ES should provide reference to how the delivery of measures proposed to prevent/minimise adverse effects is secured through DCO requirements (or other suitably robust methods) and whether relevant consultees agree on the adequacy of the measures proposed.

3.2 Relevant National Policy Statements (NPSs)

3.2.1 Sector-specific NPSs are produced by the relevant Government Departments and set out national policy for NSIPs. They provide the framework within which the Examining Authority (ExA) will make their recommendation to the SoS and include the Government's objectives for the development of NSIPs. The NPSs may include environmental requirements for NSIPs, which Applicants should address within their ES.

3.2.2 The designated NPS relevant to the highways sector is the National Policy Statement for National Networks (NPSNN). The Inspectorate notes that

[2] Advice Note seven: Environmental Impact Assessment: Process, Preliminary Environmental Information, and Environmental Statements. Available from: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

this is identified in the Scoping Report as a key consideration, and advises that the EIA takes account of this policy document.

3.3 Scope of Assessment

General

3.3.1 The Inspectorate recommends that in order to assist the decision-making process, the Applicant uses tables:

- to demonstrate how the assessment has taken account of this Opinion;
- to identify and collate the residual effects after mitigation for each of the aspect chapters, including the relevant interrelationships and cumulative effects;
- to set out the proposed mitigation and/or monitoring measures including cross-reference to the means of securing such measures (eg a dDCO requirement);
- to describe any remedial measures that are identified as being necessary following monitoring; and
- to identify where details are contained in the Habitats Regulations Assessment (HRA) report, such as descriptions of European sites and their locations, together with any mitigation or compensation measures, are to be found in the ES.

3.3.2 The Inspectorate considers that where a DCO application includes works described as 'associated development', that could themselves be defined as an improvement of a highway, the Applicant should ensure that the ES accompanying that application distinguishes between; effects that primarily derive from the integral works which form the proposed (or part of the proposed) NSIP and those that primarily derive from the works described as associated development, for example through a suitably compiled summary table. This will have the benefit of giving greater confidence to the Inspectorate that what is proposed is not in fact an additional NSIP defined in accordance with s22 of the PA2008.

3.3.3 The Inspectorate notes that the Applicant considers that the EIA process would be in "conformance" with Highways England's own Design Manual for Roads and Bridges (DMRB) requirements (paragraph 4.1.2). The Inspectorate recommends that the Applicant should ensure that the scope of the EIA adequately meets the requirements of the 2017 EIA Regulations, as referred to in Chapter 4 of the Scoping Report.

3.3.4 The Inspectorate notes that the impacts to human health will be addressed in relevant aspect assessments, with the Scoping Report identifying the Air Quality and Noise aspects as particularly relevant. The Inspectorate considers that the Geology and Soils, Materials and Waste, and People and Communities aspect assessments may be of relevance to the assessment of effects on human health. The Inspectorate also notes

the Applicant's intention to produce a Heath Impact Assessment separate to the EIA.

3.3.5 The Inspectorate has had regard to the receiving environment and existing features, including historic landfill sites and infrastructure assets. Any impacts to these sites or assets and their influence on the design of the proposals should be assessed. The Inspectorate advises that consultation with stakeholders is undertaken and taken into account in the ES, which should describe any interactions with infrastructure where significant effects could arise. Consultation responses from the Health and Safety Executive (HSE), National Grid, and Royal Mail Group Ltd are provided in Appendix 2, and contain information about infrastructure which may interact with the Proposed Development, to which the Applicant should have regard.

3.3.6 The Applicant will decide on the structure of the ES. However, the Planning Inspectorate expects that impacts associated with changes in traffic and transport must be assessed in the ES. The assessment should explain the methodology applied to the assessment and to preparing a traffic model. Agreement on the approach should be sought from relevant consultees. Transport for London (TfL) has provided some comment in this regard in their response in Appendix 2. The ES must demonstrate how the information gathered as part of the traffic assessment has been applied to other assessments within the ES, for example Air Quality and Noise and Vibration.

3.3.7 The approach to the EIA is outlined in Chapter 4 of the Scoping Report, and paragraph 4.6.1 states that decommissioning effects are not considered relevant to the Proposed Development. Paragraph 2.5.9 states that the Proposed Development will have an indefinite design life and also states that decommissioning will not be included in the environmental assessment. The Inspectorate considers that this is a reasonable approach taking into account the specific characteristics of the Proposed Development as a whole. However, the Inspectorate considers that any decommissioning associated with dismantling and replacing particular elements of the Proposed Development once they reach the end of their design life should be assessed where significant effects are likely to occur.

3.3.8 The Scoping Report states that an assessment under the Habitats and Species Regulations 2017 is likely to be required. As a general recommendation, an up to date HRA report should be produced (the Inspectorate notes the assessment referred to in Chapter 4, paragraphs 4.3.29 to 4.3.30) and should be referenced in the ES. The HRA report should in turn contain references to where the information on which it is based is to be found in the ES.

3.3.9 Throughout the Scoping Report, reference is made to 'the Scheme,' 'the project', 'the construction site', 'the red line boundary', and 'the site'. Some of these terms appear to be used interchangeably with respect to

each other. The ES should be consistent in applying the terminology used in order to preserve the distinction between terms and aid clarity.

Baseline Scenario

3.3.10 The ES should include a description of the baseline scenario with and without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge.

3.3.11 The Inspectorate notes the information within Section 4.3 of the Scoping Report which sets out the temporal scope of the assessments. Reference is made to the use of baseline year and future assessment year or a series of future assessment years but exact scenarios are not committed to in the Scoping Report. The final approach adopted should be defined in the ES and based on the most up to date anticipated project timescales. The approach must be adopted consistently across each aspect chapter of the ES and where any individual aspect assessments depart from that approach it should be explained in the ES.

Forecasting methods or evidence

3.3.12 The ES should contain the timescales upon which the surveys which underpin the technical assessments have been based. For clarity, this information should be provided either in the introductory chapters of the ES (with confirmation that these timescales apply to all chapters), or in each aspect chapter.

3.3.13 The approach to assessment set out in Chapter 4 of the Scoping Report is noted. The Inspectorate expects the ES to include a chapter setting out the overarching methodology for the EIA, which clearly states which effects are 'significant' and 'non-significant' for the purposes of the EIA. Any departure from that methodology should be described in individual aspect assessment chapters.

3.3.14 The Inspectorate recommends that the Applicant fully describes and justifies in the ES the methodologies they have used for the assessments, in particular where these depart from standard guidance or where no standard guidance exists. The Inspectorate considers that the ES should present the specific assessment methodology relevant to each individual aspect/matter assessed. If an overarching methodology is applied this should be explained with relevant cross reference, and any departures from the prescribed methodology should be explained and justified. It would also be of benefit to provide figures in the ES that show the extent of the study areas used for the assessments and identify the receptors. The Inspectorate considers that relevant data which inform the assessments should be appended to the ES.

3.3.15 The ES should include details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.

Residues and emissions

3.3.16 The EIA Regulations require an estimate, by type and quantity, of expected residues and emissions. Specific reference should be made to water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases, where relevant. This information should be provided in a clear and consistent fashion and may be integrated into the relevant aspect assessments.

3.3.17 The Inspectorate notes the proposal at paragraph 4.1.3 of the Scoping Report to scope out heat and radiation according to the Applicant's conclusion that they are not relevant to highways schemes. The Inspectorate has taken into account the nature and characteristics of the Proposed Development and agrees that significant effects resulting from heat and radiation are unlikely to arise and therefore agrees that this aspect may be scoped out.

Mitigation

3.3.18 Any mitigation relied upon for the purposes of the assessment should be explained in detail within the ES. The predicted significance of effects both prior to and following the implementation of proposed mitigation measures should be identified. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The ES should also address how any mitigation proposed is secured, ideally with reference to specific DCO requirements or other legally binding agreements.

Vulnerability of the development to risks of major accidents and/or disasters

3.3.19 The ES should include a description of the potential vulnerability of the Proposed Development to risks of major accidents and/or disasters, including vulnerability to climate change, which are relevant to the Proposed Development. Relevant information available and obtained through risk assessments pursuant to European Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.

3.3.20 The Inspectorate notes from the Scoping Report that major events will be reported in relevant aspect chapters. It is noted that there is a

commitment to assess the vulnerability of the Proposed Development to risks of major accidents and disasters, and how such events could change the predicted environmental effects. The Scoping Report does not address the potential for the Proposed Development to lead to or exacerbate major accidents or disasters. If the Proposed Development could lead to or exacerbate a major accident or disaster this must be assessed in the ES. The Inspectorate notes the proximity of a number of sensitive environmental features, areas exposed to flood risk, infrastructure assets, and historic landfill sites which may be a relevant consideration. The ES should assess these impacts within relevant aspect chapters.

Transboundary effects

3.3.21 Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES. The Inspectorate notes that the Applicant has indicated in the Scoping Report that the Proposed Development is unlikely to have significant impacts on another European Economic Area (EEA) State.

3.3.22 Regulation 32 of the EIA Regulations inter alia requires the Inspectorate to publicise a DCO application on behalf of the SoS if it is of the view that the proposal is likely to have significant effects on the environment of another EEA state, and where relevant, to consult with the EEA state affected.

3.3.23 The Inspectorate considers that where Regulation 32 applies, this is likely to have implications for the examination of a DCO application. The Inspectorate recommends that the ES should identify whether the Proposed Development has the potential for significant transboundary impacts and if so, what these are and which EEA States would be affected.

A reference list

3.3.24 A reference list detailing the sources used for the descriptions and assessments must be included in the ES.

3.4 Confidential Information

3.4.1 In some circumstances it will be appropriate for information to be kept confidential. In particular, this may relate to information about the presence and locations of rare or sensitive species such as badgers, rare birds and plants where disturbance, damage, persecution or commercial exploitation may result from publication of the information. Where documents are intended to remain confidential the Applicant should provide these as separate paper and electronic documents with their confidential nature clearly indicated in the title, and watermarked as such on each page. The information should not be incorporated within other documents that are intended for publication or which the Inspectorate

would be required to disclose under the Environmental Information Regulations 2014.

4. ASPECT BASED SCOPING TABLES

4.1 Air Quality

(Scoping Report Chapter 5)

The construction phase study area for the assessment of construction dust is set at 200m from the 'construction site boundary', with reference to the Design Manual for Roads and Bridges (DMRB) (HA 207/07). The construction traffic and operational phase study area is stated as determined by the 'Affected Road Network' (ARN) which includes affected roads for local and regional air quality assessments. At scoping, the ARN has been determined at the option selection stage and will be further refined on the basis of traffic modelling to be undertaken. A number of Air Quality Management Areas (AQMAs) exist within the study area (for NO_2 and PM10). The study area is provided on Figures 5.1 and 5.2 of the Scoping Report.

The proposed methodology is set out in the Scoping Report, and has taken into account DMRB Volume 11; HE interim Advice Notes (IANs); and Defra's Pollution Climate Mapping (PCM) and UK Air Quality Information Resource (UK-AIR). Information on baseline conditions has been gathered through existing monitoring studies and passive diffusion tubes survey. Sensitive receptors are identified in Table 5.7. The Scoping Report proposes a detailed level of assessment with respect to dispersion modelling of operational impacts to human health and designated ecological receptors.

The Applicant considers that there will be increased dust emissions during demolition and construction, and changes to traffic flows during both construction and operation resulting in air quality effects. Assessment scenarios are presented representing the base year of 2015 (for model verification purposes), projected base year of 2022, year of opening (with and without the Proposed Development) 2022, and design year (regional emissions only) 2037.

The Inspectorate has provided comments on matters that the Applicant has set out as being scoped out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
1	5.4.4	Pollutants	The Scoping Report states that national assessments have demonstrated that there is no risk of exceedance of the air quality objectives set for 1,3-butadiene, benzene, carbon monoxide, lead or sulphur dioxide due to traffic emissions anywhere in the UK, and therefore no further assessment is intended. The Inspectorate agrees with the reasoning in the Scoping Report that significant effects associated with these

			pollutants are unlikely and is content for further assessment to be scoped out of the ES.
2	N/A	Pollutants	The Scoping Report does not state if/how impacts resulting from increased PM2.5 emissions will be taken into account. The Inspectorate considers that the ES should include an assessment of impacts associated with increased PM2.5 resulting from the Proposed Development. In determining significance, the assessment should take into account performance against relevant target/limit values.
3	5.4.5	Ecological receptors	It is noted that only statutory designated sites are identified as sensitive receptors to the effects of NOx. The Applicant should additionally assess any locally designated and non-designated sites that could be significantly affected by the Proposed Development, for example Ancient Woodland. The Inspectorate recommends that the relevant ecological receptors to be included in the assessment should be agreed with Natural England (NE) and other relevant statutory consultees.
	Para	**Other points**	**Inspectorate's comments**
4	5.4.16	Baseline conditions	The Inspectorate advises that the assessment is based on recent and up to date baseline data available, and that agreement is sought with the local authorities on the datasets used. Guildford Borough Council (GBC) has commented in this regard, providing information on available baseline data and the Applicant should have regard to this when undertaking the assessment.
5	5.2	Study area – construction dust	The meaning of the term 'Construction site boundary' is unclear. Figure 5.2 shows the 'area potentially affected by construction dust' and illustrates that this area partially excludes the area within the proposed DCO boundary. The study area applied to the construction dust assessment must be clearly described in the ES. The study area should be established applicable to the extent of the likely impacts and explained

			in the ES. With respect to the assessment of construction traffic and operational traffic emissions, the inspectorate notes the intended refinement of the ARN for the local and regional assessments, and advises that the ARN must be clearly defined in the ES. An appropriate cross-reference to the traffic model applied should be included in the ES.
6	5.7.5	Significance of construction dust effects	It is unclear how significance of effects resulting from increased dust emissions will be determined. In the absence of appropriate guidance, such as exists for local air quality effects in the form of IAN 174/13, this should be assessed using an evidence-based methodology, and described in the ES. SCC has provided advice in their response on the methodology to be applied. The Applicant should seek to agree the specific methodology for the assessment of dust impacts with relevant consultees including relevant Local Planning Authorities.

4.2 Noise and Vibration

(Scoping Report Chapter 6)

The proposed study area for the assessment of noise and vibration effects is defined as 600m from the carriageway edge of any proposed new routes or existing routes to be bypassed or improved, and 600m from any other affected routes within 1km of the proposed new routes or altered existing routes. An affected route is defined in paragraph 6.2.1 of the Scoping Report. The study area for the noise impact assessment will be determined when the strategic traffic model is finalised, based on how the affected routes are determined (paragraph 6.2.4 of the Scoping Report). The method for identifying the size and extent of the study area is set out in paragraph 6.2.2 of the Scoping Report and is based on DMRB guidance.

No formal methodology has been developed by the Applicant to determine the significance of effects to receptors of road traffic noise (paragraph 6.7.5). In accordance with DMRB guidance, the magnitude of the impact on noise sensitive receptors, as set out in the ES, over short and long term periods will be assessed. Noise levels at these noise sensitive receptors will be compared with the Significant Observed Adverse Effect Level (SOAEL) and Lowest Observed Adverse Effect (LOAEL) level on the opening year and at future assessment year specified for the highway scheme.

Adverse noise and vibration effects are predicted during construction, due to construction and demolition activities and changes in traffic flows. Adverse effects are also anticipated during operation due to changes in traffic flows, speeds and composition.

The Inspectorate has provided comments on matters that the Applicant has set out as being scoped out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
1	6.1 6.2 6.7	Noise and vibration assessment	The proposed approach to the assessment of noise and vibration in the Scoping Report does not specifically address how vibration impacts will be assessed. The ES should include an assessment of vibration impacts where such impacts may result in significant effects. The assessment should address all of the impacts that derive from construction and operation.
	Para	**Other points**	**Inspectorate's comments**
2	6.2	Study area	The ES should contain evidence explaining how the extent of the study area for the assessment of noise and vibration has been

			determined. The Inspectorate advises that the study area should reflect the extent of the like impacts and effort should be made to agree the study areas with relevant local authorities.
3	6.4	Sensitive receptors	Sensitive receptors applicable to the assessment should be established having regard to the extent of the likely impacts. The Inspectorate notes the consultation undertaken to date with EBC referred to in their consultation response, and advises that agreement should continue to be sought with the relevant local planning authorities. The Forestry Commission (FC) has highlighted the potential for noise disturbance impacts on ancient woodland in terms of amenity value and biodiversity, to which the Applicant should have regard. The ES should set out clearly if and how information gathered within the noise assessment has been applied to the assessment of these impacts, with cross reference to the Biodiversity chapter as appropriate.
4	6.4.10 Table 6-3	Noise important areas	The design and mitigation measures for the Proposed Development relating to the noise important areas should be clearly set out within the ES.
5	6.5	Potential impacts	The Scoping Report does not state whether night time working would be required. If it is, the impacts from noise and vibration at night time should be included in the assessment and the findings reported in the ES as should any mitigation measures which may be required to avoid adverse effects. The Scoping Report does not identify the construction activities and associated plant required for the Proposed Development. These should be clearly explained and the associated impacts assessed within the ES. If uncertainty on these matters exists at the time of application, the ES should clearly set out the assumptions which apply to the assessment of construction noise and vibration.

6	6.7	Noise surveys	The Planning Inspectorate considers that noise surveys to inform the assessment in the ES should be undertaken to a recognised standard e.g. BS7445-1:2003. Monitoring locations should be agreed with the relevant local authorities. GBC have provided comment in their response relating to survey location and effort. Survey results should be reported as part of the assessment in the ES.
7	6.7.5-6.7.8	Significance of effects	The Inspectorate notes the approach described in 6.7.8 of the Scoping Report and advises that the SOAEL and LOAEL thresholds used in the assessment should be clearly set out in the ES, along with details of how these values have been established. The methodology for establishing the significance of effects for construction and operational noise and vibration impacts should be set out in the ES. It should be clear why significant effects on sensitive noise receptors have been identified and whether any mitigation measures are required. The ES should address comments from GBC on the significance criteria applied, and comments from SCC regarding the use of observed effects thresholds.
8	6.7.10	Detailed noise modelling	The Applicant should set out the noise modelling software used and all assumptions which affect the modelling within their ES.
9	6.9	Mitigation	The Scoping Report indicates that new roadside noise barriers or replacement of existing noise barriers may be required as mitigation against increased noise levels at noise sensitive receptors. The effectiveness of noise barriers should be fully described and assessed. The ES should explain the location(s) where noise barriers will be installed as well as the dimensions of any proposed barriers or changes to existing barriers where these are considered necessary during construction and operational phases. The ES should also confirm at what point in the construction

			programme the noise barriers would be installed. All of the mitigation measures which are either incorporated into the design of the Proposed Development, as well as any measures required to reduce noise impacts should be described in the ES. Any interrelationships with other aspects such as the Landscape and Visual assessment or Biodiversity should also be considered.
10	6.10.4	BS5228 assessment	The Applicant refers to the BS5228 assessment but does not state which assessment method(s) will be adopted. The assessment methodology should be agreed with the relevant consultees and the information should be provided in the ES.

4.3 Biodiversity

(Scoping Report Chapter 7)

The study area that has been applied to assess the impacts and potential effects on ecological receptors is described in Section 7.2. The Scoping Report states that the study area includes an Ecological Zone of Influence (EZoI) which is varied in spatial extent depending on the ecological receptor, up to 30km 'from the Scheme footprint' for Special Areas of Conservation (SAC) where bats are a qualifying feature.

Baseline conditions were identified using a combination of desk studies and field surveys, including an Extended Phase 1 Habitat Survey of publicly accessible land following Joint Nature Conservation Committee (JNCC) methodology (2010) and guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) (2012). The Applicant states that a detailed assessment with respect to nature conservation will be carried out, following guidance from DMRB Volume 11, Section 2, Part 1, with further habitat and species surveys continuing into spring 2018.

The Applicant makes reference to the DMRB and associated IANs, and CIEEM guidance (2016) regarding the assessment of significant effects. The Scoping Report indicates that the significance of effects will take into account any mitigation or compensation provided.

Potential impacts on biodiversity during construction and operation are identified as:

- loss, fragmentation and degradation of habitats;
- mortality/injury of protected and/or priority species;
- changes to local hydrology, water and/or air quality;
- disturbance from noise, light, and visual effects.

No matters have been proposed to be scoped out of the assessment.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
	N/A	none	none
	Para	**Other points**	**Inspectorate's comments**

1	7.4 7.7.15	Surveys	The Inspectorate notes that a partial suite of surveys have been undertaken to date, and that further surveys will be undertaken in 2018. The Inspectorate advises that a robust suite of ecological surveys are carried out for all areas likely to experience impacts from the Proposed Development, including areas required for mitigation and compensation. The ES should include a full report of the applicable to details to surveys undertaken to inform the assessment. Areas required for any flood risk compensation should be included in the assessment. The Environment Agency (EA) has provided advice in their response regarding surveys for otter, water vole, and breeding birds, and the need to conduct appropriate surveys on compensatory land.
2	7.5.9 and 7.7.4	Potential impacts	The risk of mortality or injury to protected/notable species, for example badger and barn owl during operation is not specifically mentioned and the Inspectorate considers that this should be assessed in the ES. Hydrological impacts to habitats, particularly potential indirect impacts, are briefly noted in 7.7.4 of the Scoping Report where the assessment approach is described but not identified as potential impacts in paragraph 7.5.6. The ES should set out all potential impacts to be assessed. The Inspectorate highlights advice from the EA in their response on impacts due to changes in the surface water regime and to water quality. Air quality effects on habitats, specifically NOx deposition and the effects of construction dust, are briefly noted in 7.7.4 of the Scoping Report where the assessment approach is described but not identified as potential impacts in paragraph 7.5.6. The ES should set out all potential impacts to be assessed. The ES should make appropriate cross reference to information gathered in the air quality assessment where this has been used to assess effects on biodiversity. The Inspectorate advises that the potential

			impacts of the entire development, including the development of compensatory habitats and flood risk compensation areas if required, are assessed. The Inspectorate consider that that these areas should be subject to the same survey effort applied to the rest of the application site, and that more detail about the proposals for these areas will be required in order to inform the assessment. The Applicant should have regard to comments from the EA in their consultation response on these matters.
3	7.6.14	Valuation of ecological receptors	The Inspectorate notes that any rivers, ponds and reedbeds that are not identified as part of a designated site, will be evaluated by the Applicant depending on the results of surveys and consultation with NE. The Inspectorate advises that agreement on the approach taken with NE and other relevant consultees should be sought.
4	7.9 and Figure 'Route Protection Plan'	Mitigation, compensation, and enhancement measures	The Inspectorate recommends that the Applicant makes effort to agree proposed mitigation and monitoring measures with relevant consultees including NE, EA and the local planning authorities. The ES should provide details for all proposed mitigation measures and demonstrate how they will be secured. The EA, FC and SCC have provided advice on mitigation measures in their consultation responses in Appendix 2 of this Opinion. The reasons supporting the identification of the compensation areas shown as 'replacement land' on the figure entitled 'Route Protection Plan' are not provided in the Scoping Report. The ES should demonstrate why these areas have been selected and assess their suitability. Elmbridge Borough Council (EBC) and Surrey Heath Borough Council (SHBC) have provided comments regarding planning considerations around sites identified for ecological compensation eg the delivery of Suitable Alternative Natural Greenspace (SANG). The Applicant should take these into account when establishing the security and effectiveness of the proposed

			mitigation and compensation measures. The Inspectorate notes that the Scoping Report makes commitments with regard to ecological enhancement, including a green bridge to replace an existing bridge at Cockrow and woodland management works. The ES should commit to achievable ecological enhancement measures, and provide the details for their design which have informed the assessment. The Inspectorate advises the Applicant to discuss the design of these measures with relevant consultees. The FC have provided comments in their response on this matter, including advice on the design of the green bridges proposed as part of the Proposed Development. Details of ongoing monitoring and management of compensation and enhancement habitat following their completion should be included in the ES.
5	7.5.8 – 7.5.9	Protected species licensing	The Inspectorate notes the potential impact on protected species, including a main badger sett which may have implications for the design of the Proposed Development. These implications should be taken into account in the assessments in the ES. The ES should confirm whether any EPS licenses and/or mitigation licenses for other protected species would be required. If so, assurance should be provided to the ExA that the necessary license(s) are likely to be obtained. The Applicant should seek to obtain letters of no impediment (LoNI) from NE. These should be appended to the ES. Advice from NE on this matter is contained in the Inspectorate's Advice Note 11, Annex C.

4.4 Road Drainage and the Water Environment

(Scoping Report Chapter 8)

The study area for the assessment of road drainage and the water environment includes features of the water environment within 1km of 'the Scheme'. The Scoping Report states that the study area may be enlarged beyond 1km where potential effects could extend beyond this, for example downstream flood risk or hydromorphological change. The Scoping Report states that for groundwater the potential zone of impact will be assessed on the underlying Water Framework Directive (WFD) groundwater body.

The surface water assessment will apply the guidance within the DMRB (HD45/09) in conjunction with the Department of Transport (DfT) Transport TAG guidance (WebTAG). The Flood Risk Assessment (FRA) methodology will be carried out in accordance with the NPPF and the EA's 'Climate change allowances for planners supporting guidance.

A WFD compliance assessment is also committed to in the Scoping Report, with reference to the Directive and the Inspectorate's Advice Note 18. Table 8-5 sets out the environmental resources and receptors and their importance.

The potential impact the Proposed Development will have on the water environment includes the increased risk of; contaminating surface water and groundwater, the mobilisation of contaminants to affect surface water and groundwater, impacts to the quality of the surface water and groundwater, alterations to groundwater level and increased flood risk.

No specific matters have been proposed to be scoped out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
1	8.4.20, 8.4.21	Aquatic ecology/ ecological effects on nature conservation designated sites	The Inspectorate agrees this matter does not need to be assessed in the Road Drainage and Water Environment aspect chapter of the ES because the Scoping Report states that this matter will be assessed in Chapter 7 (Biodiversity) of the ES. The Applicant is referred to comments above in Table 4.3, comment 2 in this regard.
	Para	**Other points**	**Inspectorate's comments**
2	8.2.1	Study Area	It is stated that the study area may extend

			beyond 1km to encompass potential effects beyond this distance, such as downstream flood risk and hydromorphological changes. As identified, the study area should be determined by the extent of the likely impacts from the Proposed Development and fully explained and justified within the ES. The ES should make appropriate use of plans or figures to depict the study area and to support the explanation.
3	8.4.13, 8.7.6	Methodology – WFD assessment	The scoping WFD assessment is missing from Appendix D of the Scoping Report. The approach to the WFD assessment should be clearly explained and appropriately referenced in the ES. The approach taken for the WFD compliance assessment should be agreed with the EA and the lead local flood authority before submission of the ES. The EA has provided advice regarding the approach to the WFD assessment in their response.
4	8.4.7 and 8.7.4	Potential impacts – ponds/ watercourses	The Inspectorate is concerned by the approach that known ponds will only be scoped in if there are potential impacts from changes in groundwater. The Inspectorate considers that potential impacts arising from changes to the surface water regime and water quality should also be assessed in the ES. The EA have provided further comment in their response in this regard.
5	General	Flood risk- interrelationships	The outcomes of the FRA (such as the provision of flood compensation areas) may have implications for other assessments in the ES, and the Inspectorate advises that this be addressed in the ES. The EA has provided comments on the approach to FRA in their response in Appendix 2 of this Opinion.
6	8.4.21, Table 8-3	Hydrological impacts to nature conservation designated sites	The Inspectorate notes that Table 8-3 only lists three of the designated sites identified in the Biodiversity chapter and advises that it be clearly explained in the ES why other sites are excluded from the scope of the assessment. The Inspectorate notes that the hydraulic

			connectivity of the designated sites within the study area is currently being researched. The Inspectorate considers that this information will also be required in order to assess ecological effects and to complete the WFD assessment.
7	8.6	Proposed Level and Scope of Assessment	Information is provided in the Scoping Report pertaining to the approach to the WFD assessment and FRA, however, the Scoping Report does not set out the approach to the EIA and this information must be provided in the ES. The Applicant should seek to agree the methodology with the relevant consultees. The EA and GBC have provided comment on the approach to the assessment in their responses in Appendix 2. The Inspectorate considers that the outcomes of the FRA and the WFD assessment are likely to influence the assessment in the ES and the design of mitigation measures. Where this is the case, this should be fully explained in the ES. The Scoping Report states that additional information may require a change in the study area, the baseline data and potentially change the relevant receptors. If this does occur, the ES should include a discussion of why these changes have occurred.
8	8.9.2	Potential mitigation measures	The Inspectorate expects that WFD compliant design requirements should be based on environmental as well as financial considerations. If embedded mitigation is relied upon to minimise significant environmental effects (such as the use of a single span bridge instead of a culvert) then the ES should demonstrate how it will be secured through the DCO process. Paragraph 2.3.12 of this Opinion provides further advice regarding proposal 'alternatives'. The EA have provided advice on mitigation in their consultation response in Appendix 2 to which the Applicant should have regard.

9	8.10.1	Assumptions and Limitations	The Inspectorate advises that where specific details are uncertain and where the design will be based on parameters a 'worst case scenario approach' is applied to the assessments in the ES. The ES should clearly set out the basis for the assessment and justification for the approach taken where uncertainty remains around the predicted impacts of the Proposed Development.

4.5 Landscape

(Scoping Report Chapter 9)

The Scoping Report states that the study area has been informed by the Option Selection Stage and is described as extending 1.5km from 'the perimeter of the Scheme' for both landscape and visual effects.

The Scoping Report states that the assessment methodology will be based on the guidance contained in IAN 135/10 Landscape and Visual Effects Assessment and DMRB Volume 11, Section 2 Part 2 HA 202/08 Environmental Impact Assessment. The Scoping Report also states that consideration will be given to the Guidelines for Landscape and Visual Impact Assessment (GLVIA) 3rd edition, published by the Landscape Institute and Institute of Environmental Management and Assessment (2013).

The Scoping Report includes potentially adverse landscape and visual impacts but significant effects on both landscape character and visual amenity during the construction and operational phases have yet to be identified.

The Inspectorate has provided comment on matters that the Applicant has proposed to scope out of the ES.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
1	9.2	Landscape and visual receptors beyond 1.5km from the perimeter and edge of the scheme	The meaning of 'the perimeter of the scheme' and 'the edge of the Scheme' are not defined in the Scoping Report, and no justification is provided for the study area. It is not clear how the 1.5km relates to determining a Zone of Theoretical Visibility (ZTV) for the assessment. Without this information, it is not clear that sensitive receptors beyond 1.5km would not be subject experience impacts with the potential to result in significant effects and therefore the Inspectorate cannot agree to scope out an assessment of impacts to these receptors.
2	9.4.2, Table 9-3	National landscape character	The Applicant states that the Proposed Development would not give rise to the alteration of key characteristics of landscape character at the national level (Table 9-3 also states regional level). The justification presented in the Scoping Report states this is 'due to the localised nature and scale of the proposals'. Given the limited information presented, the

			Inspectorate cannot agree to scope this matter out at this stage and advises that adequate reasoning and justification for this conclusion is presented in the ES.
3	Table 9-4	Views from Seven Hills Hotel (located within 500 m)	The Scoping Report proposes to scope this out given the presence of extensive woodland screening around this receptor. The Scoping Report does not include figures to depict the locations of visual receptors and there is no indication that the ZTV for the Proposed Development has been established. The Inspectorate does not consider that sufficient information has been provided in the Scoping Report to support a decision to scope this matter out. In the absence of this information the Inspectorate does not agree that an assessment for this receptor can be scoped out of the ES.
	Para	**Other points**	**Inspectorate's comments**
4	9.2 9.6.6	Study area, figures	The study area in the ES should be established based on the extent of the likely impacts of the Proposed Development. Agreement should be sought with the relevant consultees in this regard, and with respect to the receptors which should be included in the assessment. It is likely to be helpful to consultees to provide appropriate figures depicting the study area and any ZTV established, as well as the location of individual receptors. The ES should describe the ZTV has been defined and how this has been refined to take account of topography, existing built form, and the maximum parameters of the Proposed Development. It should be clear how the ZTV has been used to identify sensitive receptors for inclusion in the visual impact assessment. GBC have provided comments on the study area in their consultation response.
5	9.4	Baseline conditions	The Applicant should ensure that the baseline conditions used to inform the assessment are complete and robust. Information should be sought from the

			relevant consultees, and the Inspectorate draws the Applicant's attention to the response from GBC which contains further information on potential receptors.
6	9.5	Potential construction and operational impacts	The Scoping Report does not provide any detail on lighting proposals for the Proposed Development, and the Inspectorate considers that the impacts from lighting should be assessed. The potential for lighting impacts from night time working during construction should also be assessed. GBC have also commented in this regard in their response. The Inspectorate notes the mention of arboricultural surveys in the Scoping Report, but it is not clear how this information will inform the assessment. Impacts to any existing landscape features in particular mature trees and those associated with landscape designations should be assessed in the ES. The Applicant should have regard to comments from Historic England in relation to the implications for the Registered Park and Gardens affected by the Proposed Development of changes to landscape features. Appropriate cross-reference to the Cultural Heritage assessment should be made in the ES.
7	9.6 9.7	Assessment methodology	The ES should expand upon the information provided in paragraph 9.7.3 of the Scoping Report to clearly explain how the significance of effect will be determined. It should be clear where professional judgement has been applied. The assessment methodology does not clearly set out what level of effect will be considered significant. This should be explained in the ES.
8	9.5 9.9	Mitigation	The proposed landscaping strategy for the Proposed Development should be described in the ES in sufficient detail to inform the assessment. The Applicant should seek agreement with the relevant consultees on the mitigation measures proposed. An appropriate aftercare period for any proposed landscaping should also be

			agreed. It should be clear in the ES any the proposed landscaping would mitigate impacts on landscape and visual receptors, and take into account the performance when it matures. The ES should assess the interactions of the proposed mitigation measures with other aspect areas, for example Biodiversity and Cultural Heritage.
9	9.6.6	Representative photographic viewpoints	The Inspectorate welcomes the intention to produce representative photographic viewpoints as part of the visual assessment, and advises that these should provide views during both winter and summer periods. In particular, photomontages and other plans/figures (as set out in IAN 135/10) should be used to illustrate the visual appearance of new structures which would result in changes to landscape character and visual amenity (in particular the new and widened structures, gantries, earthworks and the alignment of any new slip roads). The locations of the viewpoints and photomontages should be agreed with the relevant local planning authorities. GBC and SCC provide comments in their responses regarding photomontages.

4.6 Geology and Soils

(Scoping Report Chapter 10)

The study area for the assessment has been determined, by professional judgement, as 500m from the 'red line boundary for the Scheme'.

The assessment methodology will adhere to the guidance set out in CLR11, the Good Practise guide to EIA, the National House Building Council (NHBC) and the Environment Agency report R&D66.

The first stage of assessment will consist of a land contamination risk assessment and the second stage will consist of an impact assessment which will compare and assess the baseline conditions with the potential impacts. The assessment methodology for agricultural soils will utilise guidance from DMRB Volume 11, Section 3 Part 6.

The potential impacts identified during construction include the creation of new contamination sources, the mobilisation of new contaminant sources into the surrounding environment, the creation of new contamination pathways to the underlying soils and groundwater, the potential to exacerbate areas of existing ground instability and the loss of common and Public Access land.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
1	10.6.5, Table 10-7	Re-use of soils and waste soils	The Applicant states that this matter will be discussed within chapter 12 Materials and Waste and has therefore been scoped out. The Inspectorate notes that chapter 12 does not include information on the assessment of soils and waste soils and therefore, the Inspectorate cannot agree that this matter can be scoped out of the ES.
	Para	**Other points**	**Inspectorate's comments**
2	10.2.1	Study Area	The Scoping Report gives little justification for the study area extending 500m from the DCO red line boundary. The ES should include a justification for the study area applied within the ES, ensuring that it encompasses the extent of the likely impacts resulting from the Proposed Development.
3	10.6.2	Proposed level and Scope of Assessment	The Scoping Report states that ground

			investigation (GI) work will be undertaken and used to inform the scheme design (including mitigation design). However, the Scoping Report also implies that this information will not be available to inform the baseline assessment in the ES. The Inspectorate considers that the baseline assessment in the ES should be established using the most appropriate information available and this should include results from any relevant GI work undertaken. GBC also express concerns in this regard in their scoping consultation response. The Applicant states that a ground investigation specification has been drafted. The Applicant should include the specification of the ground investigations used to inform the assessment within the ES. Agreement should be sought from relevant consultees on the scope of the investigation. The EA and GBC have provided advice in their consultation responses in this regard.
4	10.7.9	Proposed Assessment Methodology	The Scoping Report states that an assessment of ground conditions and geology as a valuable resource has been undertaken. This assessment and the results have not been included within the Scoping Opinion. The ES should include the information gained from the assessment and explain how it influences the determination of significant effects.

4.7 Cultural Heritage

(Scoping Report Chapter 11)

The study area applied in the Scoping Report is 500m around the 'alignment of the Scheme' based on relevant guidance and professional judgement, and exceeds the minimum distance within DMRB guidance. The study area contains fifty-five designated heritage assets which comprises four Scheduled Monuments; one Grade I, five Grade II* and forty one Grade II Listed buildings, two Registered Park and Gardens (Grade I and Grade II*), and two Conservation Areas.

The Scoping Report makes reference to desk study data being obtained from Historic England and local authority sources. The proposed methodology is to be carried out in line with DMRB guidance in HA 208/07 and reference is made to relevant guidance from Historic England and the Chartered Institute of Archaeologists. Site visits have also been carried out but the detailed results are not reported in the Scoping Report.

Potential direct impacts are anticipated on several non-designated assets, and unknown archaeological remains given the nature of the area. Impacts to the settings of designated heritage assets is also predicted.

The Inspectorate has provided comment on matters that the Applicant has proposed to scope out of the ES.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
1	11.4.4 to 11.4.6	Impacts on setting for: twelve named listed buildings within the study area where no impacts on setting are predicted; and seven named assets outside the study area but within Painshill Park.	The Scoping Report proposes to scope out an assessment of impacts to these assets on the basis that the Option Selection stage established there would be no impacts on setting from the Proposed Development. The Scoping Report does not include a Zone of Visual Influence (ZVI) or ZTV and no figure has been provided to depict the locations of these assets. In absence of this information the Inspectorate does not consider sufficient information has been provided in the Scoping Report to rule out significant effects to these assets. The relevant evidence from the Option Selection demonstrating no significant effects, including a statement of agreement with the relevant consultees, should be appended to the ES. This information should be updated as necessary taking into account design changes and relevant

			consultation prior to submission. The Inspectorate cannot agree to scope out impacts to the setting of these heritage assets on the basis of the information in the Scoping Report
2	Table 11.1	Potential for undiscovered archaeology (operational phase)	The Applicant has scoped out the assessment of potential effects on previously undiscovered archaeological remains during the operational phase of the Proposed Development. Given the nature of the proposals, and the information provided in the Scoping Report, the Inspectorate is content that the Proposed Development would not result in significant effects on any undiscovered archaeology during the operational phase of the Proposed Development and agrees that this can be scoped out of the assessment.
	Para	**Other points**	**Inspectorate's comments**
3	11.2	Study area	It is noted that no ZVI or ZTV is set in the Scoping Report for this assessment and no reference is made to how one will be established. The ES should include a justification in support of the proposed 500m study area, in particular explaining why it is appropriate to capture all heritage assets which could experience impacts on their setting. The study area applied to the assessment in the ES must be clearly defined and described reflecting the extent of the anticipated impacts. The Applicant should seek agreement with relevant consultees in this regard. The Inspectorate recognises that there is likely to be an inter-relationship between the study area applied to this aspect and other aspects such as the landscape and visual impact assessment, and recommends that appropriate cross-reference is made in the ES.
4	11.4	Baseline conditions	The baseline assessment in the ES should include robust information on local and regional heritage assets, including any updates necessary since the Proposed

			Development will be further refined and the study area may evolve. It is not clear from the Scoping Report what further investigations are required in order to establish a robust baseline for the assessment. The data gathered to support the assessment should be fully reported in the ES. The Applicant should endeavour to agree the extent of studies with consultees. Advice has been provided by Historic England on the approach to further data gathering and on current baseline conditions in the vicinity of the application site.
5	11.5 and 11.10	Potential impacts	The description of potential impacts in the Scoping Report identifies affected receptors but does not explain what the predicted impacts they may experience are. The ES should identify and characterise all impacts considered, both direct and indirect. The ES must take into account updated information on the proposed design including the location and nature of construction areas and compensation land. Where uncertainty remains, the ES should clearly explain the implications for the assessment. The Inspectorate is aware that the Proposed Development may result in changes to noise levels during construction and operation and this should be considered in the assessment of impacts to setting of heritage assets. Advice has been provided by Historic England on the potential impacts of the Proposed Development in their consultation response.
6	11.7	Methodology	The methodology to be applied in the assessment must be clearly set out in the ES, in particular what is considered to constitute a significant effect. The Applicant should seek to agree the methodology with relevant consultees. GBC and Historic England have provided comment on the proposed methodology in their consultation responses.

7	11.9	Mitigation measures	The Applicant should provide details in the ES of avoidance measures and the specific mitigation measures designed to ameliorate any significant effects. Preservation in situ is not mentioned as a potential mitigation measure in Section 11.9, and the Inspectorate considers that this should be investigated. The Applicant should seek to agree mitigation measures with consultees. Historic England have provided detailed comment on potential avoidance and embedded mitigation measures.
8	11.10	Assumptions and limitations	The Scoping Report includes assumptions relating to the baseline and value of features and regarding the impacts of the as yet unknown elements of the Proposed Development (eg the location of construction compounds). These assumptions are premature in advance of further design detail and the necessary assessment being carried out. The Inspectorate advises that any assumptions relied upon for the purposes of the assessment are critically reviewed, taking into account up to date design information and consultation responses. The Inspectorate draws the Applicant's attention to comments from Historic England in this regard.

4.8 Materials and Waste

(Scoping Report Chapter 12)

The study area for the assessment of waste arising and waste infrastructure is the county of Surrey. The study area is at a national level for material resources and hazardous waste infrastructure.

The methodology for the assessment of materials and waste utilises guidance from IAN 153/11 and the Waste Framework Directive. The methodology will assess the sensitivity of receptors and the magnitude of impact according to the criteria set out in Table 12-5 which have been based on professional judgement in the absence of standard guidance. These will then be combined to reach an assessment of significance of effects.

The potential impacts the Proposed Development will have on receptors during the construction phase include affecting the market for the key resources, impacting the waste arising baseline and impacting the waste infrastructure sites within the study areas. No significant potential impacts are envisaged to occur during the operational phase for material demand or for waste generation.

The Inspectorate has provided comments below on matters that the Applicant has proposed to scope out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
1	12.6.5 Table 12-4	Change in demand for key construction materials during the operational phase	Having considered the information in the Scoping Report and the nature of the Proposed Development, the Inspectorate considers that the quantities of materials required during operation are not likely to cause significant effects to the demand for key construction materials. The Inspectorate agrees that this matter can be scoped out of the assessment.
2	12.6.5 Table 12-4	Change in baseline regional waste arisings during the operational phase.	Having considered the information in the Scoping Report and the nature of the Proposed Development, the Inspectorate considers that the amount of waste generated during operation is not likely to cause significant effects to the regional baseline waste arisings. The Inspectorate agrees that this matter can be scoped out of the assessment.

3	12.6.5 Table 12-4	Change in capacity of regional waste infrastructure during the operational phase.	Having considered the information in the Scoping Report and the nature of the Proposed Development, the Inspectorate considers that the amount of waste generated during operation is not likely to cause significant effects to the capacity of regional waste infrastructure. The Inspectorate agrees that this matter can be scoped out of the assessment.
	Para	**Other points**	**Inspectorate's comments**
4	12.2	Study area	It is not clear how the study areas applied have been determined. Where professional judgement has been used in place of standard guidance this should be stated in the ES and justified.
5	12.4.8	Material Resource Baseline	The Inspectorate notes that the Applicant has not established an estimate of future baseline for the assessment of these matters. The Applicant should ensure that the baseline(s) used in the assessment are appropriate and the ES should justify the approach taken. The Inspectorate notes from the Scoping Report that information from SCC relevant to the assessment was not yet available. This is addressed by SCC in their consultation response. The Applicant should consult with relevant local authorities in order to establish a robust baseline assessment. GBC have provided advice in their response with respect to baseline information which should be taken into account in the assessment.
6	12.4.12	Waste Infrastructure Baseline	
7	12.5	Potential impacts	It is not clear from the Scoping Report how impacts associated with the transportation of materials and waste will be assessed. The consideration of the use of natural resources is limited, focusing on the use of timber and aggregate in the context of national demand. The Inspectorate considers that regional information should also be applied where available. Consultation should be undertaken with local authorities and the Inspectorate draws the Applicant's attention to the response

			from GBC in Appendix 2.
8	12.7.7 and 12.9	Mitigation	Both these sections of the Scoping Report discuss avoidance and mitigation measures, and it is not clear what will be committed to within the design of the Proposed Development and what represents additional mitigation. Embedded mitigation and additional mitigation should be clearly set out in the ES, including the means by which measures will be secured.
9	12.7.9	Vulnerability to Major Accidents and Disasters	The Scoping Report does not provide any detail or evidence to support the conclusions in this section. The ES should include this information.
10	12.10.1 para 9	Assumptions and limitations	The Scoping Report does not state how contaminated soils will be treated/ disposed of. The report states that 'contaminated soils will be considered separately' but does not go on to discuss how they will be considered. The Applicant should provide details of how contaminated soils will be considered within the ES. Furthermore, chapter 10 Geology and Soils states that this Aspect chapter will discuss the re-use of soils and waste soils, however, these matters are not discussed. The Applicant should provide details of the re-use, treatment, and disposal of soils within this aspect chapter in the ES.

4.9 People and Communities

(Scoping Report Chapter 13)

For the assessment of impacts on matters within this aspect area the Scoping Report states a study area extending 500m from the 'red line boundary' of the Proposed Development will be applied. This study area may be increased as a result of findings as assessments within the EIA as a whole progress.

The assessment for this aspect of potential effects of the Proposed Development uses guidance set out in IAN 125/15 and the DMRB, Volume 11, Section 3 to consider the impacts of the Proposed Development on people and communities, and combines the Non-Motorised User and Community Effects components of Part 8, Part 9 for impacts on Vehicle Travellers, and Part 6 for Land Use impacts. Guidance from TAG Unit 4.1 Social Impact Appraisal (November 2004) will also be used. The assessment of agricultural land will follow guidance from the Planning Policy Guidance Note 7 (1997).

The Scoping Report identifies potential impacts relating to: temporary and permanent land take; severance affecting land and property; alteration of views from the road; and temporarily increased driver stress for motorised travellers during construction; community severance and changes in accessibility; and changes to amenity for private and community assets during the construction and operational stages of the Proposed Development.

The Inspectorate has provided comments on matters that the Applicant has set out as being scoped out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
1	13.7.73 13.11.2 Table 13-17	Vulnerability to major accidents and disasters	The Applicant states that vulnerability to major accidents and disasters as a result of the Proposed Development is considered to be sufficiently low to not warrant further consideration. No specific information or justification is provided in the Scoping Report. Based on the nature of the Proposed Development and the information within other chapters of the Scoping Report, the Inspectorate considers that insufficient information has been provided in this chapter and that significant effects on people and communities arising from the Proposed Development's vulnerability to major events should be assessed in the ES. Therefore, the Inspectorate does not agree to scope this matter out.

			The Applicant should also have regard to the comments in paragraphs 3.3.19 and 3.3.20 of this Opinion above with respect to assessment of this matter.
	Para	**Other points**	**Inspectorate's comments**
2	13.2.1	Study area	The Applicant must ensure that the study area for the assessment is clearly defined and justified in the ES. The Applicant should seek to agree the study area and receptors to be included within the assessment with relevant consultees. GBC and SCC have provided advice and information relevant to determination of the study area in their responses, which the Applicant should take into account. The Inspectorate notes that DMRB Volume 11, Section 3, Part 8, Para 2.2, states that community facilities 'and their catchment areas' should be included in the assessment. It should be clear in the ES how this requirement has been taken into account in the selection of appropriate study areas. The ES should explain how the routes affected by the Proposed Development have been identified for the purposes of the assessment of community severance, accessibility and connectivity.
3	13.4	Baseline Conditions	The ES should clearly reference the information on changes to traffic flows on the road network used to inform the assessment of effects of the Proposed Development on People and Communities. It would be helpful to understand the impacts of the Proposed Development, and to aid consultation, to include appropriate figures illustrating the baseline conditions within the ES. Receptors included within the assessment should be set within the context of the proposed DCO boundary and study area and labelled clearly.
4	13.4.7 to 13.4.10	Baseline - Agricultural Land	The Scoping Report states that 'none of the affected land is expected to be of Best Most Versatile quality' but states that land is grade 3-4. While it is understood that impacts to soils are to be assessed under Geology and Soils, this information will

			underpin the assessment of the significance of effects to agricultural holdings in this aspect chapter. The Applicant should ensure consistency between the two assessments in terms of agricultural land classification grade and identified land take. A figure detailing the location and grade of the agricultural land classifications within the study area should be included within the ES.
5	13.5	Potential impacts	Adverse impacts from construction have been identified as being temporary. The ES should explain the duration of impacts and what constitutes temporary impact, ensuring consistency with the other aspect assessments. In the assessment of impacts to development land, the ES should demonstrate regard to the comments from EBC and SHBC on planning considerations related to the areas identified as replacement land (and compensation habitats). GBC have also provided information on the Guildford Borough Submission Local Plan which the Applicant should take into account.
6	13.7	Assessment Methodology - general	The Scoping Report sets out where assessment criteria have been taken from the DMRB and where they have been based on professional judgement. Where standard guidance is not used and professional judgement is applied this should be fully explained and justified in the ES.
7	13.7.6	Assessment Methodology – Private Land Take and Severance	The Scoping Report states that the 'Scheme is not currently expected to result in demolition of any dwellings' if this changes and demolition of dwellings is required, the impacts associated must be assessed in the ES.
8	13.7.18	Assessment Methodology – Community Assets: Land Take and Severance	The Applicant has undertaken a land use survey for Common Land but has not included the results or the survey within the Scoping Report. The Applicant should include the survey and the results within the ES to the level of detail which has

			informed the assessment.
9	13.7.27 Table 13-7	Proposed Assessment Methodology – Community Assets: Amenity	In determining the magnitude of impact the Scoping Report states that a 'large number of people' and 'many people' but has not defined these phrases. The Applicant should provide definitions of these phrases within the ES.
10	13.9.1	Mitigation measures	The Scoping Report states that mitigation will be implemented where significant adverse effects are identified. No specific mitigation measures have been included within the Scoping Report and the Applicant should provide a detailed discussion of proposed mitigation measures within the ES. The ES should demonstrate the efficacy of mitigation measures and how these will be secured through the DCO process.

4.10 Climate

(Scoping Report Chapter 14)

The study area for greenhouse gas (GHG) emissions is defined in terms of the lifecycle stages of Section 7 of PAS 2080:2016 covering the aspects of the Proposed Development as described in paragraph 14.2.2 and Table 14.1 of the Scoping Report.

The Scoping Report states that the study area includes off-site transportation during the construction stage and off-site construction waste processing and operational energy use.

A desk based assessment is proposed. Greenhouse gas emissions will be quantified using PAS 2080 (Publicly Available Specification, British Standards Institution) and Institute for Environmental Management and Assessment (IEMA) guidance. Baseline conditions are defined by national background emissions data and informed by estimates based on data from other highways projects. The proposed assessment methodology will use the available design and construction data. The Scoping Report states that the same information for construction activities used for the noise assessment will be used, and for in-use traffic emissions information used for the air quality assessment will be applied.

Potential impacts are considered as the quantities of emissions which occur from each life-cycle stage or as a sub-activity during each stage, as listed in Table 14-1. Operational reductions in energy use and traffic emissions will be measured relative to the baseline emissions.

The Inspectorate has provided comments on matters that the Applicant has set out as being scoped out of the EIA.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
1	Table 16.1	Sea level rise	This matter is listed in the summary chapter of the Scoping Report and not discussed in Chapter 14. The Applicant is referred to advice in Section 3 of this Opinion regarding the need to clearly set out the matters which have been scoped in or out of the ES. However, given the statement in Table 16.1 and the nature of the Proposed Development the Inspectorate accepts that the Proposed Development is unlikely to contribute or be vulnerable to significant effects resulting from sea level rise. The Inspectorate is therefore content for this matter to be scoped out of the ES.

2	14.2.4	Preliminary studies and investigations; direct operational GHG emissions; operational water use; other processes; end of life.	The Scoping Report states that these matters will be excluded from the study due to likely negligible emissions or the life cycle stage not being applicable to the Proposed Development. With the exception of 'direct operational GHG emissions', given the nature of the Proposed Development, it is agreed that significant effects are unlikely to arise, but the Inspectorate asks that the evidence for excluding these processes is included in the ES. In the case of 'direct operational GHG emissions' see comment 5 below.
	Para	**Other points**	**Inspectorate's comments**
3	14.2	Study area information	The Inspectorate notes that the study area will be dependent on the availability of design and construction information and if this data is unavailable, part or all of the affected lifecycles will be excluded from the assessment. The study area should be determined by the extent of the predicted impacts of the Proposed Development, and if applicable based on professional judgement in the absence of known data. If necessary the ES should clearly set out the assumptions applied to this assessment in place of any information that is unavailable, and any implications this may have had for the robustness of the assessment. It is not made clear in the Scoping Report how the study area for the assessment of the Proposed Development's vulnerability to climate change has been determined or what the study area's limits are considered to be. This should be explained and justified in the ES.
4	14.3.1	Climate resilience assessment	UK climate projections 2009 (UKCP09) are referenced in paragraph 14.3.1, but no reference is made to the potential revision of climate projections when the updated UKCP18 projections are available. The Applicant should clearly state the range of climate projections used for the purposes of

			any adaptation or resilience assessment, taking into account the anticipated updated projections in 2018. The Scoping Report does not explicitly set out the methodology that will be used to assess the resilience of the Proposed Development to climate change. The methodology should be set out within the ES.
5	14.6.1	Significance of effects	The Inspectorate notes that there is currently no specific guidance for carbon emission thresholds, which if exceeded, is considered to be significant. The ES should therefore set out the criteria used to report on the significance of effects. The assessment of significance in the ES should be placed in context to the UK carbon budgets, the associated reduction targets, and in the context of the climate resilience of wider systems over time.
6	14.7.3–14.7.6	Calculation of greenhouse gas emissions	The Scoping Report states that the Applicant will use the Atkins Carbon Knowledgebase (CKB) software to calculate emissions during all the lifecycle of the Proposed Development. Details of this carbon calculation and analysis software tool should be provided within the ES. This section implies that all traffic emissions will be assessed and therefore appears inconsistent with paragraph 14.2.4 which proposes to scope out 'direct operational' GHG emissions (see comment 2 above). On this basis, the Inspectorate considers that insufficient information has been provided and cannot agree to scope out 'direct operational GHG emissions'. Where no impacts which could give rise to significant effects are anticipated the ES should clearly report this, with supporting evidence.
7	14.11	Assumptions and limitations	The Scoping Report states that for consultation purposes a detailed emissions assessment is not required and where project specific data is unavailable, suitable proxy data will be used where engineering and construction expertise can be obtained

			to generate this data. The Inspectorate advises that the Applicant should consult with relevant stakeholders on what data they would require for consultation purposes.

4.11 Assessment of Cumulative Effects

(Scoping Report Chapter 15)

The study area encompasses all trunk road and motorway projects identified by the Applicant as being confirmed, development projects with valid planning permissions, applications for consent which have been made, allocated sites in emerging or adopted Local Plans, and other applications which could have implications for the project as set out in Section 15.2 and identified in Table 15.1 of the Scoping Report.

The assessment will follow guidance contained in DMRB Volume 11 Section 2 Part 5 (HA 205/08) and the Inspectorate's Advice Note 17. The Scoping Report states that the traffic model will take account of the operational effects of major developments in the area and surrounding region.

Information on potential impacts will be gathered from the other aspect assessments. Cumulative effects from the interaction of the aspects of the Proposed Development identified in the ES and cumulative effects assessed in combination with the other developments are to be included in the assessment.

No matters have been proposed to be scoped out of the assessment.

ID	Para	Applicant's proposed matters to scope out	Inspectorate's comments
	N/A	None identified	N/A
	Para	**Other points**	**Inspectorate's comments**
1	Table 15.1	Zone of Influence / Study Area	The information presented shows the study areas used for the other aspect assessments to identify potential impacts. The study area applied to the assessment of cumulative effects should be fully explained and justified in the ES. The Inspectorate advises that the Applicant adopt the approach detailed in Advice Note 17, including when determining the study area and refining the list of other developments to take into account in the assessment. The Applicant should make an effort to seek information and agreement from consultees. GBC and Woking Borough Council (WBC) have provided information in their response on other developments and plans which the Applicant should take into account in the assessment.

2	15.2.11	Scope of assessment	The list of developments to be included in the assessment does not indicate their distances from the application site. In accordance with the tiered approach described in Advice Note 17, a level of 'certainty' should be applied to each of the 'other' developments considered. The Inspectorate recommends the use of tables to aid clarity of presentation. The Inspectorate also recommends the use of labelled figures to illustrate the location of the developments included in the assessment in relation to the application site.
3	Table 15-1	Assessment of cumulative effects	The environmental aspect of climate has been omitted from the assessment of cumulative effects and this should be explained within the ES. If climate is not anticipated to give rise to any potential cumulative effects this should be clearly explained in the ES.
4	15.3	Assessment methodology	The Scoping Report does not distinguish between methodologies for the two elements of the assessment identified under the DMRB – cumulative effects from one project (ie from a number of impacts on a particular receptor) and cumulative effects from different projects. The assessment methodology should be clearly set out in the ES.
5	15.4.6 Table 15-2	Significance of cumulative effects	The Applicant should provide a clear description and justification in the ES of how significant effects have been determined. This should include a definition of the terms 'short-term', 'long-term', and 'temporary'.

5. INFORMATION SOURCES

5.0.1 The Inspectorate's National Infrastructure Planning website includes links to a range of advice regarding the making of applications and environmental procedures, these include:

- Pre-application prospectus[3]
- Planning Inspectorate advice notes[4]:
  - Advice Note Three: EIA Notification and Consultation;
  - Advice Note Four: Section 52: Obtaining information about interests in land (Planning Act 2008);
  - Advice Note Five: Section 53: Rights of Entry (Planning Act 2008);
  - Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information, and Environmental Statements;
  - Advice Note Nine: Using the 'Rochdale Envelope';
  - Advice Note Ten: Habitat Regulations Assessment relevant to nationally significant infrastructure projects (includes discussion of Evidence Plan process);
  - Advice Note Twelve: Transboundary Impacts
  - Advice Note Seventeen: Cumulative Effects Assessment; and
  - Advice Note Eighteen: The Water Framework Directive.

5.0.2 Applicants are also advised to review the list of information required to be submitted within an application for Development as set out in The Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2009 (as amended).

[3] The Planning Inspectorate's pre-application services for applicants. Available from: https://infrastructure.planninginspectorate.gov.uk/application-process/pre-application-service-for-applicants/

[4] The Planning Inspectorate's series of advice notes in relation to the Planning Act 2008 process. Available from: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

TABLE A1: PRESCRIBED CONSULTATION BODIES[5]

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Health and Safety Executive	Health and Safety Executive
The National Health Service Commissioning Board	NHS England
The relevant Clinical Commissioning Group	Guildford and Waverley Clinical Commissioning Group
	North West Surrey Clinical Commissioning Group
	Surrey Downs Clinical Commissioning Group
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	Historic England – South East
The relevant fire and rescue authority	Surrey Fire and Rescue Service
The relevant police and crime commissioner	Office of the Police and Crime Commissioner for Surrey
The relevant parish councils	Parish of Wisley with Pyford
	Ockham Parish Council
The Environment Agency	The Environment Agency - Thames
The Civil Aviation Authority	Civil Aviation Authority
The Relevant Highways Authority	Surrey County Council

[5] Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) (the 'APFP Regulations')

SCHEDULE 1 DESCRIPTION	ORGANISATION
The relevant strategic highways company	Highways England – South East
Transport for London	Transport for London
The Canal and River Trust	The Canal and River Trust
Public Health England	Public Health England
The Crown Estate Commissioners	The Crown Estate
The Forestry Commission	Forestry Commission - South East and London
The Secretary of State for Defence	Ministry of Defence

TABLE A2: RELEVANT STATUTORY UNDERTAKERS[6]

STATUTORY UNDERTAKER	ORGANISATION
The relevant Clinical Commissioning Group	Guildford and Waverley Clinical Commissioning Group
	North West Surrey Clinical Commissioning Group
	Surrey Downs Clinical Commissioning Group
The relevant NHS Foundation Trust	South East Coast Ambulance Service NHS Foundation Trust
Railways	Network Rail Infrastructure Ltd
	Highways England Historical Railways Estate
Road Transport	Transport for London
Canal Or Inland Navigation Authorities	The Canal and River Trust

[6] 'Statutory Undertaker' is defined in the APFP Regulations as having the same meaning as in Section 127 of the Planning Act 2008 (as amended)

STATUTORY UNDERTAKER	**ORGANISATION**
	National Trust
	AINA
Civil Aviation Authority	Civil Aviation Authority
Licence Holder (Chapter 1 Of Part 1 Of Transport Act 2000)	NATS En-Route Safeguarding
Universal Service Provider	Royal Mail Group
Homes and Communities Agency	Homes and Communities Agency
The relevant Environment Agency	The Environment Agency - Thames
The relevant water and sewage undertaker	Affinity Water
	Sutton and East Surrey Water
	Thames Water
The relevant public gas transporter	Cadent Gas Limited
	Energetics Gas Limited
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Connections Ltd
	ESP Networks Ltd
	ESP Pipelines Ltd
	Fulcrum Pipelines Limited
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Quadrant Pipelines Limited
	National Grid Gas Plc
	Scotland Gas Networks Plc

STATUTORY UNDERTAKER	ORGANISATION
	Southern Gas Networks Plc
	Wales and West Utilities Ltd
The relevant electricity distributor with CPO Powers	Energetics Electricity Limited
	Energy Assets Power Networks
	ESP Electricity Limited
	G2 Energy IDNO Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks Limited
	Leep Electricity Networks Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Utility Distribution Networks Limited
	UK Power Networks Limited
The relevant electricity transmitter with CPO Powers	National Grid Electricity Transmission Plc

TABLE A3: SECTION 43 CONSULTEES (FOR THE PURPOSES OF SECTION 42(1)(B))[7]

LOCAL AUTHORITY[8]
Woking Borough Council

[7] Sections 43 and 42(B) of the PA2008

[8] As defined in Section 43(3) of the PA2008

LOCAL AUTHORITY[8]
Guildford Borough Council
Elmbridge Borough council
Waverley Borough Council
Surrey Heath Borough Council
Runnymede Borough Council
Splethorne Borough Council
Mole Valley District Council
Rushmoor Borough Council
The Royal Borough of Kingston Upon Thames
London Borough of Richmond
Surrey County Council
West Sussex County Council
East Sussex County Council
Hampshire County Council
South Downs National Park Authority
Slough Borough Council
The Royal Borough of Windsor and Maidenhead
London Borough of Sutton
London Borough of Croydon
London Borough of Bromley
London Borough of Hounslow
London Borough of Hillingdon
Bracknell Forest Council
Kent County Council

THE GREATER LONDON AUTHORITY

The Greater London Authority (GLA) have also been identified as a consultation body under the EIA Regulations because the proposed application relates to land within Greater London.

APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

Consultation bodies who replied by the statutory deadline:

Bracknell Forest Council
Elmbridge Borough Council
Energy Assets
Environment Agency
ESP Gas Group Ltd
Forestry Commission
Guildford Borough Council
Health and Safety Executive
Highways England
Historic England
London Borough of Hounslow
National Grid
National Trust
NATS Safeguarding
Natural England
Public Health England
Royal Borough of Kingston upon Thames
Royal Mail Group Ltd
Rushmoor Borough Council
South Downs National Park Authority
Spelthorne Borough Council
Surrey County Council

Surrey Heath Borough Council
Transport for London
Wales and West Utilities Ltd
Waverley Borough Council
Woking Borough Council

The Planning Inspectorate
3D Eagle Wing
Temple Quay HOuse
2 The Square
Bristol
BS1 6PN

11th January 2018

Consultation Response

Dear Sir/Madam

Town and Country Planning Act 1990

REFERENCE:	17/01375/OBS/OBSZ
DESCRIPTION:	Request for observations on a scoping opinion under Regulation 13 of The Town and Country Planning (Environment Impact Assessment) 2011.
LOCATION:	M25 Junction 10/A3 Wisley Interchange Bracknell Berkshire
CASE OFFICER:	Trevor Yerworth, direct line 01344 351182

I refer to your consultation on the above application received on 13th December 2017. My comments are;

01. Thank you for consulting Bracknell Forest Council (BFC) on Highways England's Scoping Report for the improvements proposed to the M25/A3 junction at Wisley.

BFC does not wish to comment on this Scoping Report.

Should you wish to discuss this matter further, please do not hesitate to contact me.

Yours faithfully

Trevor Yerworth

Principal Planning Officer
Environment, Culture & Communities Department
email trevor.yerworth@bracknell-forest.gov.uk
Direct Line 01344 351182

ENVIRONMENT, CULTURE AND COMMUNITIES

Bracknell Forest Borough Council, Time Square, Market Street, Bracknell, Berkshire RG12 1JD
T: 01344 352000 F: 01344 352555 Minicom: 01344 352045 www.bracknell-forest.gov.uk

Elmbridge
Borough Council
... bridging the communities ...

Civic Centre
High Street, Esher
Surrey KT10 9SD
01372 474474
contactus@elmbridge.gov.uk
elmbridge.gov.uk

Gail Boyle
Senior EIA Advisor
The Planning Inspectorate
3D Eagle Wing
Temple Quay House
2 The Square
Bristol, BS1 6PN

contact: Judith Jenkins
direct line: 01372 474799
e-mail: jjenkins@elmbridge.gov.uk
my ref:

11th January 2018

Dear Ms Boyle,

M25 junction 10/A3 Wisley interchange improvement scheme
The Infrastructure Planning (EIA) Regulations 2017
Consultation on the Application for a Scoping Opinion

Thank you for your letter of 13th December notifying the Council of Highway England's submission of an Environmental Scoping Report for M25 junction 10/A3 Wisley interchange and also seeking comment in advance of The Planning Inspectorate adopting a Scoping Opinion. We have reviewed the document submitted and have the following comments to make:

Planning Policy

- P199, para 13.3.27 the assessment will need to refer to the Council's most recent Local Development Scheme which sets out that adoption of the Local Plan will be by December 2019, following examination in August/September of that year. This clarification will be needed at other points within the assessment where Local Plan timescales are referred to, such as p16.

- P241, para 15.2.12 the Council is currently working to provide Highways England with additional detail on developments within the vicinity of the scheme. This will include clarification that site allocation DEV/COB9 should be removed from ongoing consideration as it is no longer included in land availability assessments due to uncertainty around deliverability.

- P240, para 15.2.12 for both planning applications 2017/0524 and 2016/4204 Highways England has requested that Road Safety Audits be undertaken in advance of determination of the applications.

- P110, para 7.9.1 references compensatory habitat land. Alongside biodiversity considerations that will be investigated through the EIA, the designation of additional SPA land could have a significant impact on the borough in planning policy terms. Additional land designated as SPA could impact the buffer zones within which

mitigation is required for new development. This mitigation takes the form of provision of SANG land and any requirement for additional SANG land will be an important consideration in Local Plan preparation.

Landscape and Heritage

- Chapter 11 is entitled Cultural Heritage, which albeit having an ICOMOS definition, has the potential to be confusing without clarification as it covers Built and Natural Environments and Artefacts plus tangible and intangible forms. The Scoping Consultation appears to concentrate on Built tangibles so perhaps titling it "Heritage" would cover the historic environment elements, making clear that although inevitably there is a hierarchy, designated and non-designated historic assets must be taken into account.

- P179, para 11.8 Proposed Consultation appears to ignore the local authority Heritage Managers, although they are included at para 11.11.3. 10. A consistency in approach is required.

- P179, para 11.9 highlights the need for further investigations which are crucial. Landscaping is referenced as mitigation to screen visual impacts, although this could also have a negative impact on the setting and interpretation of the historic environment.

Air quality and noise

- P70, para 6.4.3 – Elmbridge Borough Council has already responded to Highways England enquiries in November 2017 about noise sensitive receptors within/around the scheme boundary, suggesting that additional potential noise sensitive receptors should be referenced. Potential receptors highlighted include properties in Convent Lane, Seven Hills Road, Pointers Road, Ockham Lane and Hatchford Park.

- P53 – there should be reference to the more recent 2017 IAQM guidance for Planning.

Biodiversity

- P109, para 7.8.1 – The list of organisations to be consulted should also include Countryside Officers within the relevant local authorities.

If you have any queries on this response please contact us on the number provided.

Yours sincerely,

Kim Tagliarini
Head of Planning Services, Elmbridge Borough Council

From:	Allana Johnston
To:	M25 Junction 10
Subject:	TR010030-TR010030-000008
Date:	21 December 2017 11:44:45
Attachments:	image1af5e5.JPG image863560.JPG

To whom it may concern

I can confirm EAP do not have any comments

Regards

Allana Johnston
Utility Network Coordinator

Tel: 01506 425378

Web: www.energyassets.co.uk

creating a better place

Environment Agency

Gail Boyle
The Planning Inspectorate
3D Eagle Wing
Temple Quay House
2 The Square
Bristol
Avon
BS1 6PN

Our ref: WA/2017/124677/01-L01
Your ref: TR010030-TR010030-000008

Date: 09 January 2018

Dear Gail

M25 Junction 10/A3 Wisley Interchange Improvement Scheme ("The Development")

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 Regulation 8(1)(B) Notification and Regulation 10(1) application for a scoping opinion – M25 J10 / A3 Wisley Interchange

Thank you for contacting us regarding the proposed development noted above and request for an environmental impact assessment (EIA) scoping opinion.

Environment Agency position
We have reviewed the scoping report submitted and have further comments to make in respect of Flood Risk, Biodiversity and Groundwater Protection to ensure that the Environmental Statement (ES) will appropriately address the environmental issues we consider are of most importance for this proposal. Our technical comments detailing the information we consider should be provided in the environmental statement are provided below.

Technical comments and advice

Flood Risk
We strongly advise that the Flood Risk and Water Quality topic areas (Chapter 8 – Road Drainage and Water Environment) should be separated out into two separate chapters in their own right. This will avoid any confusion as the risks and opportunities associated with each topic area are very different. We made it very clear in our pre-development meeting with the applicant previously that this was our expectation.

We are concerned that there is very little information on fluvial flood risk within this chapter. The wording within the chapter is also confusing. Fluvial flooding is listed under a section referring to 'Surface Water'.

Cont/d..

We are pleased that there is a commitment to carry out a detailed Flood Risk Assessment (FRA) to support the ES. We advise that fluvial (river), pluvial (surface water) and groundwater flooding should all be split up within the FRA and ES as separate issues. Mitigation for each of these different sources of flooding are unlikely to be linked and so it makes sense to address each individually.

We are slightly confused by the ranking of risk (importance) within Table 8-5. Why is the Stratford Brook is listed as 'high' importance and the River Mole listed as 'very high'? Both seem to have the same number of receptors? No clear explanation is given.

At the scoping stage it is sometimes useful to outline the methodology of the FRA and get our advisory comments. The scoping opinion just states that it will be carried out in accordance with the (National Planning Policy Framework (NPPF). We would recommend that you arrange a technical meeting with ourselves to discuss the detailed requirements for the FRA and get this agreed before you proceed.

You will need to carry out detailed flood modelling of the Stratford Brook as part of the FRA. We can provide you with advice on the general modelling requirements and the new climate change allowances which will need to be applied to this development. Please find attached our requirements for modelling and Thames guidance for climate change allowances.

From our experience of other similar infrastructure projects the key aspects of the FRA will need to include:

- Sequential approach – including the Sequential Test and Exception Test when required. Non-essential infrastructure and higher vulnerability development associated with the scheme should be located in areas of lowest flood risk.
- Floodplain Compensation - if embankment widening or other infrastructure is required within areas at risk of flooding, mitigation for the loss of floodplain storage will be required, on a level for level basis where possible. Early consideration of this will make it easier and cheaper to achieve this, preventing flood risk being increased elsewhere.
- Watercourses – any works on or near watercourses has the potential to increase flood risk. New culverts should be avoided where possible.
- Flood flow routes – assessment will be needed of any proposals that will affected flood flow routes, this includes the construction of any new under bridges or closing off of existing under bridges or culverts.

<u>Biodiversity</u>
Our main concerns are with the ecological and geomorphological impacts of the proposed culverting, works affecting water supply to water-dependent habitats, works affecting Bolder Mere Lake, loss of floodplain habitat and road run-off affecting water quality.

Otter and Water Vole
We welcome the further otter and water vole survey to be carried out on the Stratford Brook – presumably this is what the 'wet ditch' refers to? Otter and water vole surveys should also be carried out on the rivers Mole and Wey where the allocated 'replacement land' is adjacent to these rivers. An otter survey should also be carried out on the Guileshill Brook due to its proximity to the compound area at the A3 Ockham Park junction and potential for otter to use the surrounding terrestrial habitat. In addition, otter and water vole surveys should be carried out on any ordinary watercourses affected by the scheme, e.g. the watercourse which exits Boldermere lake.

Cont/d..

Boldermere Lake
Boldermere lake should be assessed for its potential for breeding and wintering birds

Water Framework Directive
Paragraph 7.6.14 states that “Rivers, ponds and reedbed should be valued in consultation with Natural England”. The Environment Agency should also be involved in this consultation as the responsible body for implementing the Water Framework Directive.

We welcome the commitment to carrying out a Water Framework Directive assessment although we are unclear with the approach referred to in paragraph 8.7.6 and unfortunately the preliminary WFD assessment is missing from appendix D. This will be particularly important for assessing the impacts of the proposed culverting and encroachment into Boldermere lake.

Paragraph 8.4.7 states that lakes and other surface water features will only be scoped in if there are potential affects due to changes in groundwater. Please note that these surface water features should be scoped in if there are *any* potential impacts, i.e. also relating to water quality and direct habitat loss.

The assessment of the impacts on watercourses and recommended mitigation measures should be based on River Corridor Surveys (RCSs) of the affected reaches. Channel surveys should also inform the design of the crossings. Table 8.4 does not refer to River Corridor Surveys but instead states that a River Habitat Survey and fluvial audit will be used to inform the WFD assessment where available. Please note that a River Corridor Survey would be more suitable and should be carried out.

The areas proposed to offset the impacts on the SPA/SSSI should also be subject to the same suite of surveys as the rest of the scheme. More detail should be provided as to what is proposed for these areas. Please note that works within the floodplain/close to the river may require a Flood Risk Activity Permit from the Environment Agency and therefore early consultation with us is recommended.

Table 8.5 values the biodiversity importance of waterbodies at less than ‘good’ status as ‘low’. The Water Framework Directive requires all waterbodies to reach good ecological and chemical status and therefore no waterbody should be valued as low.

Paragraph 8.9.1 states that adverse impacts will be mitigated if significant. Please note that all adverse impacts should be mitigated or compensated for, regardless of whether they’re significant.

When carrying out the WFD assessment the Applicant will need to look at the current WFD Cycle 2 data (available here: https://data.gov.uk/dataset/wfd-classification-status-cycle-2) and assess whether their proposal will impact upon each of the classification elements (i.e. the receptors). They will need to assess potential impacts against the WFD objectives outlined in the Thames River Basin Management Plan (found here: https://www.gov.uk/government/publications/thames-river-basin-district-river-basin-management-plan) and how they intend to avoid, mitigate or compensate for those impacts.

It may be useful to look at the reasons for failure (available at: https://data.gov.uk/dataset/wfd-classification-status-cycle-2) to ensure that the assessment recognises existing problems and targets mitigation in the best way that

can alleviate existing issues.

Mitigation measures
We would welcome further involvement in the mitigation measures proposed once further detail on the crossings and impact on Boldermere lake have been provided. Mitigation may be appropriate on a site by site basis, particularly if the habitat affected is of high quality or where an opportunity exists, e.g. to improve fish passage or re-instate a more natural river channel where a watercourse is to be diverted. However, it may be more beneficial to combine mitigation resources (i.e. where several culverts are proposed) to deliver mitigation in an area, potentially away from where the impact will occur, which is of known greater ecological value or with greater restoration potential.

Clear span bridges and culverts
Paragraph 8.9.2 highlights our preference for clear spanning bridges as opposed to culverts, this is for flood risk alongside biodiversity reasons; this section also recognises the additional cost associated with bridges. Please note that cost alone is not a sufficient justification for proposing culverts over bridges and we would expect to see further reasoning for the selection of any culverts.

Construction impacts
We are concerned that the compound at the Ockham Park junction on the A3 is extremely close to the Stratford Brook – the plans should be revised to show a 10m minimum buffer between the compound and the bank top of the Brook to minimise any risk of pollution and protect the river corridor.

Ecological enhancements
There is no mention of ecological enhancements in chapter 7. Ecological enhancements that demonstrate an overall net gain in biodiversity should be included in the EIA.

<u>Groundwater and Contaminated Land</u>
Sustainable Drainage Systems (SUDs) are mentioned in section 8.9.1 with the possibility of infiltration being used. We doubt the ability of the Bagshot Beds to be suitable for sufficient infiltration and we expect a series of infiltration tests will be undertaken to assess the suitability of this method of drainage before committing to this approach.

Historic landfills have been mentioned in Chapter 10 as a possible source of contamination that require further investigation (Section10.6.2). We note that it specifically refers to additional surface water analysis, but we would also like to see groundwater quality analysis undertaken in any investigation. Groundwater sampling should include parameters related to landfilling, such as metals and ammonium and also those related to current motorway use such as petroleum hydrocarbons.
We agree the scope of further assessment in principle and note that further detailed discussion may be required for earthworks and materials management, especially in relation to any made ground or reworked materials potentially being re-used under the Definition of waste code of practice. Appropriate ground water monitoring would be required to assess disturbance effects before, during and after any earthworks activities are undertaken.

Environmental permitting and other regulation
This development may require an Environmental Permit from the Environment Agency under the terms of the Environmental Permitting (England and Wales) (Amendment) (No. 2) Regulations 2016 for any proposed works or structures, in, under, over or within

8 metres of the top of the bank of designated ‘main rivers’. This was formerly called a Flood Defence Consent. Some activities are also now excluded or exempt. **An environmental permit is in addition to and a separate process from obtaining planning permission.** Further details and guidance are available on the GOV.UK website: https://www.gov.uk/guidance/flood-risk-activities-environmental-permits.

Final comments
Once again, thank you for contacting us. Our comments are based on our available records and the information submitted to us. Please use our reference number in any future correspondence.

If you have any further questions please contact us.

Yours sincerely

Oliver Rathmill
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End

Requirements for completing computer river modelling for Flood Risk Assessments

Guidance for Developers - version 7

We are the Environment Agency. We protect and improve the environment and make it **a better place** for people and wildlife.

We operate at the place where environmental change has its greatest impact on people's lives. We reduce the risks to people and properties from flooding; make sure there is enough water for people and wildlife; protect and improve air, land and water quality and apply the environmental standards within which industry can operate.

Acting to reduce climate change and helping people and wildlife adapt to its consequences are at the heart of all that we do.

We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

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Executive Summary

You have received this document because you have either requested flood risk model information from the Environment Agency for use in completing a Flood Risk Assessment (FRA), or you have been in consultation with the Environment Agency about your intentions to complete an FRA.

This document is intended to be used by developers as a guide to completing computer river modelling as part of an FRA which satisfies the requirements of your local Environment Agency office.

It has been developed from National Guidance and contains requirements of your local Environment Agency Office (West Thames Area, Environment Agency South East), and should be used to ensure there are no hold ups within the consultation process once the FRA has been submitted to us. It details requirements for hydrological and hydraulic modelling, model outputs such as flood outlines and levels and information that are to be submitted as part of the FRA. If the guide is used when completing river modelling for your FRA it will be less likely we will require the submitted FRA to undergo a lengthy process of further amendment and review post submission. If the model is intended to produce results to alter the Flood Map then the Flood Map Policy, which is available by request using the contact details below, must be considered before the modelling starts.

We have included a checklist in Appendix A which you can use to ensure you have included all the necessary items when submitting your Flood Risk Assessment.

This document applies to Flood Risk Assessments using river modelling. However, many of the principles apply equally to coastal modelling.

If there is any doubt about the modelling requirements for an FRA you should contact the Development & Flood Risk Team in your local Environment Agency office at the earliest opportunity to discuss what would be needed.

When contacting us you should ensure that you are speaking to the area office local to your site of interest. Further details of Environment Agency office locations can be found on our website www.environment-agency.gov.uk on our ‘contact us’ page. Details of the West Thames Area, Environment Agency South East office can be found in Section 7.1 of this guide.

Please read our Standard Notice supplied at the end of this document, which details our terms and conditions.

If you have any queries about the content of this document or suggestions for improvement please email kirsty.butler@environment-agency.gov.uk .

Contents

1. Introduction

Purpose of this Document

The purpose of this document is to provide guidance for carrying out computer river modelling within a Flood Risk Assessment (FRA). FRAs may be carried out by individuals, developers, consultants or Local Planning Authorities for a variety of reasons (e.g. for development purposes).

Previous to this guidance, the FRA consultation process was frequently delayed or prolonged due to insufficient or inaccurate information being submitted where river modelling had been carried out.

This document provides a comprehensive guide to the information and approach expected of a complete FRA. It is intended to give our best practice guidance on the standards that should be used when carrying out computer modelling of watercourses when completing an FRA, and to comply with our local requirements.

Consultants, developers and Local Authorities that follow this guidance will reduce the likelihood of further revisions of the model, or further information being requested during consultation with the Environment Agency. This will minimise the delays in our response, and help us to be as efficient as we can be in the model review process.

Use the checklist in Appendix A of this document to ensure you have enclosed all the required documents and files for a review of your FRA.

Further details about undertaking Flood Risk / Consequence Assessments for the construction industry are given elsewhere, in particular in CIRIA Report C624. Further information may be required for land use development purposes as detailed in PPS25.

2. Modelling Requirements

It is not always necessary to produce a hydraulic model for all flood risk assessments. A decision on whether to construct a model should be made based on the scale and nature of the potential flood risk, as well as the scale of the development and existing information available on flood risk. In many less complex assessments, simple hydrological and hydraulic analysis may be all that is required. CIRIA Report C624 recommends a staged approach to Flood Risk Assessment to determine the need for and extent of such a model.

If there is any doubt whether a model is required, this should be discussed with local Environment Agency staff (Development and Flood Risk Teams for Land Use Planning, Flood Risk Mapping & Data Management Teams for other modelling requirements) at the earliest opportunity. Requirements at specific locations should always be discussed with local Environment Agency staff to ensure that any site-specific factors are identified, which may require special treatment when carrying out the modelling.

Even if a model is not constructed, an assessment of the impact of any proposed development on runoff should be carried out using Flood Estimation Handbook (FEH) techniques in almost all cases. The science report 'Improving the FEH statistical procedures for flood frequency estimation' published in June 2008, is available on our website through the Publications catalogue and should be referred to for updated FEH methods.

DEFRA/Environment Agency R&D Technical Report W5-074/A "Preliminary Rainfall Run-off Management for Developments" provides further information on runoff assessment for developments.

2.1 Objectives of the Model Study

The objectives and the required outputs of the modelling exercise should be defined at the outset. These should be reviewed at regular intervals and at completion.

At an early stage, the design condition should be clarified. This may, for example, include a freeboard and an allowance for climate change. Further information on freeboard is in R&D W187.

2.2 Data Collection

If you have not already requested information for your FRA, we recommend you submit a one-off request for information from your local Environment Agency External Relations Team (see Section 7). They will be able to provide you with any available existing data relevant to your site including channel survey, topographic survey (LiDAR), historic flood events, hydrometric data, existing models, flood levels, extents and flows. These data sets are detailed below.

If you will be collecting new survey data as part of your FRA, please refer to Appendix B 'Survey Requirements for Flood Risk Assessment'. This also contains the survey reporting format we expect with the FRA.

2.2.1 Hydrometric and Survey Data

The Environment Agency may hold existing hydrographic and floodplain survey data which may be of use in a flood risk assessment. External Relations will be able to assist with any requests for data.

River flow, river level and rainfall data relevant to the model should be collected where these exist. This should be requested as part of the one-off request to the Environment Agency for data at the start of the FRA. An understanding of the uncertainty and confidence within this data should be sought from its owners and further developed.

The Flood Estimation Handbook should be used as a source of hydrological data. Refer to the science report 'Improving the FEH statistical procedures for flood frequency estimation' for updates. The UK HiFLOWS Project also provides up to date information for gauging stations including AMAX and POT data www.environmentagency.gov.uk/hiflowsuk

2.2.2 Historic Information

Information on historic flooding (e.g. newspaper articles, photos, flood marks) should be collected and utilised to guide the survey extent and to aid the modelling process. Such data is particularly valuable as it can provide information on historic flooding prior to the periods covered by hydrometric data. A search of the Internet can often provide useful information, the Chronology of British Hydrological Events may contain useful information. However, the effect of any alterations and additions to the watercourse and associated structures since the date of the recorded event needs to be considered.

The West Thames Environment Agency office holds GIS shapefiles of historic fluvial flood event extents where we have records of events. We also have a limited number of records on locations which have suffered from surface water flooding, sewer flooding and groundwater flooding. There ma have been flooding in the catchment that we do not have a record for therefore you are advised to contact the relevant Local Authority for additional historic flooding information.

2.2.3 Previous Modelling

The West Thames Environment Agency office have carried out detailed river modelling for a number of catchments for flood risk mapping studies, the design of flood alleviation schemes and previous flood risk assessments. You may wish to use this information for your study, however we advise you to contact the External Relations team before requesting this data to determine if existing modelling is available for your area of interest.

Where existing models are available, consideration should be given to whether these could be used as part of the flood risk assessment. Data from the Environment Agency will be supplied with any relevant data warnings or disclaimers, which must be

considered in the FRA. There may be cost, licensing and intellectual property right (IPR) issues associated with the use of models, which External Relations can help once a data request has been received.

We recommended check surveys are undertaken if the FRA intends to use existing survey data provided by the Environment Agency or third parties at key locations to ensure that the data provided is compatible with current conditions.

The Environment Agency may not own the Intellectual Property Rights to hydraulic models completed by third parties that we hold. We may therefore not be able to release information you are aware we hold if we do not have the required permissions to use it in FRAs. However, in accordance with Operational Instruction ‘Use of 3rd party IP from Flood Risk / Consequence Assessments’ , ownership of the IPR or an approved IPR licence is not required for us to use the data in accordance with our statutory obligations.

Contact External Relations (Section 7.1) if you wish to request modelled data.

2.3 Choice of model software

The modelling software chosen should be capable of producing the required output. It will generally be appropriate to choose commercial hydraulic/river modelling software that is in widespread use.

In certain circumstances, for example where the applicability of a model to a specific situation has not been previously demonstrated, it may be necessary to carry out independent benchmarking tests to demonstrate model performance using standard data. Examples of how this may be achieved under a range of scenarios are provided in the Defra/Environment Agency R&D Report 'Benchmarking of hydraulic river modelling software packages' (W5-105) which is available via the Joint Defra/Environment Agency Flood and Coastal Erosion Risk Management R&D Programme website.

2.4 Type of model

The choice of which model set up to use should be made between a fully hydrodynamic 1D or 2D model or a steady-state backwater model, flood routing model or combination of methods.

A full hydrodynamic model must be used if the study area contains either structures whose operation varies with time (e.g. pumps, sluices, and tidal outfalls) or a tidal estuary where tidal water levels increase going up the estuary. This should also be employed in complex tidal/fluvial situations and where the watercourse is subject to rapid increases and decreases in flow. If there is significant floodplain storage and complex flow routes on the floodplain then 2D modelling of the floodplain may be more representative. In other cases, either a steady-state or hydrodynamic model may be chosen. It should be noted that a steady-state model is unlikely to give a reasonable estimation of water levels where storage is present.

2.5 Hydrological Assessment

A hydrological assessment of the flood flows should be made using the methodology described in the Flood Estimation Handbook and the Environment Agency's Guidelines on use of the Flood Estimation Handbook. Contact the FRM&DM team if you require a copy of our guidelines.

FEH is the industry standard for flood frequency estimation. As a result of R&D funded by the Environment Agency and Defra and carried out by CEH (the publishers of FEH) a number of changes to the statistical procedures were recommended (see Kjeldsen. T. R., Jones. D. A., and Bayliss. A. C., 2008. Improving the FEH statistical procedures for flood frequency estimation. Science report SC050050/SR. Environment Agency, Bristol.)

These changes (where practicable) have been incorporated into recent work carried out by the Environment Agency and we advise they are incorporated into flood frequency estimation work carried out by 3rd parties.

The changes do not deviate from the overall framework of the FEH methodology. However, the most technical details of the method have been updated to improve the performance of the procedure.

The report details the updates to the statistical method including:

- A new equation for estimating QMED at ungauged catchments
- An improved procedure for using donor catchments for estimating QMED at ungauged
- catchments
- An improved procedure for formation of pooled growth curves.

These improvements should be adopted as standard practice by anyone involved with flood frequency estimation in the UK

The Revitalised Flood Hydrograph Method (ReFH) was released in 2006 and has superseded the FEH rainfall-runoff for most fluvial flood risk applications in England and Wales. The ReFH method should be used in place of FEH rainfall-runoff for most applications.

Wherever it is available, the hydrological assessment should use local data to improve the estimation of flood flows.

If a hydrodynamic model is used for the modelling, the hydrological assessment should include consideration of peak flows, flood volumes and shape of the flood hydrograph. If the problem includes storage (e.g. reservoir storage or a tide-locked watercourse) it is essential that the critical duration storm for storage (which often differs from the critical duration for peak flow) is identified. If a steady-state model is used, this may be limited to just consideration of peak flows.

Hydrological inputs should be estimated for a range of return periods up to and including the design flow (typically the flow with an annual probability of exceedence of 1%), and should include an appropriate allowance for climate change. This is a 20% increase in peak river flows, as advised in PPS25. We request design events of 1 in 5, 1 in 20, 1 in 100 and 1 in 100 year + 20%.

If using the FEH methodology, the proforma in Appendix C must be completed to justify decisions made, and provide a record of calculations.

2.6 Surface Water Flooding

An assessment should be made of the local topography and drainage routes to determine whether flooding might occur on the site if local drainage was overwhelmed by intense rainfall, or backing up due to high levels in the receiving watercourse. Given these findings, recommendations should be made on the design of any buildings on the site to eliminate the risk of significant flood damage.

Strategic Flood Risk Assessments (SFRAs), Surface Water Management Plans or any local sources may be useful when looking for evidence of surface water flooding.

2.7 Guidance for Tidal Breach Analysis on the Thames

Whilst we provide information and advice as set out below, the responsibility for the modelling being fit for purpose remains with those undertaking the modelling. Depending on the site, alterations may be necessary and should be considered in the initial request for information. If there is any doubt please contact the Tidal Thames team to discuss (details in section 7.1).

The general approach for the Tidal Thames (Teddington Weir to Purfleet) and the tidally dominated section of the tributaries is as follows:

The latest Thames Estuary Joint Probability (ISIS model) is used to give the variation in tide levels for a number of possible return periods and to select an extreme case to coincide with a breach in the defences.

The approach is to obtain (from our External Relations team) advice on the critical breach location, the 1 in 200 year level for the Tidal Thames and the tidal hydrograph relevant to the site location. We will also provide breach width (this depends on the type of defence).

Location of the breach is selected to give the most severe condition at the site. We achieve this by examining topographical data from LiDAR surveys and estimating the most likely flow route to the site. The breach should be taken down to the landward ground level, not necessarily that adjacent to the wall, which may be a bank forming part of the defence. The level of breach should be justified in the report including providing ground level plans and sections. Weir coefficients for the breach should also be explicitly stated and justified in the report.

The breach should be open for 18 hours for a hard defence and 36 hours for a soft or composite flood defence. The model should then be run for as long as it takes to reach the maximum flood extent.

For sites downstream of the Thames Barrier, generally, the breach should be taken to occur on the rise of the tide before the peak tide because the surge element will tend to span over three tide cycles. For single tide breach assessments between Teddington Lock and the Thames Barrier the breach should be taken to occur on the rise of the peak tide and should be considered breached when the tide level reaches the breach level. The exception to this is when the property is within approximately 100 metres of the defences. In this scenario the velocity may be an important factor in relation to the forces that new buildings and structures would have to withstand should a breach occur.

When necessary additional breach model runs should be carried out taking the breach to occur at the top of the peak tide to calculate the worst case water velocities. The decision on whether to carry out additional peak velocity modelling should be justified in the report based on the site ground levels relative to the 200-year river level and the proximity to the breach location.

The flow calculated through a breach is then routed through the urban area using a hydraulic model based on LiDAR ground survey. The LiDAR data can also be requested from our External Relations team. The LiDAR grid size recommended for urban areas is 5m or less. If it is above 5m it needs to be justified, but should never be greater than 10m. The use of 1D or 2D modelling depends on the location of the site in relation to the breach location and the topography of the ground in the proximity of both. The choice of a 1D or 2D model needs to be clearly reasoned in the report.

The LiDAR survey data often needs manual alteration to deal with errors such as the inability of LiDAR to detect flow routes through openings under viaducts and low ground "hidden" by vegetation. Velocity and depth of flows at the site are dependent on the passage of the flood through the urban area. Velocities need to be discussed/considered in relation to the integrity of any buildings or part of any buildings to be used as a safe flood refuge.

There will be a significant time lag between the breach occurring and water actually reaching the site if your site is a significant distance from the Thames. Only 2D modelling will illustrate this and will therefore be useful for emergency planning. Similarly only 2D modelling can assess the peak flood velocities where this is needed.

The output data must include flood levels clearly referenced to ordnance datum.

3. Model Building

3.1 General

The model should be built to represent the key flood flow routes, flood storage and structures in the study area. The defined study area should be sufficient to demonstrate the effects of any development on locations upstream and downstream from the site of the proposed development. Blockage scenarios should be considered if appropriate.

3.2 Upstream Boundary (Inflows)

The upstream boundary or boundaries should be developed under the hydrological assessment described in Section 2.2.6. For some models, one single upstream inflow per flood event may be sufficient, whilst for others, many upstream boundaries may be needed if a number of tributaries or other inflows are present. The choice of location of the upstream boundaries should be based on hydraulic considerations, not on the upstream limit of the development. The upstream boundary should be far enough upstream to allow the full impact of the development on upstream water levels to be identified.

3.3 Downstream Boundary (Levels)

The downstream boundary should be at a location where the relationship between level and flow is well defined, e.g. a weir. Where this is not possible, it should be sufficiently downstream of the area of interest so that any errors in the boundary will not significantly affect predicted water levels at the proposed development site. For a typical fluvial river, a rule of thumb is that a backwater effect extends a length L=0.7D/s, where D = bankfull depth and s = river slope. Hence if the downstream boundary is greater than L from the site it is likely that any errors in the rating curve at the boundary will not affect flood levels at the site. If the downstream boundary is tidal, it should be a location where a tidal curve can be accurately defined. Any tidal boundary should take into account both the astronomical tide (i.e. the tide caused by the gravitational effects of the Moon and the Sun and reported in published tide tables) and storm surges (i.e. the elevation of tidal levels caused by weather conditions). Careful consideration of combined probabilities10 may be required in such cases. The Environment Agency holds extensive extreme tide information from Flood Risk Mapping Studies.

3.4 Hydraulic Coefficients

The coefficients used in the model (e.g. channel roughness, weir coefficients) should be determined with guidance from standard textbooks. These texts should be referenced in the modelling report. Work is ongoing to produce guidance relevant to the UK, but in the meantime standard works such as Chow and Hicks & Mason can provide some guidance. Further information on roughness can also be obtained from the Defra / Environment Agency Conveyance Estimation System (CES) – http://www.river-conveyance.net/

4. Model Calibration, Verification and Sensitivity Testing

4.1 Calibration

Wherever practicable, the hydrological assessment and the hydraulic model should be calibrated against recorded flows and/or water levels from observed flood events. If calibration data is available, the model should be calibrated using at least three separate events. If no calibration data is available, a 'reality check' on the predicted levels and flows can often be carried out from photographs, historic information and anecdotal accounts of flooding.

The coefficients used in the calibration process should only be varied within the possible ranges suggested in the standard textbooks. The calibration of steady-state models should consider flow and flood levels. Calibration of hydrodynamic models should also consider the timing of the flood peak, flood volume and shape of the flood hydrograph.

4.2 Verification

If calibration is carried out, at least one separate observed event should be run through the model after the calibration to verify the adjustment of parameters.

4.3 Sensitivity Testing

The model should be tested by adjusting the key parameters within it to assess the effects on calculated flood levels. Unless otherwise agreed with the Environment Agency, the following parameters should be tested as a minimum:

- model inflows
- downstream boundary condition
- channel roughness and
- key structure coefficients

The range of parameters used in sensitivity tests should reflect uncertainties, possible changes due to climate change and variations in hydraulic coefficients (e.g. from seasonal changes or periodic maintenance). The parameters should be increased and decreased by a set percentage (usually 20%) and the results compared to the original run to assess whether the model gives expected results (i.e. the results are inside the set percentage increase and decrease). If the results vary significantly more than the set percentage then more investigation is required.

Sensitivity to blockage of critical structures should also be tested. The 2004 R&D study 'Scoping study into the hydraulic performance of bridges and other structures, including effects of blockage, at high flow' includes current understanding & some interim guidance.

Using the outputs of the sensitivity tests

The results of the sensitivity tests should be used to assess the possible circumstances that could cause flood levels to be significantly higher than the modelled best estimates. Examples are blockage of a downstream culvert, underestimation of design flows (if hydrometric data is poor) or increase in channel roughness in the event of decreased maintenance. Given the findings, recommendations should be made on the design of any buildings on site to eliminate risk of significant flood damage to the building.

5. Model Report Requirements

A report must accompany the submission to describe the modelling method and assumptions. The report is to enable a review of the model and results to be carried out. In some cases, only the report will be used to evaluate the appropriateness of the model, therefore it must be thorough. It should be a self-contained report that will provide sufficient information to allow future use of the model by the Environment Agency including if necessary replicating the work undertaken. The detail of the report should be appropriate to the complexity of the modelling.

5.1 Format of reporting

The report should be in a format that is easy to transmit electronically, and must include all plans and schematics. Adobe pdf files are therefore preferred. The language should be clear and non-technical where possible.

The following plans should be included with the report:

- A location plan at an appropriate scale, with national grid coordinates and OS basemapping, identifying geographical features, street names and all watercourses or bodies of water in the area of the site.
- A plan and description of any structures which may influence local hydraulics.

5.2 Report

For a comprehensive report, we suggest the following report structure, in line with the model requirements in Section 2.

Introduction

General site description:

- Larger scale plan showing location in the catchment
- What the site is used for currently
- Size of the site
- What is proposed
- Whether the Agency have been involved with the site previously (existing consents or
- references)
- Brief Flood History of the site
- The flood extents / flood zones that the site falls within
- Source of flooding on site / mechanisms of flooding
- Watercourses/drainage ditches in the area

Objectives of the Model Study

Provide a justification for why the modelling exercise has been undertaken and the planned objectives of the exercise. Indicate any deviations from the original objectives or planned project outputs, and outline the reasons why these occurred.

Method Statement and Justification

The report should include a clear method statement, detailing how the modelling has been carried out to fulfil the objectives.

Data sources

List all data used in the model and provide these when submitting the report.

Detail methods of data capture and/or sources of data, and the processes by which the raw data were converted.

Any reference to earlier work should be clearly referenced, and applications or development of existing models should be subject to the same rigorous inspection methods.

State the ownership of the data collected and the format of the data.

Uncertainty in data sources should be referenced especially where data have been discounted due to low confidence.

Provide the Environment Agency's data request reference here (usually prefixed with "WT"). Any licences and disclaimers accompanying data should be provided as an appendix.

Hydrological model

Explain why the chosen methodology is suitable for the catchment. Report details of decisions made and justifications for these. The FEH proforma provided in Appendix C must be supplied with the report. It is essential that this information is supplied for us to be able to undertake a full model review.

The report must include a table of the design inflows to be used in the hydraulic model.

A complete description of the catchment areas contributing to flooding at the proposed site must be supplied.

Hydraulic model

A hydraulic model will need to be produced for a Flood Risk Assessment where the effect of flood risk to the site can not otherwise be demonstrated (existing information, hand calculations etc). It will be necessary to produce a hydraulic model where the flood risk before and after development needs to be demonstrated, if the development involves changes to the river channel or structures, or if the development includes flood storage.

Provide a description of the hydraulic modelling approach including a description of the watercourse being modelled. The discussion must include justification of the selected modelling software including a technical description of the model and it's components. Only a brief technical description is required if the tool is well known to the Environment Agency / widely applied, such as ISIS, TuFLOW and HecRas. Include the name and version of the software used.

Justify the decision to use fully hydrodynamic 1D or 2D model or a steady-state backwater model, flood routing model or combination of methods. Indicate any perceived advantages or disadvantages of applying the chosen tool.

Supply details of existing defences and local structures and how they have been represented in the model. Also supply details of how inflow and downstream boundaries have been represented.

Provide the schematic showing how individual parts of the model are connected, as an appendix.

Parameters

State and justify the derivation of the parameters (e.g. channel/overbank roughness, weir coefficients) used within both the hydrological assessment and the hydraulic model.

Calibration/Verification

Where calibration has been undertaken, the method used must be clearly illustrated and the number of independent data sets used for verification must be displayed. The model results must be presented against observed values for key locations for each verification data set, and descriptive statistics applied to describe the error band in the model.

Sensitivity Analysis

Discuss what sensitivity tests were carried out and how, including which parameters were varied and to what extent. Describe the results of the sensitivity testing and discuss the potential effect these could have on the model output.

Results

Results of the hydraulic model should be indicated in a summary table showing roughness coefficients, peak flow, water surface elevation, flow velocity, Froude Number etc. at each cross section. If possible, calculated flood levels could be shown on cross section data.

Map(s) indicating the flood extents adjacent to and including the proposed site must be provided for the modelled design events.

Audit Trail

The audit trail developed should be described in unambiguous detail. This should detail the build stages, changes made and the file names of all modelling/model support files produced. Documentation should also be included within the model data files to clearly set out the conditions applied.

Limitations

Highlight and discuss any limitations of the model or modelling technique. The impact of such limitations on the present or future use should be clearly stated.

Data given to multiple decimal places gives the impression of high confidence in the accuracy. Avoid doing this unless you are able to state the accuracy and confidence in the data.

Conclusions

The report must include concluding remarks, which highlight key issues from other sections and draw attention to the critical locations and/or structures within the model.

The same key items in reporting will apply to both modelling and hydrology.

The conclusion should comment on the current flood risk to the development site and the proposed level of risk post development. It should also comment on the existing flood risk to locations upstream and downstream of the site and any changes to the level of risk to these areas following development.

5.3 Appendices

Additional items to include as appendices:

Environment Agency Data used in the FRA

- Copy of the data licence: Include a copy of the licence/copyright which accompanies the
- data provided by the Environment Agency.
- If an Environment Agency model has been used/adapted as part of the FRA, include the model disclaimer which was provided with the data. This is to ensure any data warnings have been regarded.

Appropriate Modelling Staff Involved

Include a description of experience/CV of modelling staff involved with the FRA. This is to demonstrate to the Agency that suitably qualified and experienced personnel have carried out the work described in this document. Table 1 below illustrates the expected levels of experience.

Complexity of flood estimation study	**Example of study**	**Value of flood defence works or damages**	**Indicative timescales for flood estimation**	**Competence criteria**	
				Analyst	**Supervision and approval**
Simple	Preliminary assessment; culvert capacity check	-	<1 day	Level 1	Level 2
Routine	Low-risk DC application	<£50,000	1-2 days	Level 1	Level 2
Moderate	Small FM study or medium-risk DC application	<£250,000	2-10 days	Level 2	Level 3
Difficult	Medium FM study or CFMP or pre-feasibility	<£1million	2-4 weeks	Level 2	Level 3

Very difficult	Major scheme design or large FM study / CFMP	>£1million	>1 month	Level 3	Level 3

1. The values in all columns are indicative.
2. DC: Development Control FM: Flood Mapping CFMP: Catchment Flood Management Plan.
3. The competence criteria should be interpreted as minimum levels
4. An analyst who has not carried out or supervised the study must give approval.
5. Level 1 – Hydrologist with minimum approved experience in flood estimation
6. Level 2 – Senior Hydrologist
7. Level 3 – Senior Hydrologist with extensive experience of flood estimation

Model Schematic

The schematic showing how individual parts of the model are connected should be provided, geo-referenced if possible.

5.4 Model Review during consultation

Once the model and report has been submitted to the Environment Agency for consultation it will be reviewed to determine whether the model is fit for the purpose of Flood Risk Assessment against the National Environment Agency guidance. We are not permitted to publish this guidance, however we have produced this guidance document to ensure the FRA model is fit for purpose. As an indication, our review of the model will focus on the items indicated in Appendix C.

We require at least 4 weeks to complete this. Please bear in mind that your model may require modification following the review, before the FRA can be accepted. You should allow for this within your timescales.

6. Updating the Flood Map

Flood Zones are used within the Environment Agency to delineate PPS25 flood zones and make planning decisions. The data is also used by a variety of external users, and can be viewed at www.environment-agency.gov.uk

If you would like the Flood Zones to be updated with FRA modelled extents, the model and outputs must be fit for purpose. Our requirements are as follows:

- Extents must represent the flood events with an annual probability of 1% (1 in 100), and 0.1% (1 in 1000).
- The model must be undefended, so not take account of any formal raised defences, in accordance with PPS25. You can check with the Flood Risk Mapping & Data Management team for a current list of formal raised defences. Other infrastructure (bridges, culverts, engineered channels, bypass channels) and embankments that are not flood defences, can be included in modelling and mapping flood zones.
- Flood Zones can only be updated with fluvial or tidal modelling.
- The modelling must be based on surveyed ground levels.
- Dry Islands within the floodplain may be mapped if they are larger than 200m2 and not less than 10m wide.
- Survey must show that the **land** (not the property) is at least 100mm above the flood level.
- The modelling outputs for the Flood Map purposes must make no allowance for blockages (although blockage modelling may still need to be considered as part of the FRA, as a sensitivity test).
- We will incorporate third party data that is suitable for flood zones where we have approved the model is to Environment Agency requirements, if we have the owner's permission to do so. For this, the owner will need to hand over all intellectual property rights on the data to the Environment Agency. See Section 6.3, future use of FRA model.

6.1 How to challenge

Please indicate within your FRA submission that you wish the model outputs to be considered for updating Flood Zones. We will then review the suitability of the model for this purpose as part of the FRA model review. If you are not carrying out modelling as part of your FRA, but you have evidence to challenge the Flood Map, please contact our Flood Risk Mapping & Data Management team at Wallingford, TH-WE-MAPPING-&-DATA@environment-agency.gov.uk

6.2 Timescales for updates

We make quarterly updates to the Flood Map in January, April, July and October. In order for us to be able to incorporate your new modelled extents into the Flood Map, we will require the final approved extents 10 weeks before an update.

6.3 Future use of FRA model

If the model is required to update the Environment Agency's Flood Map/risk assessment products to represent the as-built situation, ownership of the Intellectual Property Rights (IPR) or an approved IPR licence will be required by the Agency. A statement should accompany the report and model data to indicate the allowable future uses of the model and its associated documentation.

7. Other

7.1 Contact Details

Environment Agency South East, West Thames Area External Relations:

Email: WTenquiries@environment-agency.gov.uk

7.2 Quality Assurance and Audit Trail

Throughout the study, a well-defined audit trail should be defined and reported. This should include all relevant documentation and should link with the appropriate quality assurance procedures of the organisation carrying out the study. Provision should be made to make the relevant documentation available to others who may use the model in future.

Glossary of terms

Backwater Curve - The longitudinal profile of the water surface (in a non-uniform flow in an open channel) when the water surface is not parallel to the river bed. This is caused by a restriction such as a dam or weir, increasing the depth of the water above the normal water level that would result if the restriction were removed.

Backwater Effect - The effect where a dam or other restriction raises the surface of the water upstream from it above the normal water level.

Backwater Flooding - Flooding caused by downstream conditions such as a channel restriction and/or high flow in a stream at a confluence downstream of the flooding.

Backwater Model – A model built to represent the backwater effect.

Calibration – The process of adjusting parameter values in a model to try and match recorded data, so that the model can be taken as a good representation of reality.

Combined Probability – The chance of two or more independent events occurring concurrently.

Critical Duration Storm – The duration of storm necessary to produce the maximum instantaneous peak flow or volume at a specific location in a drainage system, for any given flood event probability.

Floodplain – Land adjacent to a watercourse over which water may flow in time of flood. This generally includes the defended floodplain, an area over which water would flow if flood defences were not present, or if flood defences fail.

Flood Routing Model – Process of determining progressively the timing, shape, and amplitude of the flow in a flood wave as it moves downstream at successive points along the river.

Hydrological Model – A mathematical model used to estimate the flow in a river that will result from rainfall. It will usually be based on such things as catchment size, geology and soil type, steepness, land use and storage within the catchment. The model will be calibrated and verified using recorded rainfall and flows, before using design rainfall to estimate the flows which might be expected in floods of different probabilities.

Hydraulic Model – A mathematical model used to predict possible future levels (and flows in a hydrodynamic model) taking into account the topography, shape and roughness of the river bed and floodplain, obstructions (e.g. weirs and bridges), and the inflows provided by the hydrological model etc. Models are calibrated using recorded historic flood data, where it is available.

Hydrograph – A graph showing the water level (stage), discharge, or other property of the flows in a river, with respect to time.

Hydrological Assessment – Carried out to understand the cycle of precipitation, consequent runoff, infiltration, and storage; eventual evaporation etc.

Intellectual Property Rights – The legal ownership of the content of the work in question.

Storage – Location where water is retained due to the lie of the land, man made influence or effect of tides / other river flows.

Steady-State Model – A hydraulic model in which the flow at any point in the model is constant with time (there can be many different flows but all are constant over time). This type of model cannot estimate the effects of storage on flood levels or downstream flows.

Hydrodynamic model – These estimate flows and levels throughout a flood event, and can therefore take into account the effects of storage on flows and flood levels.

Topographic Survey – Survey to measure and record the physical features of an area in horizontal and vertical dimensions.

Tributary – A river or stream that flows into a larger river.

Upstream / Downstream Boundary – The limits of the model or assessment upstream and downstream of the site of interest.

Verification – The process of checking the accuracy of the outputs of the calibrated model in comparison with recorded data. If sufficient data is available it is good practice to calibrate the model using some recorded data, and verify the model using data from other flood events.

List of abbreviations

PPS25 – Policy Planning Statement Note 25
TAN15 – Technical Advice Note 15
CIRIA – The Construction Industry Research and Information Association
DEFRA – Department for Environment, Farming and Rural Affairs
R&D – Research and Development
1D – One Dimensional
2D – Two Dimensional
FRA – Flood Risk Assessment

References

• Centre for Ecology and Hydrology, 1999. Flood Estimation Handbook. Wallingford, CEH. (Further details are available at http://www.nwl.ac.uk/feh/ or from CEH on 01491 838800.)

• Defra / EA R&D Programme. Joint probabilities - dependence mapping & best practice, FD 2308/TR1. HR Wallingford. 2003.

• Defra / EA, March 2004. Flood & Coastal Defence R&D Programme, Benchmarking Hydraulic River Modelling Software Packages, R&D Study: W5-105/TR1.

• Defra/EA R&D Programme. July 2004. Scoping study into the hydraulic performance of bridges and other structures, including effects of blockage, at high flow.

• D.M.Hicks & P.D.Mason. Roughness Characteristics of New Zealand Rivers. 1999.

• Environment Agency: Fluvial Freeboard Guidance Note. Technical Report W.187.2000.

• Environment Agency, 2000. Flood Estimation Handbook Guidelines (Parts 1 and 2) Bristol, Environment Agency.

• HR Wallingford (2004) Preliminary rainfall runoff management for developments: Users Guide. Defra / EA R&D Technical Report W5-074/A, HR Wallingford.

• Kjeldsen. T. R., Jones. D. A., and Bayliss. A. C., 2008. Improving the FEH statistical procedures for flood frequency estimation. Science report SC050050/SR. Defra / EA R&D Programme. (This is available on the Environment Agency website, through the Publications Catalogue. Search for product code SCHO0608BOFF-E-P.)

• Lancaster, J., Preene,M. and Marshall,C. 2004, CIRIA Report C624, Development and Flood Risk – Guidance for the Construction Industry, CIRIA, London.

• The Chronology of British Hydrological Events, http://www.dundee.ac.uk/geography/cbhe

• Ven Te Chow, Open Channel Hydraulics, McGraw-Hill 1959.

Appendix A

Checklist of items that must be submitted to the Environment Agency for consultation & review

- ✓ Model Report using format recommended in Section 5
- ✓ Survey Report (If appropriate)
- ✓ Data request reference from Environment Agency External Relations
- ✓ Location / site plans
- ✓ Maps of outputs – flood extents produced by the model
- ✓ Details of any challenges to the Flood Map (see Section 6)
- ✓ All model data files, including sufficient instructions allowing model to be run and viewed (time-step, runtime, initial conditions etc.) - see the model file checklist below.
- ✓ All documents and files provided electronically

Appendices:

- ✓ Data licence from the Environment Agency allowing use of our data and any associated model disclaimers
- ✓ Statement on future use of the model / IPR licence
- ✓ CV of modelling staff involved with the Flood Risk Assessment
- ✓ Model Schematic
- ✓ FEH proforma (if FEH has been used)

Model Files

HEC-RAS Models

Description	HEC-RAS file
project file	*.prj
geometric data file	*.g
steady flow data file	*.f
unsteady flow data file	*.u
plan data file	*.p
results file	*.o

ISIS Models

Description	ISIS file
river model data	*.dat
initial condition (if not in .dat file)	*.zzs
summary of output; maxima at all nodes	*.zzr
unsteady state output	*.zzn
run and error messages + bitmaps of convergence graphs	*.zzd
Binary results file	*.zzl
Run time parameters	*.ief
(Optional) Geographic schematic	*.gxy
(Optional) ISIS event files	*.ied
(Optional) calibration/verification points	*.cal
(Optional) maximum calibration/verification points	*.cus
(Optional) hydrologic boundary	*.zzb
(Optional) hydrographs	*.zzh
(Optional) FEH boundary	*.ied

TUFLOW Models

Description		TUFLOW file
File Path	Use relative path names for input files (e.g. "..\model\geometry.tgc") so that models are easily moved from one folder to another.	N/A
Control Files	TUFLOW Control File	*.tcf
	ESTRY Control File (if using 1D domain)	*.ecf
	Geometry Control File	*.tgc
	Boundary Conditions Control File	*.tbc
Data Input Files	Boundary Condition Database (bc_dbase)	*.csv
	Inflow and Outflow time series (e.g. hydrographs and hyetographs)	*.csv
	GIS files (2d_bc, 2d_mat, 2d_zln etc.)	*.mif / *.mid
	TUFLOW materials file	*tmf
Data Output File	SMS super file	*.sup
	SMS mesh file	*.2dm
	SMS data file	*.dat
	Text output of time series data	*.csv
	Files for viewing 2D and 1D domain results in GIS	*.mif / *.mid
	Flood duration outputs	
Check files	TUFLOW log file	*.tlf
	Estry log file	*.elf
	GIS formats for viewing graphically any errors, warnings and checks, the 1D network, 2D grid, 2D topography, 2D/1D boundaries and connections (e.g. 2d_grd_check)	*.mif/.mid

INFOWORKS RS (1D & 2D) Models

Description	INFOWORKS file
Transportable Database (Zipped up database containing all data: networks, events, results, ground models, calibration, etc.) NB: Data must be "checked in"	*.iwc

Appendix B

Survey Requirements for Flood Risk Assessments

Purpose of Document

This document is a statement of best practice from which is intended to improve the quality of surveys submitted to the Environment Agency South East, West Thames Area for flood risk assessments (FRA) by:

• Reducing the risk posed by using poor survey data.

• Ensuring survey is quality controlled and quality assured by the surveyor. It is their duty to ensure their work is carried out according to best practice, which includes a responsibility to carry out and document internal and independent checks of the survey.

• Making the process of validation of surveys more efficient and effective.

• Reliable and complete survey information will speed up the review of flood risk assessments.

Documentation

Every survey should be submitted with a survey report stating:

- ✓ Survey company name
- ✓ Date of survey
- ✓ Name of surveyor(s) with qualifications
- ✓ Purpose of survey and required survey accuracy with justification
- ✓ Method statement (techniques used)
- ✓ Details of source control and new control established on the site
- ✓ Manufacturer, model and serial number of survey equipment used for the survey together with calibration certificates
- ✓ Statement of results of self-checks (closures and cross-checks)
- ✓ Statement of results of independent checks
- ✓ Appendices of all survey field observations, computations and diagrams

✓ Submissions of data such as topographic survey, long sections and cross sections must be provided in a data formats agreed with modellers using the data. (i.e.) HECRAS, ISIS, XYZ

General

The model should be based on a topographic survey and/or channel survey of the watercourse. The upstream and downstream limits should be defined by the objectives of the flood risk assessment, rather than to the limits of the project / study area. The lateral extent of the survey should be sufficient to include the full extent of flooding. Guidance on this extent may come from flooding records and from the Flood Map. The extent of the survey work should be defined jointly by those undertaking the river modelling and those undertaking the survey in conjunction with advice from Environment Agency Flood Risk Mapping & Data Management staff.

The survey (and the model on which the survey is based) should continue far enough downstream so that uncertainty in the boundary condition does not significantly influence the estimated flood levels.

The cross sections surveyed should be representative of the channel and floodplain and the spacing between cross sections and orientation should be determined from the appropriate software documentation and textbooks. Consideration shall be given to the additional survey information that may be required between cross-sections in areas where detailed flood depths or extents are needed. This can be achieved by either adding further cross sections or surveying additional spot levels.

During the survey, information on structures, flood routes, potential blockages / obstructions to the channel and channel roughness should also be gathered.

All cross sections and other survey information shall be located in plan relative to the Ordnance Survey (OS) National Grid. It is considered best practice that the survey is undertaken by a land surveying company that is “Regulated by the Royal Institution of Chartered Surveyors”.

Errors

The primary objective is to control systematic and gross errors and blunders.

A systematic error is one that arises in all measurements made with particular equipment if the instrument is reading incorrectly due to constant or proportional instrument errors and / or environmental factors.

A gross error or blunder can arise through a method error, misidentification, and reading/writing errors.

Techniques

This section covers observations of the critical dimension for flood risk assessments - height / level above sea level (Ordnance Datum Newlyn (ODN)). It does not cover positioning although there may be instances where inaccurate plan affects height.

General

At least two permanent stations (e.g. PK nail in asphalt) should be established at the site of the FRA in places where they are unlikely to be disturbed. Simple descriptions (with photos) including level value are required to enable the EA to find them.

All spot levels shown on site plans / cross-sections shall be numbered and referenced to observations and field notes.

Line levelling should be carried out using a spirit level - not theodolite / total station. However, these instruments may be used to observe spot levels on a site or cross-section levels provided that a sample of points is checked by another method (e.g. spirit levelling).

Global Positioning System (GPS) or Global Navigation Satellite System (GNSS) observations

Observations must be made only with survey-grade dual frequency GPS or GNSS receivers at locations where the sky view is substantially clear above 15% elevation. New GPS control should be gross-error checked by levelling to (say) a spot level from a landline map or to an Ordnance Survey Bench Mark (OSBM). http://benchmarks.ordnancesurvey.co.uk and follow link to benchmark locator. Some minor and low risk developments do not justify the cost and time required to establish heights based upon GPS on the site. In these cases it **may** be acceptable to base the survey on OSBMs and this is at the discretion of the Agency's Development and Flood Risk Officer based on the appropriateness 'test' in PPS25.

Static GPS observations

Where static GPS observations are used to establish a benchmark, GPS baseline observations should be made to at least three source control stations (e.g. OS Net stations) for sufficient time to obtain a level of the required accuracy. Height of instrument should be checked by measuring more than once and using a different scale (e.g. feet), using two set-ups on the same point or by observing a second station with level connection between the two stations.

A text / html file of the report for at least one GPS baseline computation should be included in the survey report.

An unconstrained computation should be run holding one source control station fixed to published co-ordinates. The co-ordinates of the new GPS station are computed from this. Then the coordinates of other source control stations are computed from the new GPS station. The difference between observed and published level at unfixed source control stations should not exceed 20mm. The comparison table should be included in the survey report. A text /html file of the unconstrained computation report should be included in the appendix to the survey report.

A constrained computation should then be run. This holds all accepted source control stations fixed and computes an adjusted position for the new GPS station. A text / html file of the constrained computation report should be included in the appendix to the survey report.

Network RTK GPS

Network RTK GPS observations may be used if the accuracy of the technique is satisfactory for the purpose of the survey. Surveyor should follow The Survey Association guidance (http://www.tsa-uk.org.uk/guidance.php), published in November 2008. Self-checks and independent checks must be documented in the survey report.

Levelling

Source control for site levels and cross-section data should be GPS stations established as above. However, dependent upon the required accuracy of the survey, OSBMs may be used as source control.

The height above ODN for critical points on the site plan and for cross-section base point pegs should normally be spirit levelled. Critical points should be checked either by incorporating them as change points in a closed level loop or another form of independent check.

The survey report appendix should include a copy of the field notes for a two-peg test carried out on the level used for the survey within the previous two weeks. The test shall comprise observations before and after adjustment (if the level is adjusted).

All level runs must be closed to better than 12mm x $\sqrt{k}$, where k is the levelled distance in km. However closures should also reflect the accuracy of the levelling equipment being used.

The levelling should be connected and adjusted to two different benchmarks, to provide a self-check and an independent check. Note that the difference between levels based on OSBM source control and GPS source control may be up to 80mm within Environment Agency South East. The EA Survey Group has some data on this and can supply on request. Contact andrew.bevan@environment-agency.gov.uk stating the 1km grid ref of the site – e.g. SP 5923. Provided that these checks are made and incorporated in the levelling calculations, heights should be correct to within 0.05m.

If only one benchmark is used, a photo of the benchmark shall be included in the report with details of independent checks which were carried out (e.g. level comparison on spot heights from OS landline / mastermap mapping). Note that this is less reliable than use of two benchmarks and the EA would only expect heights surveyed using this method to be reliable to +/- 0.2m.

Please submit your Survey Report with your Flood Risk Assessment Report and modelling as part of your Planning Application submission.

Appendix C

Reviewing computer modelling for Flood Risk Assessments

As a guide, our review will consider the following aspects of the model and reporting:

General:

- Clearly defined objectives
- Flood Mechanisms identified
- Climate change considered
- Requirements discussed with Development and Flood Risk. Requirements at specific locations and design conditions (for example requirements of a freeboard and an allowance for climate change) should be discussed with local Agency staff to ensure that any site-specific factors are identified, which may require consideration when carrying out the modelling
- Site visits undertaken to ensure the model is realistic
- Appropriate approach to analysis for the site
- Checks carried out where existing models have been used, at key locations to ensure that the model / levels provided are compatible with current conditions. Changes summarised in report
- Location details and site plans provided
- Suitably qualified and experienced staff involved in building the model

Survey Data (see Appendix B regarding our survey requirements):

- Survey data used is current / appropriate
- Survey report submitted for checking
- Extent of the survey is sufficient to include the full extent of flooding. Extends far enough downstream so that uncertainty in the boundary condition does not significantly influence the estimated flood levels
- Representative spacing of the cross sections
- All hydraulically significant structures surveyed

Hydrometric Data:

- Relevant available flow, level and rainfall data used
- Hi-Flows database (v3.1.1) consulted to update records and check suitability of sites for use

Historic Data:

- Existing information on extent or depth of flood events provided

Hydrological assessment:

- Details of the hydrological analysis and justification for using the chosen method provided
- Justification if FEH methods have not been used
- Audit trail provided and all decisions justified
- Proforma provided for FEH calculations
- Justification provided if ReFH has been used in place of the statistical method
- Local data / knowledge used in the assessment / confidence in hydrometric assessment of gauge data considered
- Consideration of gauge station design & history
- Extent of gauge bypassing at high flows
- Effect of weed growth/blockages at the gauge
- Rating curves up to date for this assessment
- Calibrated and verified model using existing gauging station data, with regard to any limitations with this data
- If data is available, three events should be used for calibration, and 1 additional event for verification.
- URBEXT 2000 used plus update if there have been significant changes in the catchment
- Catchment boundary checks

Model Building:

- Initial conditions, choice of parameters, boundary locations and conditions
- Representation of key flow routes, storage and structures
- Methodology clearly stated

Model calibration, verification and sensitivity testing:

- Calibration attempted and appropriate
- Sensitivity tests carried out on parameters expected to have a major effect on predicted water levels, or if there is uncertainty in the parameters adopted
- Discussion of limitations of the model

Model accuracy and stability:

- Confidence limits stated for the model results (+/-mm)
- Discussion of model stability around the peak

Appendix D

a) Flood Estimation Calculation Record

b) Flood Estimation Calculation Record for single sites

(Separate attachments)

Would you like to find out more about us, or about your environment?

Then call us on

03708 506 506 (Mon-Fri 8-6)

Calls to 03 numbers cost the same as calls to standard geographic numbers (i.e. numbers beginning with 01 or 02).

email

enquiries@environment-agency.gov.uk

or visit our website

www.environment-agency.gov.uk

incident hotline 0800 80 70 60 (24hrs)
floodline 0845 988 1188

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Thames Area Climate Change Allowances

Guidance for their use in flood risk assessments

Jan 2017

We recently updated our national guidance on climate change allowances for Flood Risk Assessments. The following information provides additional local guidance which applies to developments within our Thames area boundary.

Climate change allowances - overview

The National Planning Practice Guidance refers planners, developers and advisors to the Environment Agency to our guidance on considering climate change in Flood Risk Assessments. We updated this guidance in February 2016 and it should be read in conjunction with this document to inform planning applications, local plans, neighbourhood plans and other projects. It provides:

- Climate change allowances for peak river flow, peak rainfall, sea level rise, wind speed and wave height
- A range of allowances to assess fluvial flooding, rather than a single national allowance
- Advice on which allowances to use for assessments based on vulnerability classification, flood zone and development lifetime

Updated climate change allowances guidance:

https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances

National Planning Practice Guidance:

http://planningguidance.communities.gov.uk/

Assessing climate change impacts on fluvial flooding

Table A below indicates the level of technical assessment of climate change impacts on fluvial flooding appropriate for new developments depending on their scale and location (flood zone). Please note that this should be used as a guide only. Ultimately, the agreed approach should be based on expert local knowledge of flood risk conditions, local sensitivities and other influences.

Applicants and consultants may contact the Environment Agency at the pre-planning application stage to confirm the assessment approach on a case-by-case basis. We provide standard guidance free of charge or bespoke advice for a fee for developments for which we are a statutory consultee. If your development is instead covered by Flood Risk Standing Advice, we recommend you contact the relevant Local Planning Authority for their guidance and confirmation of the assessment approach. Flood Risk Standing Advice can be found here:

https://www.gov.uk/flood-risk-assessment-local-planning-authorities

Table A defines three possible approaches to account for flood risk impacts due to climate change in new development proposals:

1. **Basic -** Developer can add an allowance to the 'design flood' (i.e. 1% annual probability) peak levels to account for potential climate change impacts. The allowance should be derived and agreed locally by Environment Agency teams.
2. **Intermediate -** Developer can use existing modelled flood and flow data to construct a stage-discharge rating curve, which can be used to interpolate a flood level based on the required peak flow allowance to apply to the ‘design flood’ flow.
3. **Detailed -** Perform detailed hydraulic modelling, through either re-running Environment Agency hydraulic models (if available) or construction of a new model by the developer.

Table A – Indicative guide to assessment approach

Vulnerability classification	Flood zone	Assessment by development type		
		Minor	Small-Major	Large-Major
Essential infrastructure	Zone 2	Detailed		
	Zone 3a	Detailed		
	Zone 3b	Detailed		
Highly vulnerable	Zone 2	Intermediate/Basic	Intermediate/Basic	Detailed
	Zone 3a	Not appropriate development		
	Zone 3b	Not appropriate development		
More vulnerable	Zone 2	Basic	Basic	Intermediate/Basic
	Zone 3a	Basic	Detailed	Detailed
	Zone 3b	Not appropriate development		
Less vulnerable	Zone 2	Basic	Basic	Intermediate/Basic
	Zone 3a	Basic	Basic	Detailed
	Zone 3b	Not appropriate development		
Water compatible	Zone 2	None		
	Zone 3a	Intermediate/Basic		
	Zone 3b	Detailed		

Definitions of terms in Table A

Minor

1-9 dwellings/less than 0.5 ha; office/light industrial under 1ha; general industrial under 1 ha; retail under 1 ha; travelling community site between 0 and 9 pitches.

Small-Major

10 to 30 dwellings; office/light industrial 1ha to 5ha; general industrial 1ha to 5ha; retail over 1ha to 5ha; travelling community site over 10 to 30 pitches.

Large-Major

30+ dwellings; office; light industrial 5ha+; general industrial 5ha+; retail 5ha+; gypsy/traveller site over 30+ pitches; any other development that creates a non-residential building or development over 1000 sqm.

Further info on vulnerability classifications:

http://planningguidance.communities.gov.uk/blog/guidance/flood-risk-and-coastal-change/flood-zone-and-flood-risk-tables/table-2-flood-risk-vulnerability-classification/

Further info on flood zones:

http://planningguidance.communities.gov.uk/blog/guidance/flood-risk-and-coastal-change/flood-zone-and-flood-risk-tables/table-2-flood-risk-vulnerability-classification/

Specific local considerations

Where the Environment Agency and the applicant or their consultant has agreed that a basic level of assessment is appropriate, the figures in Table B below can be used as an allowance for potential climate change impacts on peak design (i.e. 1% annual probability) fluvial flood level rather than undertaking detailed modelling.

Table B – Local allowances for potential climate change impacts

Watercourse	Central	Higher central	Upper
Thames	500mm	700mm	1000mm

Use of these allowances will only be accepted after discussion with the Environment Agency.

Fluvial food risk mitigation

Please use the national guidance to find out which allowances to use to assess the impact of climate change on flood risk.

For planning consultations where we are a statutory consultee and our Flood Risk Standing Advice does not apply, we use the following benchmarks to inform flood risk mitigation for different vulnerability classifications.

These benchmarks are a guide only. We strongly recommend you contact us at the pre-planning application stage to confirm this on a case-by-case basis. Please note you may be charged for pre-planning advice.

For planning consultations where we are not a statutory consultee or where our Flood Risk Standing Advice does apply, we recommend local planning authorities and developers use these benchmarks but we do not expect to be consulted.

Essential Infrastructure

For these developments, our benchmark for flood risk mitigation is for it to be designed to the **upper end** climate change allowance for the epoch that most closely represents the lifetime of the development, including decommissioning.

Highly Vulnerable

For these developments in flood zone 2, the **higher central** climate change allowance is our minimum benchmark for flood risk mitigation. In sensitive locations it may be necessary to use the **upper end** allowance.

More Vulnerable

For these developments in flood zone 2, the **central** climate change allowance is our minimum benchmark for flood risk mitigation. In flood zone 3 the **higher central** climate change allowance is our minimum benchmark for flood risk mitigation. In sensitive locations it may be necessary to use the **higher central** (in flood zone 2) and the **upper end** allowance (in flood zone 3).

Water Compatible or Less Vulnerable

For these developments, the **central** climate change allowance for the epoch that most closely represents the lifetime of the development is our minimum benchmark for flood risk mitigation. In sensitive locations it may be necessary to use the **higher central** to inform built in resilience, particularly in flood zone 3.

Further info on our Flood Risk Standing Advice:

https://www.gov.uk/guidance/flood-risk-assessment-local-planning-authorities

There may be circumstances where local evidence supports the use of other data or allowances. Where you think this is the case we may want to check this data and how you propose to use it.

For more information

Please contact our Thames area Customers and Engagement team:

Enquiries_THM@environment-agency.gov.uk

From:	ESP Utilities Group Ltd
To:	Ian Wallis
Subject:	Your Reference: TR010030-TR010030-000008. Our Reference: PE133796. Plant Not Affected Notice from ES Pipelines
Date:	27 December 2017 14:46:55

Ian Wallis
The Planning Inspectorate
M25 Junction 10/A3 Wisley interchange improvement

27 December 2017

Reference: TR010030-TR010030-000008

Dear Sir/Madam,

Thank you for your recent plant enquiry at (TR010030-TR010030-000008).

I can confirm that ESP Gas Group Ltd has no gas or electricity apparatus in the vicinity of this site address and will not be affected by your proposed works.

ESP are continually laying new gas and electricity networks and this notification is valid for 90 days from the date of this letter. If your proposed works start after this period of time, please re-submit your enquiry.

Important Notice
Please be advised that any enquiries for ESP Connections Ltd, formerly known as British Gas Connections Ltd, should be sent directly to us at the address shown above or alternatively you can email us at: PlantResponses@espipelines.com

Yours faithfully,

Alan Slee
Operations Manager

Bluebird House

Mole Business Park
Leatherhead
KT22 7BA
☎ 01372 587500 🖹 01372 377996

http://www.espug.com

Forestry Commission England

Gail Boyle
Senior EIA and Land Rights Advisor
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Bristol
BS1 6PN

South East & London Area Office
Bucks Horn Oak
Farnham
GU10 4LS

Tel: 0300 0674420
southeast.fce@forestry.gsi.gov.uk

Area Director
Alison Field

11 January, 2018

Your Ref: **TR010030-000008**
M25 junction 10/A3
Wisley interchange

Dear Ms Boyle,

Thank you for your consultation on the above scheme dated 13 December 2017 which was received by the Forestry Commission via email on 13 December 2017.

The Forestry Commission's summary points are:

- Ancient Woodlands and Veteran Trees* are acknowledged as an irreplaceable habitat and a part of our Natural Heritage asset. Where loss is unavoidable, then, any compensation woodland creation should be significant. For instance, Highways England suggested a ratio of 30:1 in a presentation to us on 5th October 2017.
- Encourage wider mitigation of any loss of trees and woodlands within the project boundary.
- Ancient woodland habitats adjacent to the road improvements will be impacted by:
    - Pollution: aerial gases/nutrients/salt/heavy metals/litter; and
    - Noise disturbance.
- Where appropriate, recommended mitigation for impacts would include establishing a "continuous cover" management regime that maintains a dense multi-storey woodland structure in a belt at least 30 meter buffer adjacent to the roadside boundary (i.e. edge of road curtilage not edge of carriageway).
- Encourage you to design the associate infrastructure (green space, woodlands, public footpaths and cycleways) to build on the evolving network of green infrastructure linking the adjacent conurbations to the countryside. There are a range of options for green infrastructure delivery and the Forestry Commission would draw your attention to what has already been achieved in just 10 years at Jeskyns[1].
- Ensuring woodlands are protected and managed will also contribute to meeting the new requirements of Schedule 4 of the EIA Regulations (2017). Careful consideration of the role trees and woodlands play in the Scheme will ensure delivery of a more resilient landscape and contribute towards reducing greenhouse emissions, increasing carbon sequestration and to the wider climate change agenda.
- Locally sourced timber is used in construction of appropriate structures including sound baffles.

[1] https://www.forestry.gov.uk/jeskyns

(*Note: Ancient Woodlands includes Ancient Semi-Natural Woodland (ASNW) and Plantations (including conifers) on Ancient Woodland Sites (PAWS).

Overall, we recommend that Highways England consider how they can optimise the Natural Capital Value of the compensation woodland creation and woodland management to enhance the network of greenspace in this rapidly growing area. As highlighted in the Government's recently release document: A Green Future: Our 25 Year Plan to Improve the Environment[2]

> "The value of natural capital is routinely understated. If we look at England's woods and forests, for example, as a national asset, using a natural capital approach, the value of the services they deliver is an estimated £2.3bn. Of this sizeable sum, according to a recent study, only a small proportion – 10% – is in timber values. The rest derives from other benefits provided to society, such as human recreation and carbon sequestration".

The Forestry Commission is the Government Department that works with others to protect, improve and expand our nation's forests and woodland, increasing their value to society and the environment. As recognised in the Government Forestry and Woodlands Policy Statement (2013)[3]:

> "New and better managed woodland also has a role in making our rural and urban landscapes more resilient to the effects of climate change. Our objectives for sustainable woodland creation and management will improve woodlands' resilience to climate change and other threats and enhance its contribution to wider climate change adaptation. Carbon will be sequestered through the growth of new woodlands. The wood products that are harvested from England's woodlands will help to reduce greenhouse emissions from the energy sector directly as woodfuel and from other sectors where timber replaces more energy intensive materials. In addition, our focus on protection will help to ensure that we can safeguard the large store of carbon in England's woodlands."

The Forestry Commission is the Government experts on forestry & woodland and a statutory consultee (as defined by Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms And Procedures) Regulations 2009)[4] for major infrastructure (Nationally Significant Infrastructure Projects (NSIPS)) that are likely to affect the protection or expansion of forests and woodlands (Planning Act 2008)[5].

The Forestry Commission's response is based on information provided in the Highways England M25 Junction 10/A3 Wisley Interchange Environmental Scoping Report dated 6 December 2017. This response highlights matters which should be resolved as part of the pre-application process. We believe that these issues should be addressed by the applicant as part of the examination and consenting process before development consent is granted.

[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/673203/25-year-environment-plan.pdf
[3] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221023/pb13871-forestry-policy-statement.pdf
[4] http://www.legislation.gov.uk/uksi/2009/2264/contents/made
[5] http://www.legislation.gov.uk/uksi/2009/2264/schedule/1/made

M25 J10 / A3 Wisley Interchange Environmental Scoping Report (the Report)

1. Introduction
1.4. Structure and contents of the Scoping Report

This section of the Report outlines the requirements of The Infrastructure Planning (Environmental Impact Assessment) Regulations (2017)[6], and the approach taken in the Report to meet these requirements. The Report has also noted the new requirement of the EIA Regulation (2017) to address Climate. As noted in Schedule 4, Part 5(f) [7], this must also include a description of the likely significant effects of the development on the environment resulting from "the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change".

1.7. Key legislation and policy
Policy Overview

The Report has correctly highlighted that Regulation 5 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the EIA to identify, describe and assess direct and indirect significant effects of the proposed development on biodiversity (with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC), Land, soil, water, air, climate, cultural heritage and the landscape.

To ensure compliance with the requirements of Part 2c, Regulation 14 of Infrastructure Planning (Environmental Impact Assessment) Regulations (2017), it is important that the applicant includes at least "a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment".[8] As recognised in the European Commission Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment, "climate change and biodiversity are generally complex issues with long-term impacts and consequences. EIAs that aim to properly address biodiversity and climate should take this into account and assess the combined impact of any number of different effects. This requires an understanding of evolving baseline trends and an assessment of the cumulative effects of the project on the changing baseline." [9]

2. The Project
2.2. Project objectives

This section of the Report outlines the Client Scheme Requirements including:

- support compliance with the UK's legally binding limits and targets on air quality and water quality status and support targets to cut greenhouse gas emissions; and,
- through good design, ensure the Scheme's contribution to the quality of the surrounding environment, addressing existing problems wherever feasible, avoiding, mitigating or compensating for significant adverse impacts and promoting opportunities to deliver positive environmental outcomes.

[6] http://www.legislation.gov.uk/uksi/2017/572/contents/made
[7] http://www.legislation.gov.uk/uksi/2017/572/schedule/4/made
[8] http://www.legislation.gov.uk/uksi/2017/572/regulation/14/made
[9] http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf

To meet the requirements, the Forestry Commission would like to reiterate the importance of all woodlands in making our rural and urban landscapes more resilient to the effects of climate change and contribution to wider climate change adaptation. Consideration for how sustainable woodland creation and management of England's Woodlands can be secured and the use of timber as a construction material is utilised within this scheme will secure the role that woodlands have in reducing greenhouse emissions and carbon sequestration.

To this end, the Forestry Commission would recommend consideration of the role trees and woodlands would contribute towards the Scheme's ability to deliver a more resilient landscape and contribute towards reducing greenhouse emissions, increasing carbon sequestration and contribution to wider climate change mitigation and adaptation.

4.3. Proposed EIA approach for the Scheme
Establishment of baseline conditions

The Report acknowledges the need to establish a baseline and to clearly identify receptors that may be affected and their value or sensitivity to potential change. The Forestry Commission would suggest taking a Natural Capital Assessment approach at an early stage. As well as ensuring the environmental costs are adequately considered in assessing public benefit, a Natural Capital approach will also give the applicant a baseline with which to use when planning compensation / mitigation. The applicant will be able to demonstrate for example the current Natural Capital value of a woodland asset before the scheme commences, then plan how that woodland can be managed in the future to increase its Natural Capital value and therefore the Ecosystem Service benefits that will be derived from it. This approach will also help to demonstrate how net biodiversity gain will be achieved.

7. Biodiversity
7.3. Planning and policy context
National Policy Statement for National Networks 2014
National Planning Policy Framework 2012
Local Planning Policy

The Forestry Commission welcomes the recognition and inclusion of ancient woodlands and veteran trees. Also, through the assessment of local planning policies, the recognition for the need:
(Elmbridge Borough Council: CS15 – Biodiversity)

- to protect all woodlands, including ancient woodlands from damaging development and land uses;
- Promoting the effective management, and where appropriate, extension and creation of new woodland areas including, in association with areas of major development, where this helps to restore and enhance degraded landscapes, screen noise and pollution, provide recreational opportunities, help mitigate climate change, and contributes to floodplain management;
- Replacing woodland unavoidably lost through development with new woodland on at the same scale;
- Promoting and encouraging the economic use of woodlands and wood resources, including wood fuels as renewable energy source; and
- Promoting the growth and procurement of sustainable timber products.

(Elmbridge Borough Council: DM6- Landscape and trees)

- Encourages adaption to climate change, for instance by incorporating Sustainable Drainage Systems (SuDS), providing areas for flood mitigation, green roofs, green walls, tree planting for shade, shelter and cooling and a balance of hard and soft element;
- Adequately protects existing trees including their root systems prior to, during and after construction process;
- Would not result in the loss or deterioration of irreplaceable habitats including ancient woodland and ancient or veteran trees, unless in exceptional circumstances the benefits would outweigh the loss; and
- Includes proposals for the successful implementation, maintenance and management of landscape and tree planting schemes.

In addition to the regulatory and policy framework outlined in the report, the Forestry Commission considers the relevant documents and guidance notes outlined below as being pertinent to this DCO in relation to woodlands including ancient woodland and veteran trees and should also be included in the report considerations.

The UK Forestry Standard (4th edition published August 2017).

Managing ancient and native woodland in England (last updated August 2016)

National Planning Practice Guidance – Natural Environment Guidance (published January 2016)

Our plan to protect and increase biodiversity – Highways England biodiversity plan (published June 2015)

Standing Advice for Ancient Woodland and Veteran Trees (published April 2014, updated November 2017)

European Commission Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment (published 2013)

Natural England Commissioned Report (NERC 132) Edition 3 (published November 2013)

BS 42020:2013 Biodiversity. Code of practice for planning and development (published August 2013)

Ancient and other veteran trees: further guidance on management (published February 2013)

Government Forestry and Woodlands Policy Statement (published January 2013)

Impacts of nearby development on ancient woodland – addendum (published December 2012)

BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (published April 2012)

Biodiversity 2020: a strategy for England's wildlife and ecosystem services (published August 2011).

Natural Environment White Paper "The Natural Choice" (published June 2011)

Impacts of nearby development on the ecology of ancient woodland (published October 2008)

Keepers of Time – A Statement of Policy for England's Ancient and Native Woodland (published June 2005).

A Habitats Translocation Policy for Britain – (published July 2003)

Veteran Trees: A guide to good management – (published February 2000)

7.4 Baseline conditions

The report outlines the sources used to identify the ecological baseline conditions for the Scheme. Once again, the Forestry Commission welcomes the recognition and inclusion of ancient woodlands and veteran trees as part of this assessment. To meet the new requirements for climate outlined in Regulations 5 and 14 of the EIA Regulations (2017), the Forestry Commission would recommend that all woodlands are included as part of the ecological baseline conditions assessment.

Designated Sites
Ancient Woodlands and Veteran trees outside of ancient woodlands
Habitats

Ancient woodlands and veteran trees are included in the list of protected species as highlighted on the Natural England website[10]. The Forestry Commission welcome the recognition in the Report given to ancient woodlands as being an irreplaceable habitat.

In the absence of an environmental constraints map that outlines the 1km boundary, it is not possible for the Forestry Commission to fully comment on impact of ancient woodland and other woodland sites that fall within the 1km boundary.

As highlighted in the Natural Environment section of the National Planning Practice Guidance (NPPG) under Biodiversity and ecosystems[11]:

> "Both Ancient Semi-Natural Woodland (ASNW) as well as Plantations on Ancient Woodland Sites (PAWS) are ancient woodland. Both types should be treated equally in terms of the protection afforded to ancient woodland in the National Planning Policy Framework."

All ASNW, PAWS and ancient woodland areas should be included in the study area to:

- ensure these areas are treated equally in terms of protection afforded to ancient woodlands; and,
- to secure the future of one of the most diverse ecosystems in perpetuity.

The habitats section of the report has recognised that veteran pedunculated oak trees are present in the woodlands to the north-west of the scheme. Therefore, the Forestry

[10] https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications
[11] https://www.gov.uk/guidance/natural-environment

Commission would recommend that the location of the veteran pedunculated oak trees is confirmed and included in the Ancient Woodlands and Veteran trees outside of ancient woodlands section of the report.

In line with the NPPG, the Forestry Commission recommends that these tables clearly defines the status of all ancient woodland sites, Ancient Semi-Natural Woodland (ASNW), Plantations on Ancient Woodland Sites (PAWS), veteran trees and woodland habitats recognised as a habitat of principal importance under Section 41 of the NERC Act 2006[12] are included in all survey work and study reports. This will ensure that a thorough assessment will acknowledge the impacts on any potential losses of irreplaceable and important woodland habitats.

Ancient woodlands and veteran trees are irreplaceable and are considered important for their wildlife, soils, recreation, cultural value, history and contribution to the landscape. Therefore, ancient woodlands and veteran trees must be included in all future habitat* and species surveys in relation to the Scheme within the application boundary of the Project. The Forestry Commission have noted the comment that through the desktop study, no ancient or veteran trees have been located within 50m of the scheme, and that an arboricultural assessment of the Scheme has not yet been conducted. (*Note: When using a BS5837:2012 Cascade chart[13] for tree quality assessment, ancient woodlands would automatically be classified as A3 due to their natural heritage and ecological value.)

Due to the nature of ancient woodlands and veteran trees being an irreplaceable habitat, the Forestry Commission recommends that every effort is afforded to avoid this scheme affecting ancient woodlands or veteran trees. The Planning Inspectorate and applicant should start by looking for ways to avoid the development affecting ancient woodland or veteran trees e.g. by redesigning the scheme in line with the recommendations outlined in BS 5837:2012[14]. It is not possible to fully compensate for the loss or damage to ancient woodlands, thus compromising Highways England's aim to achieve no net loss of biodiversity by 2020 as set out in their strategy document: 'Our plan to protect and increase biodiversity' (Highways England 2015)[15].

Consideration must also be given to lowland beech, lowland mixed deciduous woodland, wet woodland, wood pasture and parkland[16]. Under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006[17], these habitats "are of principal importance for the purpose of conserving biodiversity." Therefore, these woodland habitats must also be included in all future habitat surveys to ensure adherence to the requirements of the National Policy Statement National Networks (NPSNN) report as outlined below:

Paragraph 5.25

> "As a general principle, and subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot

[12] http://www.legislation.gov.uk/ukpga/2006/16/section/41
[13] http://www.flac.uk.com/wp-content/uploads/2012/09/Table-1_flac.pdf
[14] https://shop.bsigroup.com/ProductDetail/?pid=000000000030213642
[15] http://scate.org.uk/wp-content/uploads/2015/07/Highways_England_Biodiversity_Plan.pdf
[16] http://jncc.defra.gov.uk/page-1437
[17] http://www.legislation.gov.uk/ukpga/2006/16/section/41

be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought."

The habitats section of the report has recognised that the most abundant habitat within the scheme is mixed woodland. The Forestry Commission would welcome the opportunity to work with the applicant to review how the Natural Capital value of these woodlands can be increased.

To ensure compliance with the climate change requirements outlined in Schedule 4 of the EIA Regulation, and in recognition of the role that forestry and woodlands have in contribution to wider climate change adaptation as outlined in the Government's Policy Statement on forestry and woodlands (2013), the Forestry Commission would also recommend inclusion of all woodland sites that fall within the scheme boundary.

7.5. Potential impacts
Designated sites

The section of the report outlines the permanent and temporary land take that will occur during delivery of the scheme. As outlined in the Government Forestry and Woodland Policy Statement, the Government is fully committed to protecting our trees, woods and forests, improving our valuable woodland assets, expanding our woodland resource to 12% by 2060 and realising more of our woodlands' value. In recognition of this, the Forestry Commission would request further information on how much of this land take has tree cover to avoid net deforestation through delivery of this scheme.

Ancient Woodlands and Veteran trees outside of ancient woodlands

In regard to loss of ancient woodland, the report has proposed that temporary loss of ancient woodland will count as permanent loss. The Forestry Commission appreciate the recognition given to the impacts to ancient woodland soils that any disturbance will have. Please note comment above which highlights ASNW and PAWS sites are afforded the same status as ancient woodlands.

Due to the nature of ancient woodlands and veteran trees being an irreplaceable habitat, the Forestry Commission recommends that every effort is afforded to avoid this scheme affecting ancient woodlands or veteran trees. The Planning Inspectorate and applicant should start by looking for ways to avoid the development affecting ancient woodland or veteran trees e.g. by redesigning the scheme in line with the recommendations outlined in BS 5837:2012[18]. It is not possible to fully compensate for the loss or damage to ancient woodlands, thus compromising Highways England's aim to achieve no net loss of biodiversity by 2020 as set out in their strategy document: 'Our plan to protect and increase biodiversity' (Highways England 2015)[19].

The Forestry Commission would also highlight the *Irreplaceable habitats including ancient woodland and veteran trees* section of the National Policy Statement National Networks (NPSNN):

Paragraph 5.32

"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

[18] https://shop.bsigroup.com/ProductDetail/?pid=000000000030213642
[19] http://scate.org.uk/wp-content/uploads/2015/07/Highways_England_Biodiversity_Plan.pdf

Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. 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 for this."

Notable Habitats

The Forestry Commission recommends that all woodland habitats recognised as a habitat of principal importance under Section 41 of the NERC Act 2006 are included in all future survey work to ensure that a thorough assessment will acknowledge the impacts on any potential losses of an irreplaceable habitat.

The Forestry Commission would welcome the opportunity to work with the applicant to look at how to minimise any loss, and to avoid loss of ancient woodland and notable habitats through temporary land take.

7.6. Proposed level and scope of assessment
Table 7-8: Nature conservation receptors that will be subject to further assessment
Table 7-9: Valuation of nature conservation features

The Forestry Commission note that ancient woodlands and notable habitats, including lowland mixed deciduous woodland, wood pasture and parklands are included in *Table 7-8: Nature conservation receptors that will be subject to further assessment*.

The Forestry Commission appreciate nature conservation features including ancient woodland and veteran trees have been valued in accordance with the Interim Advice Note 130/10Ecology and Nature Conservation: Criteria for Impact Assessment[20] as outlined in Table 7-9.

The Forestry Commission would seek clarity of the status and location of all woodland including ancient woodland and lowland mixed deciduous woodland habitats within the Scheme boundary.

The Forestry Commission acknowledge that the Report has recognised that the final Scheme Design has the potential to result in the direct loss of some ancient woodland and other lowland mixed deciduous woodland, wood pasture and parkland. The Forestry Commission would welcome the opportunity to provide advice at the appropriate time to ensure the most applicable measures are adopted to minimise and / or compensate for the impacts on all woodlands, particularly Ancient Woodland sites.

To meet the Government's objective to improve woodlands' resilience to climate change and contribute to climate change adaptation, along with addressing climate change as part of the new requirements outlined in Schedule 4 of the EIA Regulation (2017), the Forestry Commission would recommend that impacts to all woodlands are

[20] http://www.standardsforhighways.co.uk/ha/standards/ians/pdfs/ian130.pdf

assessed to allow an in-depth appreciation of the beneficial and adverse environmental consequences at the geographic scale of the Scheme. From these results, the Forestry Commission will be able to work with the applicant to identify appropriate measures that will avoid, reduce and / or compensate for significant effects to woodlands due to the construction and operation phases of the Scheme.

Ancient Woodlands

As the government experts on forestry & woodland and a statutory consultee (as defined by Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms And Procedures) Regulations 2009) for major infrastructure (Nationally Significant Infrastructure Projects (NSIPS)), the Forestry Commission would welcome the opportunity to discuss with the applicant to value ancient woodlands and to consider options for addressing issues with regard to the M25 J10 / A3 Wisley Interchange NSIP.

7.7. Proposed assessment methodology

This section of the report outlines the desk-based and field-based surveys that will be undertaken to gain an understanding of the baseline environmental condition within the Ecological zone of Influence. Assessments will take into account onsite impacts and those that may occur to adjacent and more distant ecological features. This will include direct loss and fragmentation or isolation of habitats.

The work to be carried out will follow guidance from the Guidelines for Ecological Impact Assessment in the UK and Ireland and IAN 130/10 Ecology and Nature Conservation: Criteria for Impact Assessment. The Forestry Commission would recommend that all assessments also comply with the requirements of the NPSNN and the NPPF.

Where significant effects are considered likely, the assessment will determine the features that require measures to mitigate potential impacts, and to guide the type and scale of mitigation and / or compensation required, in consultation with key stakeholders. The assessment will also consider cumulative effects as described in Chapter 15.

In landscapes fragmented by development, the Lawton Report[21] has concluded that isolated habitats and nature reserves are not sufficient to maintain ecological connectivity because species are unable to move. Therefore, the principle of "no net loss of biodiversity by 2020" must be quality rather than quantity.

The Forestry Commission would be pleased to work with the applicant to consider the impacts of this scheme to maximise the environmental benefits that can be achieved by working in partnership. We would be pleased to advise further on these opportunities to consider biodiversity impacts and possible cumulative impacts at the wider landscape scale.

21 http://webarchive.nationalarchives.gov.uk/20130402170324/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf

7.9. Potential mitigation measures

The Report has made design suggestions based on current understanding of the nature conservation constraints and opportunities. These include:

- "Opening up of the woodland either side of the new Cockrow bridge, in order to encourage heathland regeneration, and create a continuous connected belt of heathland habitat between the two quadrants"
  The Forestry Commission would recommend retention of the visual impact of woodland adjacent to the A3 for screening purposes. For the remaining areas, where felling of woodland to use the land for a different purpose is proposed, this may be subject to Environmental Impact Assessment (Forestry) (England and Wales) Regulations 1999. The Forestry Commission website[22] provides further advice on the area threshold for proposed projects. Consequently we recommend that a heathland connection is established as a 'heathy woodland' rather than open heath.

- "Restoration of heathland and sandy habitats within temporarily cleared areas of woodland within the SPA/SSSI. Cleared areas will be managed to allow heathland regeneration, and excess sandy soils will be used to create features, such as exposed banks to support key invertebrates, a qualifying feature of the SSSI"
  The Forestry Commission requests clarity of the strategic view of what the habitat requirement post scheme development will be. Where land cover is currently woodland, then conversion to heathland must be clearly justified. Assuming the temporarily cleared woodlands are for the proposed locations of the works sites then proposals need to reflect the best after-use of that part of the site.
  If the proposed area is adjacent to the road and within the road curtilage, then the Forestry Commission would recommend that the applicant and Natural England work with the Forestry Commission to agree what the woodland immediately outwith the curtilage of the refurbished road will need to deliver. A belt of woodland managed under a Continuous Cover regime would provide visual and to a degree audible and air filtering screening between the well-used commons and the road.

- A multi-functional bridge linking the south-west and north-west quadrants. This bridge could be designed to support vegetation and provide connectivity between Wisley Common and the woodland and heathland within the north-west quadrant. This bridge may contain vegetation, connecting the habitats on either side of the bridge
  This is in keeping with paragraph 5.36 of the National Policy Statement National Networks (NPSNN) which states "opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals, for example through techniques such as the 'greening' of existing network crossing points, the use of green bridges and the habitat improvement of the network verge." The Forestry Commission welcomes this suggestion and would refer the applicant to the A21 at Scotney Castle in Kent example[23].

[22] https://www.forestry.gov.uk/england-eia
[23] https://www.gov.uk/government/news/green-bridges-safer-travel-for-wildlife

- "Felling of some wooded areas within the north-west quadrant, in order to encourage heathland regeneration and increase the existing areas of heathland within this quadrant"
  Any loss of woodland would require mitigation to ensure compliance with the Government's commitment to no net loss of woodland. Therefore, where conversion of woodland to a different landuse is proposed, this may be subject to Environmental Impact Assessment (Forestry) (England and Wales) Regulations 1999.

- "Soil from any ancient woodland to be lost to be translocated to a compensation area for woodland planting"
  As highlighted in the Joint Nature Conservation Committee (JNCC) Habitat Translocation Policy document[24]:
  > "Available information shows that it is not possible to move species assemblages without substantial changes taking place in the structure of the habitat and its species composition, thus rendering the translocation unsuccessful."

  Through a literature review of case studies to address environmental impacts of linear transport infrastructure on protected species and habitats, Edition 3 of the Natural England Commissioned Report (NERC 132)[25] reiterates the message that "translocation of ancient woodland soils and coppiced stools does not imply that these methods mitigate the loss of ancient woodland." and that "the measure should not be interpreted as a successful means of mitigating the fragmentation of ancient woodland; a resource which cannot be re-created through tree planting or habitat translocation due to its complex structure and wider-ranging biodiversity."

The Planning Inspectorate should use planning conditions or obligations to secure compensation measures and subsequent ecological monitoring. The joint Standing Advice, prepared by Forestry Commission and Natural England, provides advice and the assessment tools to be used when assessing the impacts of the A2 Bean and Ebbsfleet Junction Improvement NSIP.

Where the impacts cannot be fully avoided, compensatory habitat provision will be required. The Forestry Commission will of course provide advice on impacts to ancient woodland outside of SSSI sites. For ancient woodlands within SSSI sites, we would provide advice alongside colleagues from Natural England as the scheme progresses towards the submission stage.

The Forestry Commission would also encourage the inclusion of measures to build the evolving network of green infrastructure to link the adjacent conurbations to the countryside. This will aid the promotion of help encourage people to access the countryside by the local community for quiet enjoyment. There are a range of options for green infrastructure and the Forestry Commission would draw attention to what has been achieved at Jeskyns. Linking Jeskyns to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of landscape scale green infrastructure.

[24] http://jncc.defra.gov.uk/pdf/habitats_policy.pdf
[25] http://publications.naturalengland.org.uk/publication/6184646404472832

Conclusion:

From the information supplied in the Report, we advise that in respect of loss of any woodland, particularly the loss of irreplaceable habitats which are part of our Natural Heritage and principally important habitats and ecosystems must be included in the applicant's assessment. Paragraph 5.130 of the NPSNN states:

> "The Secretary of State 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 that their conservation can make to sustainable communities – including their economic vitality. The Secretary of State should also 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, use and landscaping (for example, screen planting)."

For the loss of any woodland, the Forestry Commission would ask:

1. To explore with you how this loss could be further reduced and how direct and indirect impacts on ancient woodlands can be minimised;
2. How best to target the creation of new woodland to compensate for the loss of trees and woodlands;
3. That the applicant engages with the Forestry Commission at the earliest opportunity so that our expertise can be used to support the development of options and design of the chosen way forwards.

Outlined above are the key areas of information would be required in order to allow the applicant to proceed with delivery of this scheme with least detrimental impact to the surrounding environment, and the Examining Authority properly to undertake its task or where further work is required to determine the effects of the project and/or to flesh out compensation proposals to provide a sufficient degree of confidence as to their efficacy.

Forestry Commission's headline points are that on the basis of the information submitted, if approved, the project must be subject to all necessary and appropriate requirements which ensure that unacceptable environmental impacts either do not occur or are sufficiently compensated, as proposed in the proposed Code of Construction Practice.

If you disagree with our recommendations for the above schemes, then please consult the Forestry Commission.

Yours sincerely,

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Appendix 1: National Policy Statement for National Networks 2014

The National Policy Statement for National Networks (NPSNN), hereafter referred to as 'NPS', sets out the need for, and Government's policies to deliver, development of nationally significant infrastructure projects (NSIPs) on the national road and rail networks in England. It provides planning guidance for promoters of nationally significant infrastructure projects on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.

Chapter 1: Introduction

Purpose and scope

1.2 The Secretary of State will use this NPS as the primary basis for making decisions on development consent applications for national networks nationally significant infrastructure projects in England. Other NPSs may also be relevant to decisions on national networks nationally significant infrastructure projects. Under section 104 of the Planning Act the Secretary of State must decide an application for a national networks nationally significant infrastructure project in accordance with this NPS unless he/she is satisfied that to do so would:

- *lead to the UK being in breach of its international obligations;*
- *be unlawful;*
- *lead to the Secretary of State being in breach of any duty imposed by or under any legislation;*
- *result in adverse impacts of the development outweighing its benefits;*
- *be contrary to legislation about how the decisions are to be taken*

1.3 Where a development does not meet the current requirements for a nationally significant infrastructure project set out in the Planning Act (as amended by the Threshold Order), but is considered to be nationally significant, there is a power in the Planning Act for the Secretary of State, on application, to direct that a development should be treated as a nationally significant infrastructure project. In these circumstances any application for development consent would need to be considered in accordance with this NPS. The relevant development plan is also likely to be an important and relevant matter especially in respect of establishing the need for the development.

Consistency of NPS with the National Planning Policy Framework

1.17 The overall strategic aims of the National Planning Policy Framework (NPPF) and the NPS are consistent, however, the two have differing but equally important roles to play.

1.18 The NPPF provides a framework upon which local authorities can construct local plans to bring forward developments, and the NPPF would be a material consideration in planning decisions for such developments under the Town and Country Planning Act 1990. An important function of the NPPF is to embed the principles of sustainable development within local plans prepared under it. The NPPF is also likely to be an important and relevant consideration in decisions on nationally significant infrastructure projects, but only to the extent relevant to that project.

1.19 However, the NPPF makes clear that it is not intended to contain specific policies for NSIPs where quite particular considerations can apply. The National Networks NPS will assume that function and provide transport policy which will guide individual development brought under it.

1.20 In addition, the NPS provides guidance and imposes requirements on matters such as good scheme design, as well as the treatment of environmental impacts. So, both documents seek to achieve sustainable development and recognise that different approaches and measures will be necessary to achieve this.

Chapter 2: The need for development of the national networks and Government's policy

Summary of needs

Government's vision and strategic objectives for the national networks

The Government will deliver national networks that meet the country's longterm needs; supporting a prosperous and competitive economy and improving overall quality of life, as part of a wider transport system. This means:

- *Networks which support the delivery of environmental goals and the move to a low carbon economy.*
- *Networks which join up our communities and link effectively to each other.*

2.9 Broader environment, safety and accessibility goals will also generate requirements for development. In particular, development will be needed to address safety problems, enhance the environment or enhance accessibility for non-motorised users. In their current state, development, the national networks will act as a constraint to sustainable economic growth, quality of life and wider environmental objectives.

The need for development of the national road Network

2.16 Traffic congestion constrains the economy and impacts negatively on quality of life by:

- *constraining existing economic activity as well as economic growth, by increasing costs to businesses, damaging their competitiveness and making it harder for them to access export markets. Businesses regularly consider access to good roads and other transport connections as key criteria in making decisions about where to locate.*
- *leading to a marked deterioration in the experience of road users. For some, particularly those with time-pressured journeys, congestion can cause frustration and stress, as well as inconvenience, reducing quality of life.*
- *constraining job opportunities as workers have more difficulty accessing labour markets.*
- *causing more environmental problems, with more emissions per vehicle and greater problems of blight and intrusion for people nearby.* ***This is especially true where traffic is routed through small communities or sensitive environmental areas.***

Chapter 3: Wider Government policy on the national networks

Environment and social impacts

3.2 The Government recognises that for development of the national road and rail networks to be sustainable these should be designed to minimise social and environmental impacts and improve quality of life.

3.3 In delivering new schemes, the Government expects applicants to avoid and mitigate environmental and social impacts in line with the principles set out in the NPPF and the Government's planning guidance. Applicants should also provide evidence that they have considered reasonable opportunities to deliver environmental and social benefits as part of schemes. The Government's detailed policy on environmental mitigations for developments is set out in Chapter 5 of this document.

3.5 Outside the nationally significant infrastructure project regime, Government policy is to bring forward targeted works to address existing environmental problems on the Strategic Road Network and improve the performance of the network. This includes reconnecting habitats and ecosystems, enhancing the settings of historic and cultural heritage features, respecting and enhancing landscape character, improving water quality and reducing flood risk, avoiding significant adverse impacts from noise and vibration and addressing areas of poor air quality.

Chapter 4: Assessment principles

4.3 In considering any proposed development, and in particular, when weighing its adverse impacts against its benefits, the Examining Authority and the Secretary of State should take into account:

- *its potential benefits, including the facilitation of economic development, including job creation, housing and environmental improvement, and any long-term or wider benefits;*
- *its potential adverse impacts, including any longer-term and cumulative adverse impacts, as well as any measures to avoid, reduce or compensate for any adverse impacts.*

4.4 In this context, environmental, safety, social and economic benefits and adverse impacts, should be considered at national, regional and local levels. These may be identified in this NPS, or elsewhere.

4.5 Applications for road and rail projects (with the exception of those for SRFIs, for which the position is covered in paragraph 4.8 below) will normally be supported by a business case prepared in accordance with Treasury Green Book principles. This business case provides the basis for investment decisions on road and rail projects. The business case will normally be developed based on the Department's Transport Business Case guidance and WebTAG guidance. The economic case prepared for a transport business case will assess the economic, environmental and social impacts of a development. The information provided will be proportionate to the development. This information will be important for the Examining Authority and the Secretary of State's consideration of the adverse impacts and benefits of a proposed development. It is expected that NSIP schemes brought forward through the development consent order process by virtue of Section 35 of the Planning Act 2008, should also meet this requirement.

<u>Environmental Impact Assessment</u>

4.15 All proposals for projects that are subject to the European Union's Environmental Impact Assessment Directive52 and are likely to have significant effects on the environment, 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 requires an environmental impact assessment to identify, describe and assess effects on human beings,54 fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage, and the interaction between them. Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 sets out the information that should be included in the environmental statement including a description 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 of the project, and also the measures envisaged for avoiding or mitigating significant adverse effects. Further guidance can be found in the online planning portal. When examining a proposal, the Examining Authority should ensure that likely significant effects at all stages of the project have been adequately assessed. Any requests for environmental information not included in the original environmental statement should be proportionate and focus only on significant effects. In this NPS, the terms 'effects', 'impacts' or 'benefits' should accordingly be understood to mean likely significant effects, impacts or benefits.

Habitats Regulations Assessment

4.25 Where a development may negatively affect any priority habitat or species on a site for which they are a protected feature, any Imperative Reasons of Overiding Public Interest (IROPI) case would need to be established solely on one or more of the grounds relating to human health, public safety or beneficial consequences of primary importance to the environment.

Alternatives

4.26 Applicants should comply with all legal requirements and any policy requirements set out in this NPS on the assessment of alternatives. In particular:

- *The EIA Directive requires projects with significant environmental effects to include an outline of the main alternatives studied by the applicant and an indication of the main reasons for the applicant's choice, taking into account the environmental effects.*
- *There may also be other specific legal requirements for the consideration of alternatives, for example, under the Habitats and Water Framework Directives.*
- *There may also be policy requirements in this NPS, for example the flood risk sequential test and the assessment of alternatives for developments in National Parks, the Broads and Areas of Outstanding Natural Beauty (AONB).*

Criteria for "good design" for national network infrastructure

4.34 Whilst the applicant may only have limited choice in the physical appearance of some national networks infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting and design measures relative to existing landscape and historical character and function, landscape permeability, landform and vegetation.

Climate change adaptation

4.37 This section sets out how the NPS puts Government policy on climate change adaptation into practice, and in particular how applicants and the Secretary of State should take the effects of climate change into account when developing and consenting infrastructure. Climate change mitigation is essential to minimise the most dangerous impacts of climate change, as previous global greenhouse gas emissions have already committed us to some degree of continued climate change for at least the next 30 years. Climate change is likely to mean that the UK will experience hotter, drier summers and warmer, wetter winters. There is an increased risk of flooding, drought, heatwaves, intense rainfall events and other extreme events such as storms and wildfires, as well as rising sea levels.

4.38 Adaptation is therefore necessary to deal with the potential impacts of these changes that are already happening. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the provision of green infrastructure.

4.40 New national networks infrastructure will be typically long-term investments which 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 location, design, build and operation. Any accompanying environment statement should set out how the proposal will take account of the projected impacts of climate change.

Chapter 5. Generic impacts

Overview

5.2 Sufficient relevant information is crucial to good decision-taking, particularly where formal assessments are required (such as Environmental Impact Assessment, Habitats Regulations Assessment and Flood Risk Assessment). To avoid delay, applicants should discuss what information is needed with statutory environmental bodies as early as possible.

Biodiversity and ecological conservation

5.20 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. Government policy for the natural environment is set out in the *Natural Environment White Paper* (NEWP). The NEWP sets out a vision of moving progressively from net biodiversity loss to net gain, by supporting healthy, well-functioning ecosystems and establishing more coherent ecological networks that are more resilient to current and future pressures. Geological conservation relates to the sites that are designated for their geology and/or their geomorphological importance.

5.22 Where the project is subject to EIA the applicant should ensure that the environmental statement clearly sets out any likely significant effects on internationally, nationally and locally designated sites of ecological or geological conservation importance (including those outside England) on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity and that the statement considers the full range of potential impacts on ecosystems.

5.23 The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests.

5.24 The Government's biodiversity strategy is set out in *Biodiversity 2020: A Strategy for England's wildlife and ecosystem services*. Its aim is to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people. This aim needs to be viewed in the context of the challenge of climate change: failure to address this challenge will result in significant impact on biodiversity.

5.25 **As a general principle, and subject to the specific policies below, development should avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives. The applicant may also wish to make use of biodiversity offsetting in devising compensation proposals to counteract any impacts on biodiversity which cannot be avoided or mitigated. Where significant harm cannot be avoided or mitigated, as a last resort, appropriate compensation measures should be sought.**

5.26 In taking decisions, the Secretary of State 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.

5.32 **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 Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss.** 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 for this.

5.33 Development proposals potentially provide many opportunities for building in beneficial biodiversity or geological features as part of good design.80 When considering proposals, the Secretary of State should consider whether the applicant has maximised such opportunities in and around developments. The Secretary of State may use requirements or planning obligations where appropriate in order to ensure that such beneficial features are delivered.

5.36 Applicants should include appropriate mitigation measures as an integral part of their proposed development, including identifying where and how these will be secured. 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;*
- *developments will be designed and landscaped to provide green corridors and minimise habitat fragmentation where reasonable;*
- *opportunities will be taken to enhance existing habitats and, where practicable, to create new habitats of value within the site landscaping proposals, for example through techniques such as the 'greening' of existing network crossing points, the use of green bridges and the habitat improvement of the network verge.*

5.123 Some heritage assets have a level of significance that justifies official designation. Categories of designated heritage assets are: World Heritage Sites; Scheduled Monuments; Listed Buildings; Protected Wreck Sites; Protected Military Remains; Registered Parks and Gardens; and Registered Battlefields; Conservation Areas.

5.130 The Secretary of State 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 that their conservation can make to sustainable communities – including their economic vitality. The Secretary of State should also 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, use and landscaping (for example, screen planting).

5.132 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 that will be needed for any loss.

Appendix 2: National Planning Policy Framework 2012

The National Planning Policy Framework (NPPF) set out the Government's planning policies for England and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF).

Introduction:

7 *There are three dimensions to sustainable development: economic, social and environmental. These dimensions give rise to the need for the planning system to perform a number of roles:*

- ***an environmental role** – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.*

Achieving Sustainable Development:

Chapter 10: Meeting the challenge of climate change, flooding and coastal change

95 *To support the move to a low carbon future, local planning authorities should:*

- *plan for new development in locations and ways which reduce greenhouse gas emissions*

99 *Local Plans should take account of climate change over the longer term, including factors such as flood risk, coastal change, water supply and changes to biodiversity and landscape. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure.*

Chapter 11: Conserving and enhancing the natural environment

109 *The planning system should contribute to and enhance the natural and local environment by:*

- *Protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *Recognising the wider benefits of ecosystem services; and*
- *Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*

114 *Local planning authorities should set criteria based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged. Distinctions should be made between the hierarchy of international, national and locally designated sites, so that protection is commensurate with their status and gives appropriate weight to their importance and the contribution that they make to wider ecological networks.*

117 *Local planning authorities should set out a strategic approach in their Local Plans, planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure. To minimise impacts on biodiversity and geodiversity, planning policies should:*

- *Plan for biodiversity at a landscape-scale across local authority boundaries; identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;*
- *Promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan; and, _ Aim to prevent harm to geological conservation interests; and where Nature Improvement Areas are identified in Local Plans, consider specifying the types of development that may be appropriate in these Areas.*

118 ***When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles****:*

- *If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.*
- *Proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits 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 Sites of Special Scientific Interest;*
- *Development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;*
- *Opportunities to incorporate biodiversity in and around developments should be encouraged; and,*
- ***Planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss****; and.*
- *the following wildlife sites should be given the same protection as European sites:*
  - *potential Special Protection Areas and possible Special Areas of Conservation;*
  - *listed or proposed Ramsar sites; and*
  - *sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*

119 *The presumption in favour of sustainable development (paragraph 14) does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined.*

Chapter 12: Conserving and enhancing the historic environment

132 *When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss 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 heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.*

Plan-making

Local Plans

156 *Local planning authorities should set out the strategic priorities for the area in the Local Plan. This should include strategic policies to deliver:*

- *climate change mitigation and adaptation, conservation and enhancement of the natural and historic environment, including landscape.*

157 *Crucially, Local Plans should:*

- *plan positively for the development and infrastructure required in the area to meet the objectives, principles and policies of this Framework;*
- *be drawn up over an appropriate time scale, preferably a 15-year time horizon, take account of longer term requirements, and be kept up to date;*
- *be based on co-operation with neighbouring authorities, public, voluntary and private sector organisations;*
- *indicate broad locations for strategic development on a key diagram and land-use designations on a proposals map;*
- *allocate sites to promote development and flexible use of land, bringing forward new land where necessary, and provide detail on form, scale, access and quantum of development where appropriate;*
- *identify areas where it may be necessary to limit freedom to change the uses of buildings, and support such restrictions with a clear explanation;*
- *identify land where development would be inappropriate, for instance because of its environmental or historic significance; and*
- *contain a clear strategy for enhancing the natural, built and historic environment, and supporting Nature Improvement Areas where they have been identified.*

Environment

165. *Planning policies and decisions should be based on up-to-date information about the natural environment and other characteristics of the area including drawing, for example, from River Basin Management Plans. Working with Local Nature Partnerships where appropriate, this should include an assessment of existing and potential components of ecological networks. A sustainability appraisal which meets the requirements of the European Directive on strategic environmental assessment should be an integral part of the plan preparation process, and should consider all the likely significant effects on the environment, economic and social factors.*

Appendix 3: National Planning Practice Guidance

As highlighted in the Natural Environment section of the NPPG under Biodiversity and ecosystems, the Forestry Commission consider the following sections to be relevant:

What are local ecological networks and what evidence should be taken into account in identifying and mapping them?
The components of an ecological network are explained at section 2.12 of the Natural environment white paper[26].
Relevant evidence in identifying and mapping local ecological networks includes:

- *the broad geological, geomorphological and bio-geographical character of the area, creating its main landscapes types;*
- *key natural systems and processes within the area, including fluvial and coastal;*
- *the location and extent of internationally, nationally and locally designated sites;*
- *the distribution of protected and priority habitats and species[27];*
- *areas of irreplaceable natural habitat[28], such as ancient woodland or limestone pavement, the significance of which may be derived from habitat age, uniqueness, species diversity and/or the impossibilities of re-creation;*
- *habitats where specific land management practices are required for their conservation;*
- *main landscape features which, due to their linear or continuous nature, are important for the migration, dispersal and genetic exchanges of plants and animals, including any potential for new habitat corridors to link any isolated sites that hold nature conservation value, and therefore improve species dispersal;*
- *areas with potential for habitat enhancement or restoration, including those necessary to help biodiversity adapt to climate change or which could assist with the habitats shifts and species migrations arising from climate change;*
- *an audit of green space within built areas and where new development is proposed;*
- *information on the biodiversity and geodiversity value of previously developed sites and the opportunities for incorporating this in developments; and*
- *areas of geological value which would benefit from enhancement and management.*

How are ecosystems services taken into account in planning?
The National Planning Policy Framework states that the planning system should recognise the wider benefits of ecosystem services. Information about ecosystems services is in Biodiversity 2020: A strategy for England's biodiversity and ecosystems services[29]. An Introductory guide to valuing ecosystems services[30] has also been published by Defra along with a practice guide, which could, where appropriate, inform plan-making and decision-taking on planning applications. The National pollinator

[26] https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature
[27] https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications
[28] https://www.gov.uk/guidance/protected-sites-and-areas-how-to-review-planning-applications
[29] https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services
[30] https://www.gov.uk/government/publications/an-introductory-guide-to-valuing-ecosystem-services

strategy: for bees and other pollinators in England[31] is a 10 year plan to protect pollinating insects which support our food production and the diversity of our environment.

(Relevant to NPPF paragraph 109)

How can I find out whether an area is 'ancient woodland'?
A starting point to establish whether an area is ancient woodland is to look at the relevant ancient woodland inventory. These inventories comprise county maps of sites (generally greater than 2 hectares) that are thought to have been continuously wooded since 1600 AD. The national inventory[32] is published and updated by Natural England. Both Ancient Semi-Natural Woodland (ASNW) as well as Plantations on Ancient Woodland Sites (PAWS) are ancient woodland. Both types should be treated equally in terms of the protection afforded to ancient woodland in the National Planning Policy Framework.[33]

How can I find out whether trees that could be affected by a development proposal are 'aged or veteran' trees?
Guidance on the features and importance of veteran trees[34] is provided by Natural England. Local Records Centres and other organisations with an interest in trees may be able to advise on the location of known veteran trees.

(Relevant to NPPF paragraph 118)

[31] https://www.gov.uk/government/publications/national-pollinator-strategy-for-bees-and-other-pollinators-in-england
[32] http://www.gis.naturalengland.org.uk/pubs/gis/tech_aw.htm
[33] https://www.gov.uk/guidance/natural-environment#biodiversity-and-ecosystems
[34] http://publications.naturalengland.org.uk/publication/75035

Appendix 4: other relevant documents

The UK Forestry Standard[35] (4th edition published August 2017)
Page 22-23 "Areas of woodland are material considerations in the planning process and may be protected in local authority Area Plans. These plans pay particular attention to woods listed on the Ancient Woodland Inventory and areas identified as Sites of Local Nature Conservation Importance SLNCIs).

Natural England Commissioned Report (NERC 132) Edition 3: Literature review and analysis of the effectiveness of mitigation measures to address environmental impacts of linear transport infrastructure on protected species and habitats[36] (Published November 2013)
Contents: "translocation of ancient woodland soils and coppiced stools does not imply that these methods mitigate the loss of ancient woodland. Ancient woodland is an irreplaceable resource, the loss of which cannot be mitigated or compensated."
Table 4.1: the measure should not be interpreted as a successful means of mitigating the fragmentation of ancient woodland; a resource which cannot be re-created through tree planting or habitat translocation due to its complex structure and wider-ranging biodiversity.

European Commission Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment[37] (published 2013)
"climate change and biodiversity are generally complex issues with long-term impacts and consequences. EIAs that aim to properly address biodiversity and climate should take this into account and assess the combined impact of any number of different effects. This requires an understanding of evolving baseline trends and an assessment of the cumulative effects of the project on the changing baseline."

BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations[38] (published April 2012)
Trees are important elements of green infrastructure, contributing to urban cooling through evapotranspiration and providing micro-climatic effects that can reduce energy demands in buildings. They therefore represent a key resource that can significantly contribute to climate change adaptation.

Impacts of nearby development on ancient woodland – addendum[39] (published December 2012)
"If disturbance of ancient woodland is to take place then it is vital that the ecology of the wood is well documented and understood before the disturbance takes place. The connection between that woodland and other woods or remnants of woods in the area also needs to be understood as connectivity between patches of woodland is important for promoting species diversity within a landscape. Structural complexity of both the interior of the wood and the woodland edges should also be ensured to maintain habitat quality. Any restoration of woodland patches should be spatially targeted to ensure maximum success."

[35] https://www.forestry.gov.uk/ukfs
[36] http://publications.naturalengland.org.uk/publication/6184646404472832
[37] http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf
[38] https://shop.bsigroup.com/ProductDetail/?pid=000000000030213642
[39] https://www.woodlandtrust.org.uk/mediafile/100168353/Impacts-of-nearby-development-on-the-ecology-of-ancient-woodland-addendum.pdf

Biodiversity 2020: a strategy for England's wildlife and ecosystem services[40] (published August 2011).
Paragraph 2.16 - Further commitments to protect ancient woodland and to continue restoration of Plantations on Ancient Woodland Sites (PAWS).

Natural Environment White Paper "The Natural Choice"[41] (published June 2011)
Paragraph 2.53 - This has a "renewed commitment to conserving and restoring ancient woodlands".
Paragraph 2.56 – "The Government is committed to providing appropriate protection to ancient woodlands and to more restoration of plantations on ancient woodland sites".

Impacts of nearby development on the ecology of ancient woodland[42] (published October 2008)
Ancient woodland is a functionally irreplaceable resource for biodiversity that is also an important part of our cultural heritage. The aim of this review is to synthesise existing literature on the direct, indirect and cumulative effects of development on nearby woodland.

Natural Environment and Rural Communities Act 2006[43] (published October 2006)
Section 40(1) imposes a duty to conserve biodiversity:

> "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity."

Section 40(3) of the Act explains that:

> "Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat".

The duty applies to all public body (including government departments and local authorities) and extends beyond just conserving what is already there to carrying out, supporting and requiring actions that may also restore or enhance biodiversity.

Keepers of Time[44] (published June 2005)
A Statement of Policy for England's Ancient and Native Woodland.
Page 10 "The existing area of ancient woodland should be maintained and there should be a net increase in the area of native woodland".

A Habitats Translocation Policy for Britain[45] (published July 2003)
"Available information shows that it is not possible to move species assemblages without substantial changes taking place in the structure of the habitat and its species composition, thus rendering the translocation unsuccessful."

Veteran Trees: A guide to good management[46] (published February 2000)

[40] https://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services
[41] https://www.gov.uk/government/news/natural-environment-white-paper-discussion-document-record-response
[42] https://www.woodlandtrust.org.uk/mediafile/100168350/Impacts-of-nearby-development-on-the-ecology-of-ancient-woodland.pdf
[43] http://www.legislation.gov.uk/ukpga/2006/16/section/40
[44] https://www.forestry.gov.uk/keepersoftime
[45] http://jncc.defra.gov.uk/pdf/habitats_policy.pdf
[46] http://publications.naturalengland.org.uk/publication/75035

This handbook provides understanding of best practice in veteran tree management. It gives practical advice on all aspects of managing veteran trees, their habitats and dependent species. All is set in context by an understanding of the way in which trees grow, age and decay.

GUILDFORD BOROUGH

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Ms Gail Boyle
Senior EIA and Land Rights Advisor
The Planning Inspectorate
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Temple Quay House
2 The Square
Bristol
BS1 6PN

Your reference: TR010030-TR010030000008

11 January 2018

Dear Gail

Re: Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended) – Regulations 10 and 11

Application by Highways England for an Order granting Development Consent for the M25 Junction 10/A3 Wisley Interchange Improvement

Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

I refer to your letter dated 13 December 2017 regarding the above matter and to your request that the local planning authority:

- Inform the Secretary of State of the information we consider should be provided in the Environmental Statement; or
- Confirm that we do not have any comments.

The Council has reviewed Highways England's Regional Investment Programme M25 Junction 10/A3 Wisley Interchange Environmental Scoping Report dated 6 December 2017.

This review was a significant task, which was made more challenging by the consultation period running across the Christmas and New Year period. For this reason, the Council commissioned Mott MacDonald Ltd to assist with this review.

The Council has a number of comments with respect to the information that we consider should be provided in the Environmental Statement in order to ensure thorough and appropriate environmental assessment is undertaken and suitable mitigation implemented. The Council's comments are set out in the Statement of Comments/Observations in Appendix 1 of this letter.

The Council would welcome further consultation with Highways England as the scheme progresses. If you need any further assistance or wish to discuss any matters arising, please feel free to contact me.

Yours sincerely

Tracey Coleman
Director of Planning and Regeneration

Appendix 1 – Statement of Comments/Observations on the Regional Investment Programme M25 Junction 10/A3 Wisley Interchange Environmental Scoping Report 06/12/17

Appendix 1 – Statement of Comments/Observations on the Regional Investment Programme M25 Junction 10/A3 Wisley Interchange Environmental Scoping Report 06/12/17

Promoter	Highways England
Stakeholder Reviewer	Guildford Borough Council
Document Reviewed	Regional Investment Programme M25 Junction 10/A3 Wisley Interchange Environmental Scoping Report 06/12/17

ID	Chapter/ Topic/ Section	Comments/Observations
1	General Comment	The Scoping Report details potential mitigation measures within each topic chapter, however the report does not consider any environmental enhancement measures (measures that go above and beyond mitigation) - the Council believes enhancement measures should be considered throughout the preliminary design of the Scheme due to the sensitive nature of the environment in this location.
2	Chapter 1 Introduction / Section 1.2.4	The local planning authority is not the decision maker for the project.
3	Chapter 1 Introduction / Section 1.4.6	Noted that an Equality Impact assessment (EqIA) and Health Impact Assessment (HIA) will be reported separately to EIA.
4	Chapter 1 Introduction / Section 1.4.6	It is understood that a separate HIA will be undertaken for the Scheme, however It is not clear whether 'population and human health' will be considered in the ES - in accordance the Infrastructure Planning (EIA) Regulations 2017 this needs to be considered and reported in the ES. It should be made clear in the ES where this will be considered.
5	Chapter 1 Introduction / Section 1.7.3	Should use the title of the organisation of 'Guildford Borough Council' rather than the words 'Borough of Guildford'. (We note that the paragraph uses the title 'Elmbridge Borough Council' for the neighbouring lower tier authority.)
6	Chapter 1 Introduction / Section 1.7.3	The Scoping Report has not taken into account the Guildford borough Proposed Submission Local Plan: strategy and sites (Guildford Borough Council, June 2017), which was consulted upon under Regulation 19 of the Town and Country Planning (Locla Planning) (England) Regulations 2012, or the Guildford Borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017).

7	Chapter 1 Introduction / Section 1.7.3 and Table 1.2	The Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017) was submitted to the Secretary of State in December 2017. Paragraph 216 of the National Planning Policy Framework (DCLG, March 2012) states that 'From the day of publication, decision-takers may also give weight to relevant policies in emerging plans according to: ● the stage of preparation of the emerging plan (the more advanced the preparation, the greater the weight that may be given); ● the extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight that may be given); and ● the degree of consistency of the relevant policies in the emerging plan to the policies in this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given).' Whilst the emerging plan currently carries limited weight in decision taking, the weight will increase as we move through the examination process (in particular after the initial hearing sessions which are expected to begin in spring/early summer 2018) and ultimately to full weight at adoption of the new plan (current timetable indicates adoption in December 2018). Given the timescales of this project and the expected Local Plan timetable, we would suggest that the assessment takes into account those in the Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017), in particular the following policies: ● Policy S2: Planning for the borough - our spatial development strategy ● Policy P5: Thames Basin Heaths Special Protection Area ● Policy ID1: Infrastructure and delivery, which cross-references at point (4) the Appendix C Infrastructure Schedule of which schemes referenced SRN3, SRN5, SRN9 and SRN10 are of relevance. ● Policy ID2: Supporting the Department for Transport's 'Road Investment Strategy' ● Policy ID3: Sustainable transport for new developments ● Policy A35: Former Wisley airfield, Ockham ● Policy A38: Land to the west of West Horsley ● Policy A39: Land near Horsley railway station, Ockham Road North, East Horsley ● Policy A40: Land to the north of West Horsley ● Policy A43: Land at Garlick's Arch, Send Marsh/Burnt Common and Ripley ● Policy A43a: Land for new north facing slip roads to/from A3 at Send Marsh/Burnt Common ● Policy A58: Land around Burnt Common warehouse, London Road, Send.

8	Chapter 2 The Project/ Section 2.3.2	Overall it is recognised that the location of the Scheme is set in a visually attractive area with a large amount of public open space. The M25 Junction 10/A3 Wisley Interchange junction is set within a predominantly wooded area to the south-west of Cobham and south of Byfleet and it is an attractive area despite the presence of the A3 and M25. Much of the area around junction is covered by the internationally designated Thames Basin Heaths Special Protection Area (SPA) and nationally designated Ockham and Wisley Commons Site of Special Scientific Interest (SSSI), as well as designations as a Local Nature Reserve (LNR), Site of Nature Conservation Interest (SNCI) and ancient woodland. The Council would like reassurance that the construction and operation of the Scheme would not significantly impact on the visually appealing setting of the area and on the ecologically designated sites. The Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017) states as one of its Strategic Objectives is "To protect those areas designated as Thames Basin Heaths Special Protection Area, Special Areas of Conservtion, Sites of Special Scientific Interest and Areas of Outstanding Natural Beauty for their biodiversity and landscape characteristics".
9	Chapter 2 The Project/ Section 2.4.15	Specific construction, operational and long term management arrangements are not known in detail at this stage of the Scheme. Potential locations of construction compounds for the contractor have been identified and are included within the temporary land take for the Scheme. However, the Scoping Report does not detail where the construction compounds are to be located. Depending on the location these could have impacts on human health due to construction dust and noise. The Council would like to know where abouts the contractor construction compounds are planning on being located? Please note that; previously part of the former Wisley Airfield has been used as a construction depot. Please can the site of any depot be identified, as the old airfield site use has and is the subject of considerable local concern regarding both permanent and temporary use.
10	Chapter 3 Alternatives	A good level of detail has been given regarding the alternative options considered, at this scoping stage. A little more detail focussing on the differences in environmental effects from each option would be useful in the ES.
11	Chapter 4 Scope of the Assessment / Section 4.1.3	It has not been made clear where 'Population and Human Health' is covered under existing topics - this should be clarified in the ES. We also recommended that a combined / cumulative assessment is undertaken for human health, to assess the cumulative impact on human health from the Scheme, acknowledging the outcomes of assessment on human health in each of the relevant environmental topics.

12	Chapter 4 Scope of the Assessment / Section 4.3.25	The study area outlined here for Materials and Waste only considers waste arisings (within the County of Surrey), and does not consider the study area used for (the source of) material resources. This should be outlined here as per Paragraph 12.2.2 in Chapter 12 Materials and Waste.
13	Chapter 4 Scope of the Assessment / Section 4.3.30	It has been noted that a Habitat Regulation Assessment (HRA) will be undertaken in regards to the Thames Basin Heaths SPA European designated site. The Council is concerned because at this stage the HRA screening matrix has identified that Significant effects on habitats are considered likely. Consultation with Natural England has been mentioned in the Scoping report as ongoing. The Council would like to see evidence of the outcomes of such consultation and would expect Highways England to implement appropriate mitigation to ensure that no significant effects on the SPA would result.
14	Chapter 5 Air Quality / General Comment	This chapter of the scoping report closely follows all required DMRB guidance and considered appropriate for the assessment of impacts from large road schemes.
15	Chapter 5 Air Quality / Section 5.4	The background monitoring data does not include the most up to date data from the 2017 Air Quality Annual Status Report (ASR) (Guildford Borough Council, July 2017) that sets out: • The declaration of an AQMA in The Street, Compton. • The Ministerial direction dated July 2017 for Guildford Borough Council amongst other councils to undertake a Feasibility Study of air quality in and around the A331, this location having been identified by Defra's PCM model. Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/633803/air-quality-direction-2017.pdf . Whilst both of these sites are some distance from M25 Junction 10, the assessment criteria that the Council is required by the Joint Air Quality Unit (JAQU) at Defra to use for the A331 study is somewhat different to that used in the Local Air Quality Management (LAQM) process. Accordingly, we would ask HE to explain why it does not propose to use the assessment criteria that the Council is required by the Joint Air Quality Unit (JAQU) at Defra to use for the A331 study. For the A331 study, the receptor is defined as being the nearest public access, not residence or other receptor as in LAQM process (which is what HE appears to be proposing to use - see para 5.4.14). It is noted that Defra's PCM has not covered this area, but we do believe that parts of the A3 have been assessed with this model to date.

16	Chapter 5 Air Quality paragraph 5.4.13	It is not clearly stated which scenario has been used from the PCM model (baseline, CAZ or CAZ + additional measures.) Baseline scenario should be used to provide a worst case assessment.
17	Chapter 5 Air Quality paragraph 5.6.1	Modelling of construction vehicles would be welcomed. The number of construction vehicles for construction should be quantified. A clear rationale for scoping out a simple or detailed construction phase assessment should be included in the EIA when construction vehicle numbers are available.
18	Chapter 5 Air Quality / Section 5.7.6	This section notes that a simple level of assessment will be undertaken for regional emissions of NOx, PM10 and CO2 for the opening and design years, no reasoning has been given regarding this decision - this needs to be clarified in the ES.
19	Chapter 5 Air Quality paragraph 5.7.7	The EIA should confirm that the opening year (currently 2022) is worst case in terms of air quality impacts.
20	Chapter 5 Air Quality paragraph 5.7.20	We note that there will be consideration of vulnerability to major accidents and disasters. If this is included within the assessment, modelling of short term impacts should be undertaken in accordance with Defra guidelines.
21	Chapter 5 Air Quality / Section 5.8	Consultation - which local authorities will be consulted with in terms of ensuring relevant receptors are included in assessment, as the scoping report mentions several local authorities that are both within and without the ARN area? The Council requests more information on the level of consultation that has occurred to date.
22	Chapter 6 Noise and Vibration / Overall	Overall this document describes noise policy and the assessment methodology in general terms but, with the exception of consideration of receptors and NIAs, does not address the specific issues relating to this scheme in any great detail. This is appropriate at the scoping stage but more detail will be required as the project progresses.
23	Chapter 6 Noise and Vibration / Section 6.2.3	6.2.3 states that the study area has been determined, but the subsequent para. 6.2.4 states that it will be determined. In either case, it would be helpful if the text made clear whether this is the study area for operational noise only or for both construction and operation. This needs to be made very clear in the ES.
24	Chapter 6 Noise and Vibration / Section 6.4.10	There are a large number of Noise Important Areas (NIAs) that have been identified within the study area.

25	Chapter 6 Noise and Vibration / Section 6.5	The construction phase is potentially controlled by the Control Of Pollution Act 1974 and it is recommended that a Section 61 Prior Consent application is made to the local authority. It may need to be cross boundary with Elmbridge BC. The detail will need to be comprehensive, but is usually dealt with at the start of construction.
26	Chapter 6 Noise and Vibration / Section 6.7.1	The location of the baseline noise surveys should be agreed with the Council. The Council is aware of the proximity of the dwellings in Pond Farm, Wisley Village, Foxwarren Park and Katz Castle (both in Redhill Road), and would like to raise if they require additional noise measures.
27	Chapter 6 Noise and Vibration / Overall	The document does not state how night-time noise will be calculated or assessed. This needs to be clarified in the ES.
28	Chapter 6 Noise and Vibration / Overall	Aircraft noise is mentioned as a potential noise source. The document does not specify how this source of noise will be (a) calculated or (b) combined with road traffic noise. In this context, it is noted that the L10 noise index used for road traffic noise cannot be used directly for aircraft noise which is transient.
29	Chapter 6 Noise and Vibration / Overall	Although SOAEL is mentioned, the criteria for a significant adverse impact are not. In particular, it would be helpful to know if a significant adverse effect is associated simply with receptors exposed to noise levels above SOAEL or if there is also a requirement for a particular increase (such as the values of 1dB or 3dB cited in 6.2.1 in the short term and long term respectively.) Note that current advice from HE is that a significant adverse effect arises when receptors are exposed to noise above SOAEL and there is an increase of 1dB in either the short term or long term.
30	Chapter 6 Noise and Vibration / Overall	The document sets out the case for the definition of LOAEL and SOAEL but does not propose any values for these so they are not available for discussion or review yet are a vital element of the assessment methodology.
31	Chapter 6 Noise and Vibration / Overall	It is not clear if vibration will/not be within scope of the assessment.
32	Chapter 7 Biodiversity / Section 7.3	The planning and policy context section does not refer to policy NRM6 Thames Basin Heaths Special Protection Area of the South East Plan. This is probably the most significant policy for the SPA. Note: The South East Plan has not been fully withdrawn - NRM6 remains in force and carries full weight.

33	Chapter 7 Biodiversity / Section 7.4	The baseline section has no mention of badgers, otters or water vole - have these surveys/assessments not been undertaken yet or been scoped out? Please clarify these have not been mentioned in baseline conditions.
34	Chapter 7 Biodiversity / Section 7.4	There are 23 parcels of ancient woodland within 1 km of the Scheme. The Woodland Trust website identified no veteran trees within 50 m of the Scheme boundary. However, an arboriculture assessment of the Scheme footprint has not yet been conducted. This survey may identify additional veteran trees. We are highlighting this as a concern now and await details of the survey.
35	Chapter 7 Biodiversity / Section 7.4.3	There is one European designated SPA, three nationally designated SSSIs and one LNR within 2km of the scheme, this poses a large number of ecological constraints. In addition, two SACs where bats are listed as one of the qualifying features of the designation were identified within 30 km of the Scheme, and Seventeen SNCIs were identified within 2 km of the Scheme boundary. There is the need to ensure appropriate surveys and assessment are undertaken of all designated areas. The Surrey Transport Plan Environmental Report (Surrey County Council, January 2011) made recommendations that "any new transport related developments make use of land that is not known, or found to be on further investigation, of significant ecological value." In particular, it mentions the safeguarding of sites of national (SSSIs), international (Ramsar Sites) and European (SACs and SPAs) nature conservation importance and to protect European Protected Species from damage and harm. It also recommends that that any new transport related developments and all maintenance works be designed and delivered in ways that minimise any risks of damage, loss and disturbance to which the ecological assets of the areas affected might be exposed as a consequence of the projects. And that opportunities for habitat creation and enhancement associated with the further development or maintenance and improvement of the transport network and associated infrastructure be maximised. The Council is concerned over the appropriate safeguarding of nearby designated ecological in line with the Surrey Transport Plan Environmental Report (Surrey County Council, January 2011) recommendations.

36	Chapter 7 Biodiversity / Section 7.4.13 onwards	The Scoping report gives no detail as to the survey methodology/timings. For example, reptile presence/absence surveys were undertaken August to October 2017 but the number of surveys is not provided. Is it seven undertaken or was it more as you have the presence of EPS species such as sand lizard? Is it possible that smooth snakes have been missed by the surveys due to the months surveyed? When have dormouse checks been undertaken - April to November or were they stopped in September assuming a point score of 20 was achieved etc?. A little more detail in this section would have been beneficial for the reviewer to see, please ensure all this detail is outlined in the ES.
37	Chapter 7 Biodiversity / Section 7.5.2	The Scheme will involve an approximate permanent land take of 25.7 ha and an additional temporary land take of 32.8 ha. The Council is concerned because of this area the Scheme will cause the direct loss of approximately 22.4 ha of permanent land take of HPI habitat, and an additional 22.4 ha of temporary land take.
38	Chapter 8 Road Drainage and the Water Environment / Overall	Some aspects of the presentation could be improved for clarity over how the receptors and potential impacts will be assessed in the EIA compared to within the FRA and (updated) WFD assessments. A clearer link should be made to ecological aspects of the WFD that are mentioned in this chapter with the biodiversity / ecology chapter - it is cross-referenced in passing but as ecological value and impacts are mentioned throughout the chapter it should be made clear where these links will be made in the EIA. We have not reviewed the existing WFD Assessment as this is not in the Scoping Report appendices provided - albeit paragraph 8.4.13 states that full details of the scoping WFD assessment are provided in Appendix D - so have made no comment on its content or outcomes.
39	Chapter 8 Road Drainage and the Water Environment / Section 8.4.1	The following statement is not clear "WFD full walkover surveys of the affected watercourses and lakes will be undertaken as part of this stage". It is not clear if the walkover surveys have now been done at Scoping Stage or would be done during EIA?
40	Chapter 8 Road Drainage and the Water Environment / Sections 8.4.3 and 8.4.6, and Table 8.2	Four WFD surface water bodies are identified in 8.4.3 and Table 8.2 which are all rivers, and then a lake is added in 8.4.6. It would be better to include all in Table 8.2 as the lake is a surface water body. We recommend that for the ES the WFD water bodies are presented together and in a more clear and understandable format.

41	Chapter 8 Road Drainage and the Water Environment / Section 8.4.13	The WFD Assessment has been referred to in the text as Appendix D but Appendix D is not present in Scoping Document. Therefore this has not been reviewed.
42	Chapter 8 Road Drainage and the Water Environment / Section 8.4.17	Flood zones 2 and 3 are associated with nearby surface watercourses which are adjacent to the Scheme. In addition, the hydrogeological character of the study area means that groundwater flood risk may be an issue. This is an issue for the Council because a key recommendation of the Surrey Transport Plan Environmental Report (Surrey County Council, January 2011) was that "any new transport related developments make use of land that is not located in areas that are subject to significant risk of flooding from all sources, and that does not increase flood risk elsewhere as a consequence of the development."
43	Chapter 8 Road Drainage and the Water Environment / Section 8.6.3 and Table 8.5	This table seems unnecessarily overcomplicated and confuses resources and receptors. We recommend that more thought is taken into the presentation of information (especially in tables) in the ES.
44	Chapter 9 Landscape / Section 9.2	This section states that 'any effects upon landscape receptors/ on visual receptors beyond the study area are unlikely to be significant and have been scoped out of further assessment', however any elevated long distance views will need to be identified and considered in the assessment, if none exist then this should be stated.
45	Chapter 9 Landscape / Section 9.3	Guildford Borough Council has a Historic Parks and Gardens Gazetteer which includes the following sites within the area: ● Ockham Park, Ockham ● Dunsborough Park, Ripley ● Send Grove, Send ● Sendholme, Send ● Foxwarren Park, Wisley. These should be referred to/ruled in or out and included in Appendix F as non-designated heritage assets and also need to be considered in the landscape assessment.

46	Chapter 9 Landscape / Section 9.3.5	There are sections of the NPPF 2012 which would also be pertinent to this report including valuing landscapes (NPPF para 109) and visual impacts (NPPF para 143).
47	Chapter 9 Landscape / Section 9.3.18	Guildford Borough Council Local Plan 2003 Policy HE12 Historic Parks and Gardens applies as written. Although, in the main policy text for registered parks and gardens, the text also covers the further assessment of areas of historic landscape importance i.e. the gazetteer.
48	Chapter 9 Landscape / Section 9.4.5	Are RF7, RV4, SS10, SW6 LR2 character areas not considered relevant in this report?
49	Chapter 9 Landscape / Section 9.4	The main receptors include the users of PRoWs and Wisley and Chatley Heath Commons. Other visual receptors include people in Painshill Park and RHS Garden Wisley, local communities, visitor to publicly accessible sites, schools, and road users.
50	Chapter 9 Landscape / Section 9.5.14	This paragraph seems to overstate the replacement environmental design. Environmental measures and reduction of environmental effects should be provided as standard and assessed as part of EIA.
51	Chapter 9 Landscape / Section 9.6	Will there be an assessment of lighting effects during construction and/or operation? We recommend including one.
52	Chapter 9 Landscape / Section 9.6.4	Will photomontages or photo visualisations will be provided? We recommend including this information in the ES. These should be AVRs (accurate visual representation).
53	Chapter 9 Landscape / Section 9.6.6	Is "Outline Landscape Design" different to a Preliminary Landscape Design, or are these comparable? Please make it clearer in the ES.
54	Chapter 9 Landscape / Section 9.6.7	Are the selection of "woodland areas around M25 Junction 10" and "Areas of vegetation including semi mature and mature trees, hedgerows along the road corridors approaches to the M25 Junction 10 junction" considered as receptors, consistent with the GLVIA3 guidance? Are these selected because they contain Open Access Land? Please make the justification clear in the ES.

55	Chapter 9 Landscape / Section 9.6.7	There may be some confusion between what an "effect" and a "receptor" are. An effect is the outcome of the impact upon a landscape character area as a receptor.
56	Chapter 9 Landscape / Section 9.6.7	Residential receptors appear to be missing from the list of landscape receptors that are scoped in.
57	Chapter 9 Landscape / Section 9.6.8	Table 9.3: There appears to be some confusion with what constitutes a "receptor" traditionally areas of vegetation and "effects" are not receptors.
58	Chapter 9 Landscape / Section 9.6.9	Table 9.4: The distance of receptors does not offer much detail on their relationship to the scheme. For example if RHS Wisley adjoins the scheme it is misleading to describe it as being with 2000m when other areas which "adjoin" are described at being 500m away.
59	Chapter 9 Landscape / Section 9.6.9	Table 9.4: There appears to be residential receptors missing from the table.
60	Chapter 9 Landscape / Section 9.7.2	Will design alternatives be covered in an separate preceding chapter and then revisited in this chapter? It may be more efficient to make a reference to their earlier inclusion.
61	Chapter 9 Landscape / Section 9.7.6	We recommend referring to IAN 135/10 (2.16 Table 1) on visual sensitivity and typical descriptors.
62	Chapter 9 Landscape / Section 9.8.1	The proposed consultation section should include likely actions and objectives of consultations and who consultees would be e.g. Identification of key views, Statutory Environmental Bodies etc.
63	Chapter 9 Landscape / Section 9.9.1	It would be helpful to include some assumptions and limitations that will effect the future assessment. These should include accessibility to receptors and representative views, the type of data used, whether site visits are undertaken in the summer or winter period etc.
64	Chapter 9 Landscape / Section 9.1	It would be helpful for the Conclusion to make some statements regarding an overview as to what has or has not been scoped in, and what the predicted effects are for landscape and visual receptors are as a whole.

65	Chapter 10 Geology and Soils / Section 10.2.1	A study area of 500m has been selected, however the 500m study area boundary has not identified on figure within Chapter 19. It would be useful to include this study area on the figure in the ES submission.
66	Chapter 10 Geology and Soils / Section 10.4	As part of the baseline conditions, is previous ground investigation information available (highlighted in 10.6.1 and 10.7.2, second bullet point) including ground model information? This should be considered for the ES.
67	Chapter 10 Geology and Soils / Section 10.4.2	Refers to BGS geological mapping, however, there is no further detail regarding the name/details of the map(s)/source of information. Is it possible to be more specific about what superficial deposits will be encountered and where? The text currently provides a general list and states that these deposits are anticipated. Same comment regarding bedrock. This should be taken on board for the details in the ES.
68	Chapter 10 ecology and Soils / Section 10.4.3	Historical landfills and other existing infrastructure anticipated to be present throughout the scheme - Is there any further details available? Please include these details in the ES.
69	Chapter 10 Geology and Soils / Section 10.4.4	No geological SSSIs or Local Geological Sites are located within the study area - assuming "study area" is within 500m? Please clarify this in the ES.
70	Chapter 10 Geology and Soils / Section 10.4.6	BGS mineral resources map identified that the western, southern and northern extents of the Scheme fall within sand and gravel mineral resource zones, associated with the River Wey and River Mole. Details of the mineral maps should be disclosed in the ES.
71	Chapter 10 Geology and Soils / Section 10.4.8	A review of the Highways Agency Geotechnical Data Management System (HAGDMS) was undertaken on 30 November 2017 and identified 96 No. earthworks and 21 No. geotechnical defects within the scheme extents - Will this information be detailed within a different report? It is recommended that this is included/appended to ES.
72	Chapter 10 Geology and Soils / Section 10.4.13 - 10.4.16	There are several water courses which are impacted by the scheme and could be affected in the event that contaminated shallow groundwater migrates towards them, and they could also be affected by surface water transport. Further discussion is within Chapter 8. Has the impact of the scheme on these individual water courses and potential mitigation measures been discussed? This needs to be considered in the ES.
73	Chapter 10 Geology and Soils / Section 10.4.17	We envisage that this information has been obtained by analysing the 1:250,000 ALC maps by Natural England. Is this correct/can a reference for this information be provided?

74	Chapter 10 Geology and Soils / Section 10.4.18	Noted that a full review of potentially contaminated land uses will be completed in the ES.
75	Chapter 10 Geology and Soils / Section 10.4.19	Historical landfill sites and a number of pollution incidents have been reordered within the study area. This should be referenced in the ES.
76	Chapter 10 Geology and Soils / Section 10.5	No impact on agricultural land are listed in the 'Potential impacts' in Section 10.5, however Section 10.10 indicates these may be present. This is more of an observation, as soils and agricultural land are scoped-in to be assessed further so their omission from 10.5 has not precluded further analysis.
77	Chapter 10 Geology and Soils / Section 10.6.1	Section 10.6.1 states "limited ground information is currently available for the scheme", however section 10.7.2, second bullet point states "Previous ground investigation and limited remediation have been undertaken at the site of the Scheme". Further clarification required about the ground investigation, slightly conflicting comment.
78	Chapter 10 Geology and Soils / Section 10.6.2	Providing an assessment of the groundwater regime at the site - As part of the contamination testing regime, will the surface water features be tested within the "study area" to confirm baseline levels? This needs to be clarified in the ES.
79	Chapter 10 Geology and Soils / Section 10.6.3	The ES will review the soils and geology issues at baseline, albeit based on desk based information only in the absence of ground investigation data which will not be available in time to be reported in the ES. Is data available from previous ground investigations undertaken? Limited ground investigation highlighted in section 10.6.1 and previous ground investigation highlighted within 10.7.2 second bullet point.
80	Chapter 10 Geology and Soils / Section 10.6.3	The Council is concerned that the scheme specific ground investigation data will not be available in time to be reported in the ES, and that this will jeopardise the validity of the assessment. The ground investigation results are required to inform appropriate mitigation measures.
81	Chapter 10 Geology and Soils / Sections 10.6.3 and 10.7.2	Section 10.6.3 states that ground investigation data will not be available to inform the ES, however in Section 10.7.2 it states that the ground investigation results will be used to inform the risk assessment, which will be produced before the impact assessment. Clarification is required as to when the ground investigation data/results will be available. If available, this data should be used to inform the EIA presented in the ES.
82	Chapter 10 Geology and Soils / Section 10.7.2	Highlighted previous ground investigation and limited remediation have been undertaken at the site. Can this ground model information be included with the baseline conditions? How old is this ground investigation and the contamination results? Has there been significant development since this GI and would these results be relevant?

83	Chapter 10 Geology and Soils / Section 10.7.26	It is considered that the proposed level and scope of assessment detailed in section 10.5 will be sufficient to assess baseline conditions - Is this based on using existing ground investigation data? Clarification is required as to whether the ground investigation data for the Scheme will be available to inform the ES.
84	Chapter 10 Geology and Soils / Overall	There are no Part IIA sites in Guildford Borough. Apart from the nearby commercial uses at former Wisley Airfield, Wisley Sewage works and RHS Garden Wisley, there are no known potentially contaminated sites within the area. Please note that a full historical search if required will only be conducted on payment of the appropriate fee to the Council.
85	Chapter 11 Cultural Heritage / General	Throughout the document there is a lack of reference to non designated built heritage assets. If these have not been assessed as part of this scoping exercise this needs to be included in the limitations. If they have been assessed then this needs to be more explicit in the assessment in the report.
86	Chapter 11 Cultural Heritage / Section 11.2.1	Can the study area be clarified. By alignment is it meant from the centre line, the works boundary, the carriageway edge? This needs to be clarified in the ES.
87	Chapter 11 Cultural Heritage / Section 11.2.1	We would like to know if the study area will be revised to reflect locations of works compounds, ecological mitigation, balancing ponds, replacement common? We recommend that it should be for the ES.

88	Chapter 11 Cultural Heritage / Section 11.3	National Planning Policy Framework – think this needs expanding to more fully reflect consideration of heritage assets and significance and how the report and evidence will appropriately acknowledge and respond, so for example: NPPF 128 – includes that applicants should '……describe the significance of any heritage assets affected, including and contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk –based assessment and, where necessary, a field evaluation'. Perhaps link this more closely to how this has this already been considered (11.4 Baseline conditions), how will this be done for all areas where there are historic assets/ settings/ archaeological sites that may be effected, or within vicinity of works – including mapping, visuals, photomontages etc.. and how they have been considered ruled in or out…. NPPF Policy 131 includes the 'desirability of new development making a positive contribution to local character and distinctiveness' NPPF Policy 132 – When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the assets' conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting'…… 'Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments,…….grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.'

88 (cont)	Chapter 11 Cultural Heritage / Section 11.3 (cont)	NPPF Policy 133. 'Where a proposed development will lead to substantial harm to or loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss…' NPPF Policy 134 'Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including optimum viable use.' If there is some harm, but less than substantial harm to any heritage assets is identified (Wisley, Ockham, Painshill, settings etc ?) can the scheme be judged to balance this harm with protecting, but also assisting in for e.g. viability of RHS Wisley/others through for eg. improved access etc. as well as the wider public benefits to road users overall? Any mitigation to be provided that would limit harm identified…? NPPF Policy 135. The effect of an application on the significance of a non-designated heritage asset should be taken into account. In weighing applications that effect directly or non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset. (Need to consider for example impact on setting of gardens in the Guildford Borough Council has a Historic Parks and Gardens Gazetteer if appropriate/ or no impact) NPPF policy 139. Non –designated heritage assets of archaeological interest that area demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.
89	Chapter 11 Cultural Heritage / Section 11.3.3	The Scoping report just refers to non-designated archaeological assets. Definitions of all non-designated heritage assets should be included. Both NPS and NPPF note that all non designated assets should be taken into account in decision making. Please take this into account for the assessment at ES stage.
90	Chapter 11 Cultural Heritage / Section 11.3.7	The definition of substantial harm is incorrect and significantly plays down the level of harm required which would result in substantial harm. Total loss is substantial harm. See NPPG para 017 for a description of how to identify substantial harm, the NPPG description is not reflected here.
91	Chapter 11 Cultural Heritage / Section 11.3.8	Please clarify here that substantial harm to designated assets means a strong presumption against development. This needs to better reflect the balance between harm and public benefit i.e. the more harm the stronger the justification in terms of public benefit needs to be.

92	Chapter 11 Cultural Heritage / Section 11.3.7	The Council is concerned about the use of the word degradation. NPPF notes that deliberate neglect should not be taken into account in decision making. Can this be reflected in how degradation is defined here i.e. not deliberate neglect.
93	Chapter 11 Cultural Heritage / Section 11.3.9	Less that substantial harm needs defining in more detail. It is likely that most of the impacts/effects are going to result in less than substantial harm, therefore this section needs to be more robust in its definition. It particularly needs to show an understanding of the levels/spectrum of less than substantial harm and how this relates to the need to balance between the harm and the public benefits of a scheme.
94	Chapter 11 Cultural Heritage / Section 11.3.10	Please note that consultation on the Guildford borough Proposed Submission Local Plan: strategy and sites (Guildford Borough Council, June 2017) is now complete and that the Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017) was submitted to the Secretary of State in December 2017. Examination is expected to begin in spring/early summer 2018 whilst the current published timetable anticipates adoption in December 2018.Paragraph 216 of the National Planning Policy Framework (DCLG, March 2012) states that 'From the day of publication, decision-takers may also give weight to relevant policies in emerging plans according to:● the stage of preparation of the emerging plan (the more advanced the preparation, the greater the weight that may be given);● the extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight that may be given); and● the degree of consistency of the relevant policies in the emerging plan to the policies in this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given).'Whilst the emerging plan currently carries limited weight in decision taking, the weight will increase as we move through the examination process (in particular after the initial hearing sessions which are expected to begin in spring/early summer 2018) and ultimately to full weight at adoption of the new plan (current timetable indicates adoption in December 2018). Given the timescales of this project and the expected Local Plan timetable, we would suggest that the assessment takes into account those in the Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017).
95	Chapter 11 Cultural Heritage / Section 11.3.11	Policy HE6: Locally listed buildings - there doesn't seem to be any further discussion of locally listed buildings in the chapter to establish whether the scope for the ES will address this policy.

96	Chapter 11 Cultural Heritage / Section 11.3.11	Will there be any new highway developments within Ripley itself which is within a Conservation Area (such as changes to junctions on existing routes e.g. High Street, Newark Lane) or in Ockham, Send – whereby GBC local plan policies HE1 Proposals which effect Listed Buildings, HE4 New development which affects the setting of a listed building, and HE7 New development in Conservation Areas, may also be relevant and apply? Consideration should also be given to any possible knock on impact of traffic changes within sensitive areas such as Ripley, Ockham. Also, Ockham Mill (hamlet) is a Conservation Area with a number of listed buildings/ settings / views to consider.
97	Chapter 11 Cultural Heritage / Section 11.3.13	Legislation is erroneously included here. It needs to be included but is neither guidance or a standard. Also there is no mention of GPA2, Historic England Conservation principles or Ripley Conservation Area Appraisal - please can it be confirmed these were used to prepare the scoping report? Just a note that GPA3 has been updated since this was prepared and the new guidance should be used in the ES.
98	Chapter 11 Cultural Heritage / Section 11.4.2	There does not seem to be any non-designated built heritage in the gazetteer, or anything from a local list. As noted above, there does not seem to have been a comprehensive survey of non-designated built heritage to inform the scoping report. This needs to be done to inform the ES.
99	Chapter 11 Cultural Heritage / Section 11.4.4	The report notes listed buildings are scoped out due to visual connectivity with the scheme. Has the assessment considered other non-visual relationships which may contribute to setting (for example noise, relationship with other heritage assets, views across the scheme etc)? This needs to form part of the assessment to fully scope these assets out. Please refer to table 1 in GPA3 for fuller (but non exhaustive) list of factors which may contribute to setting.
100	Chapter 11 Cultural Heritage / Section 11.4.6	We observed that there are "no setting impacts", there needs to be a brief summary of why no setting impacts were identified so that the reason for scoping out can be fully appreciated.
101	Chapter 11 Cultural Heritage / Sections 11.4.7 and 11.4.8	No indication of what is scoped in or out - similar to how the section on designated assets is dealt with. Clarification is required as to what aspects are scoped in or out.
102	Chapter 11 Cultural Heritage / Section 11.5	There is no indication as to what is scoped in or scoped out of the assessment. It is assumed that everything mentioned in this section is scoped in, however can this be made more explicit?

103	Chapter 11 Cultural Heritage / Section 11.5	Areas for works and access for the development proposals? What land is to be used and where for temporary periods – will this effect or impact on heritage assets and landscapes and their settings. Any harm? Mitigation? Reinstatements. Other long term benefits that might be negotiated as part of the scheme?
104	Chapter 11 Cultural Heritage / Section 11.5.2	Please can "direct impacts" be clarified? Direct impacts can either be physical impacts to the asset or impacts to the setting. This should be clarified in the ES.
105	Chapter 11 Cultural Heritage / Section 11.5.6 - 11.5.9	Road widening in Ockham and any likely impact on setting of curtilage listed estate walls, gates and parkland as part of the Ockham Park estate – will any of these be affected?
106	Chapter 11 Cultural Heritage / Section 11.5.17	Are any impacts with regard to unknown archaeology expected at Elm Lane, as such is this scoped in or out? Clarification is required.
107	Chapter 11 Cultural Heritage / Section 11.6.4	Is non-intrusive investigation also proposed? Clarification is required.
108	Chapter 11 Cultural Heritage / Section 11.7.1	Not clear whether this is the methodology for ES or for the scoping report, assume it is the methodology proposed for ES - this needs to be explicit. The methodology used for the EIA needs to be fully outlined in the ES.
109	Chapter 11 Cultural Heritage / Section 11.7.1	Regarding archaeological evaluation, a programme should be designed and undertaken during preliminary design to inform the design and mitigation. The Council is concerned that if this is left to after detailed design, then there will be no opportunity to mitigate through avoidance of assets or design amendments to minimise the impact. It should be noted that evaluation and recording is not mitigation - para 141 of the NPPF notes "However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted".
110	Chapter 11 Cultural Heritage / Section 11.7.2	It is not clear whether this is how the ES will be assessed or how the scoping has been assessed.
111	Chapter 11 Cultural Heritage / Section 11.7.2	The mention of significance should be directly related to heritage significance as defined in the NPPF. Otherwise there is the potential for confusion with significance of effect as defined in EIA terms.

112	Chapter 11 Cultural Heritage / Section 11.7.3 and Table 11.2	In the example for very high and high, there is no mention of archaeological sites/remains. In negligible, are assets of no historic interest proposed to be included? If they are of no historic value then they are not a heritage asset as defined in the NPPF.
113	Chapter 11 Cultural Heritage / Section 11.7.4 and Table 11.3	The inclusion of harm in the description and nature of change is misleading and could lead to potential issues in defining where there is a significant impact/effect. Substantial and less than substantial harm are more nuanced than the definitions of major adverse/moderate adverse etc. Saying that all cases of less than substantial harm will result in a significant impact is misleading and could lead to incorrect assessments of the level of significant effect. Also, not all cases of Major adverse impact will be due to substantial harm and similarly may result in incorrect assessments. Limited harm used in minor adverse impact has no definition within policy. Unless better defined both in the table and in 11.3 policy terminology should not be incorporated into the ES assessment terminology. The same definition for the impact of physical alteration appears in both moderate and minor adverse impact leading to issues in defining the level of impact. The word significance is used throughout the table, there is the potential for the use of the word in the heritage context to lead to confusion when discussing significance of effect in the context of the ES assessment.
114	Chapter 11 Cultural Heritage / Section 11.7.5	It is not defined what significance of effect would constitute a significant effect. This needs to be outlined in the ES.
115	Chapter 11 Cultural Heritage / Section 11.7.6	First and fifth bullet point - can these be combined into a single "historic environment desk based assessment" to produce a more proportionate assessment as required by the NPPF? Bullet points two and three - this is confusing when read with 11.7.1 which suggests that all archaeological investigation will be undertaken during detailed design. Please can it be clarified when archaeological investigation/evaluation is expected to take place.
116	Chapter 11 Cultural Heritage / Section 11.7	Why are there two methodologies which appear to contradict each other. Can one methodology be described with reference to where this has been developed from?
117	Chapter 11 Cultural Heritage / Section 11.8	Consultation with the conservation officer or relevant planning officer needs to be undertaken alongside the other proposed stakeholder consultations. Also have the Gardens Trust been consulted with regard to the registered parks and gardens?

118	Chapter 11 Cultural Heritage / Section 11.9.1	Investigations proposed here do not constitute mitigation in policy terms (NPPF 141).
119	Chapter 11 Cultural Heritage / Section 11.10.1	Second bullet point - HER data should have been acquired to see if there was any potential for setting issues from the introduction of gantries - it should be obtained for the ES assessment.
120	Chapter 11 Cultural Heritage / Section 11.10.1	Third bullet point - how can setting be assessed if the compound is on the edge of the study area and may impact assets outside the study area. Study area should be amended when compound locations are known.
121	Chapter 11 Cultural Heritage / Section 11.11.1	This seems to suggest that all non designated assets are scoped in for assessment. This should be revised as it would not result in a proportionate assessment as required by policy.
122	Chapter 12 Materials and Waste / Section 12.2 Study Area	There is no mention of how the study area has been determined, the Council would expect the report to reference/explain that there is no study area for materials defined in the DMRB Vol 2. and as a result the study area has been determined through professional judgement by the influence of the proposed scheme rather than through a set geographical location.
123	Chapter 12 Materials and Waste / Section 12.3 Planning Policy and Context	The Council would recommend that in the ES the legislation section could be more concise and only relevant legislation should be included. Some key legislation and policy docs/guidance are missing e.g. landfill regs and the Waste Prevention Programme. We suggest removing legislation references to packaging, WEEE, asbestos, batteries and accumulators CLP and PCBs as these are quite specific and for road schemes, where relevant, are mainly covered under other legislation.
124	Chapter 12 Materials and Waste / Section 12.4 Baseline	The report states that it has been written in accordance with the IAN but does not reference DMRB Vol 2 Section 2 part 4, which is the overall document.

125	Chapter 12 Materials and Waste / Section 12.4 Baseline	The baseline section should be expanded on in the Scoping Report. It considers national material resources but not more local/regional sources, which is where the impact will be greater. In addition, the baseline data will need reviewing to include more up to date data and sources as it is currently limited to AMRs and Waste Interrogator tools, other sources are available through the DEFRA and EA statistical data and summaries.
126	Chapter 12 Materials and Waste / Section 12.4.12	Waste facilities within Surrey should be identified and reported in the waste baseline section of the ES.
127	Chapter 12 Materials and Waste / Section 12.5.2	The potential impacts section is missing quite a lot of detail, the Council recommend that the following details of impacts are included in the ES. ● Potential impacts/effects from all the material use/waste arisings associated with the project activity and the potential to generate significant effects such as import and use of aggregates and those associated with their generation and disposal of waste. ● Potential impacts associated with the use of material resources for the construction of the scheme is the potential depletion of virgin/natural/non-renewable resources - this has not been considered and also needs to be considered in the ES.
128	Chapter 12 Materials and Waste / Table 12.5	What is the source of the criteria for classifying the magnitude of environmental effects.
129	Chapter 12 Materials and Waste / Section 12.7	The general methodology is weak and needs emphasising. It currently focuses on hazardous waste which is only a small part of the waste generated. The proposed methodology needs to consider the level of assessment as identified in the DMRB.

130	Chapter 12 Materials and Waste / Section 12.9	The mitigation measures outlined in this section only consider measures to minimise the amount of waste generated. There is also no mention of a SWMP or CEMP. Mitigation measures to reduce the quantity of material resources required to construct the Scheme have not been considered. This should be considered throughout the design of the Scheme and the EIA, for example in line with the measures outlined in Surrey Transport Plan Environmental Report (Surrey County Council, January 2011) which states that "any new developments and all maintenance works maximise the use of recovered and recycled materials, prioritise the use of renewable material resources over non-renewable resources, and re-use materials wherever feasible". In addition, measures outlined in the Surrey Transport Plan Environmental Report (Surrey County Council, January 2011) to minimise waste generation include "any new developments and all maintenance works be designed and delivered in ways that minimise the generation of non-recoverable, non-recyclable and non-reusable waste materials". The ES will need to clarify where and how these materials will be used.
131	Chapter 12 Materials and Waste / Section 12.11	The conclusion does not emphasise why the specific level of assessment is being used or mentions that an SWMP or CEMP will be produced to consider the reuse/recycling of materials and the sourcing, transport, use and disposal of materials in a sustainable manner.
132	Chapter 12 Materials and Waste / General	There is no evidence that contaminated land is identified or how/what sources of information will be used to do this, but it is mentioned and is said to be considered separately. As this is a material/waste is needs to be considered in the ES as part of the waste assessment. There is also no cross reference to other specific topics e.g. transport for waste and materials import/export, air quality and contaminated land/geology and soils.
133	Chapter 13 People and Communities / Overall Comment	It is noted that agricultural land will be assessed within this chapter, however this has already been outlined that it will be assessed in Chapter 10 Geology and Soils - clarification is required as to how these assessments would differ and whether will be aligned with each other. It is recommended that the assessment is not repeated.

134	Chapter 13 / People and Communities / 13.3	The zone of influence for the 'People and Communities' environmental topic should include the village of Ripley as it is considered that the scheme, as presently proposed, is likely to increase traffic flows through this village. The present pattern of recurrent peak period traffic congestion in Ripley and associated adverse community and environmental impacts is a concern to Surrey County Council, the Local Highway Authority. In addition, further consideration should also be given to including other settlements nearby to the proposed scheme, including Wisley, Ockham, East Horsley and West Horsley, within the zone of influence for the 'People and Communities' environmental topic.
135	Chapter 13 / People and Communities / 13.3.28-13.3.32	Should use the title of the organisation of 'Guildford Borough Council' rather than the words 'Borough of Guildford'. (We note that the paragraphs above introduced by the title 'Elmbridge Borough Council' and those below by the title 'Woking Borough Council' for the neighbouring lower tier authorities.)
136	Chapter 13 / People and Communities / 13.3.31	The Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017) was submitted to the Secretary of State in December 2017. Examination is expected to begin in spring/early summer 2018 whilst the current published timetable anticipates adoption in December 2018.

137	Chapter 13 / People and Communities / 13.3.32	The Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017) was submitted to the Secretary of State in December 2017. Paragraph 216 of the National Planning Policy Framework (DCLG, March 2012) states that 'From the day of publication, decision-takers may also give weight to relevant policies in emerging plans according to:● the stage of preparation of the emerging plan (the more advanced the preparation, the greater the weight that may be given);● the extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight that may be given); and● the degree of consistency of the relevant policies in the emerging plan to the policies in this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given).'Whilst the emerging plan currently carries limited weight in decision taking, the weight will increase as we move through the examination process (in particular after the initial hearing sessions which are expected to begin in spring/early summer 2018) and ultimately to full weight at adoption of the new plan (current timetable indicates adoption in December 2018). Given the timescales of this project and the expected Local Plan timetable, we would suggest that the assessment takes into account those in the Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017), in particular the following policies:● Policy S2: Planning for the borough - our spatial development strategy● Policy P5: Thames Basin Heaths Special Protection Area● Policy ID1: Infrastructure and delivery, which cross-references at point (4) the Appendix C Infrastructure Schedule of which schemes referenced SRN3, SRN5, SRN9 and SRN10 are of relevance.● Policy ID2: Supporting the Department for Transport's 'Road Investment Strategy'● Policy ID3: Sustainable transport for new developments● Policy A35: Former Wisley airfield, Ockham● Policy A38: Land to the west of West Horsley● Policy A39: Land near Horsley railway station, Ockham Road North, East Horsley● Policy A40: Land to the north of West Horsley● Policy A43: Land at Garlick's Arch, Send Marsh/Burnt Common and Ripley● Policy A43a: Land for new north facing slip roads to/from A3 at Send Marsh/Burnt Common● Policy A58: Land around Burnt Common warehouse, London Road, Send.In addition, we note that the NPSNN, at paragraph 5.165, states that 'The applicant should identify existing and proposed land uses near the project...', as is referred to in paragraph 13.3.5 of this draft Environmental Scoping Report.
138	Chapter 13 / People and Communities / 13.3	The Planning and Policy Context section, as presently drafted, is very long, but it is not clear to which planning policy or other social or economic policy or legislation, infrastructure policy or strategy, or transport policy, the Scheme will be required to respond.

139	Chapter 13/ People and Communities/ 13.4.7 to 13.4.9	Most of the land within the Scheme boundary does look like it would be non-agricultural. However, Grade 3 could be BMV land as it is split into Grade 3a (BMV land) and Grade 3b land (not BMV and medium value agricultural land), whilst there looks like there is a pocket of land near Hatchford End which looks like it could be Grade 1 ALC land.
140	Chapter 13 / People and Communities 1/ 3.4.7 - 13.4.9	Natural England's 1:250,000 ALC Maps have been used as background information for these paragraphs (as per reference 65). However: 1. Natural England state that the 1:250,000 maps are not sufficiently accurate to identify ALC on a site-by-site basis. 2. The 1:250,000 maps were created before the sub classification of Grade 3 land into Grade 3a (BMV) and Grade 3b (non-BMV). This could be made clearer in the text.
141	Chapter 13/ People and Communities/ 13.4.10	Will the impact assessment consider impacts on permissive or informal NMU routes as well (including impacts on NMU crossing points)?
142	Chapter 13/ People and Communities/ 13.4.11	Should use the title of the organisation of 'Guildford Borough Council' rather than the words 'Borough of Guildford', given that use the title of 'Elmbridge Borough Council' from paragraph 13.4.12.
143	Chapter 13/ People and Communities/ Table 13-1	Should use the title of the organisation of 'Guildford Borough Council' rather than the words 'Borough of Guildford', given that use the title of 'Elmbridge Borough Council' in Table 13-2.

144	Chapter 13/ People and Communities/ Table 13-1	The Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017) was submitted to the Secretary of State in December 2017. Paragraph 216 of the National Planning Policy Framework (DCLG, March 2012) states that 'From the day of publication, decision-takers may also give weight to relevant policies in emerging plans according to: ● the stage of preparation of the emerging plan (the more advanced the preparation, the greater the weight that may be given); ● the extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight that may be given); and ● the degree of consistency of the relevant policies in the emerging plan to the policies in this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given).' Whilst the emerging plan currently carries limited weight in decision taking, the weight will increase as we move through the examination process (in particular after the initial hearing sessions which are expected to begin in spring/early summer 2018) and ultimately to full weight at adoption of the new plan (current timetable indicates adoption in December 2018). Given the timescales of this project and the expected Local Plan timetable, we would suggest that the assessment takes into account the site policies in the Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017), in particular the following: ● Policy A35: Former Wisley airfield, Ockham ● Policy A38: Land to the west of West Horsley ● Policy A39: Land near Horsley railway station, Ockham Road North, East Horsley ● Policy A40: Land to the north of West Horsley ● Policy A43: Land at Garlick's Arch, Send Marsh/Burnt Common and Ripley ● Policy A43a: Land for new north facing slip roads to/from A3 at Send Marsh/Burnt Common ● Policy A58: Land around Burnt Common warehouse, London Road, Send. In addition, we note that the NPSNN, at paragraph 5.165, states that 'The applicant should identify existing and proposed land uses near the project...', as is referred to in paragraph 13.3.5 of this draft Environmental Scoping Report.

145	Chapter 13/ People and Communities/ 13.4.14	Have any NMU surveys been undertaken or are any planned?
146	Chapter 13/ People and Communities/ 13.4.15	The zone of influence for the 'People and Communities' environmental topic should include the village of Ripley as it is considered that the scheme, as presently proposed, is likely to increase traffic flows through this village, with potential impacts on non-motorised users including community severance which may require mitigation. The present pattern of recurrent peak period traffic congestion in Ripley and associated adverse community and environmental impacts is a concern to Surrey County Council, the Local Highway Authority. In addition, further consideration should also be given to including other settlements nearby to the proposed scheme, including Wisley, Ockham, East Horsley and West Horsley, within the zone of influence for the 'People and Communities' environmental topic.
147	Chapter 13 / People and Communities / 13.5.1	This section needs greater clarity on the temporary and permanent land take that will be required. There is reference to the property impacts later in the chapter but it should appear in this section. The effects of the scheme on access to properties needs greater clarification. The project description raises that the construction work will require the closer of some access routes to properties. How many properties will be affected?
148	Chapter 13 / People and Communities / 13.5.2	The link between the potential impacts identified (traffic, visual etc) and the effects on residential amenity need to be more strongly drawn here.
149	Chapter 13/ People and Communities/ 13.5.11 to 13.5.12	Potential for impacts on BMV land? Is there potential for significant effects on agricultural land/ farm businesses? Will any mitigation measures be included?

150	Chapter 13 People and Communities / Section 13.5.14	The Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017) was submitted to the Secretary of State in December 2017. Paragraph 216 of the National Planning Policy Framework (DCLG, March 2012) states that 'From the day of publication, decision-takers may also give weight to relevant policies in emerging plans according to:● the stage of preparation of the emerging plan (the more advanced the preparation, the greater the weight that may be given);● the extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight that may be given); and● the degree of consistency of the relevant policies in the emerging plan to the policies in this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given).'Whilst the emerging plan currently carries limited weight in decision taking, the weight will increase as we move through the examination process (in particular after the initial hearing sessions which are expected to begin in spring/early summer 2018) and ultimately to full weight at adoption of the new plan (current timetable indicates adoption in December 2018). Given the timescales of this project and the expected Local Plan timetable, we would suggest that the assessment takes into account the site policies in the Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017), in particular the following:● Policy A35: Former Wisley airfield, Ockham● Policy A38: Land to the west of West Horsley● Policy A39: Land near Horsley railway station, Ockham Road North, East Horsley● Policy A40: Land to the north of West Horsley● Policy A43: Land at Garlick's Arch, Send Marsh/Burnt Common and Ripley● Policy A43a: Land for new north facing slip roads to/from A3 at Send Marsh/Burnt Common● Policy A58: Land around Burnt Common warehouse, London Road, Send.In addition, we note that the NPSNN, at paragraph 5.165, states that 'The applicant should identify existing and proposed land uses near the project...', as is referred to in paragraph 13.3.5 of this draft Environmental Scoping Report.
151	Chapter 13/ People and Communities/ 13.5.15 to 13.5.19	The zone of influence for the 'People and Communities' environmental topic should include the village of Ripley as it is considered that the scheme, as presently proposed, is likely to increase traffic flows through this village, with potential impacts on non-motorised users including community severance which may require mitigation. The present pattern of recurrent peak period traffic congestion in Ripley and associated adverse community and environmental impacts is a concern to Surrey County Council, the Local Highway Authority. In addition, further consideration should also be given to including other settlements nearby to the proposed scheme, including Wisley, Ockham, East Horsley and West Horsley, within the zone of influence for the 'People and Communities' environmental topic.

152	Chapter 13/ People and Communities/ 13.5.15 to 13.5.19	Will any new routes or temporary crossings be provided to mitigate impacts on NMUs?
153	Chapter 13 People and Communities / Section 13.5.16	This refers to an increase in construction traffic and HGV trip numbers with a potential to make road crossing more difficult, dangerous, intimidating or time consuming. Mitigation measures should be identified. We would note that the Health Profile 2016 for Guildford borough, as published by Public Health England, identified that performance for the Killed and seriously injured on roads indicator in the borough was 'significantly worse than England average'.
154	Chapter 13 / People and Communities / 13.6	No level of assessment is proposed in this section: simple or detailed assessment should be recommended.
155	Chapter 13 People and Communities / Section 13.7.34	Is there any significance criteria for effects on agricultural land as a national resource i.e. BMV land?
156	Chapter 13 People and Communities / Section 13.7.34 - 13.7.37	Previously the agricultural land sections in this chapter have focussed on both the impact on best and most versatile agricultural land as well as the impact on farm businesses, however this section only outlines the methodology/significance for the assessment on the impact on farm business. Is this because the assessment of best and most versatile agricultural land will be covered in Chapter 10? If so this needs to be clarified, it is not recommended that the assessment is repeated in both the geology and soils and people and communities chapters.

157	Chapter 13 People and Communities / Section 13.7.39 - 13.7.41	The Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017) was submitted to the Secretary of State in December 2017. Paragraph 216 of the National Planning Policy Framework (DCLG, March 2012) states that 'From the day of publication, decision-takers may also give weight to relevant policies in emerging plans according to: ● the stage of preparation of the emerging plan (the more advanced the preparation, the greater the weight that may be given); ● the extent to which there are unresolved objections to relevant policies (the less significant the unresolved objections, the greater the weight that may be given); and ● the degree of consistency of the relevant policies in the emerging plan to the policies in this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given).' Whilst the emerging plan currently carries limited weight in decision taking, the weight will increase as we move through the examination process (in particular after the initial hearing sessions which are expected to begin in spring/early summer 2018) and ultimately to full weight at adoption of the new plan (current timetable indicates adoption in December 2018). Given the timescales of this project and the expected Local Plan timetable, we would suggest that the assessment takes into account the site policies in the Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017), in particular the following: ● Policy A35: Former Wisley airfield, Ockham ● Policy A38: Land to the west of West Horsley ● Policy A39: Land near Horsley railway station, Ockham Road North, East Horsley ● Policy A40: Land to the north of West Horsley ● Policy A43: Land at Garlick's Arch, Send Marsh/Burnt Common and Ripley ● Policy A43a: Land for new north facing slip roads to/from A3 at Send Marsh/Burnt Common ● Policy A58: Land around Burnt Common warehouse, London Road, Send. In addition, we note that the NPSNN, at paragraph 5.165, states that 'The applicant should identify existing and proposed land uses near the project...', as is referred to in paragraph 13.3.5 of this draft Environmental Scoping Report.

158	Chapter 13 People and Communities / Section 13.7.42 - 13.7.56	The zone of influence for the 'People and Communities' environmental topic should include the village of Ripley as it is considered that the scheme, as presently proposed, is likely to increase traffic flows through this village, with potential impacts on non-motorised users including community severance which may require mitigation. The present pattern of recurrent peak period traffic congestion in Ripley and associated adverse community and environmental impacts is a concern to Surrey County Council, the Local Highway Authority. In addition, further consideration should also be given to including other settlements nearby to the proposed scheme, including Wisley, Ockham, East Horsley and West Horsley, within the zone of influence for the 'People and Communities' environmental topic.
159	Chapter 13 People and Communities / Section 13.7.42 - 13.7.47	Are NMU surveys going to be undertaken to inform the assessment? DMRB Volume 11 Section 3 Part 8 Chapter 9 states that 'counts of pedestrians and others should be undertaken where this is necessary to achieve the objective of this stage of assessment' i.e. where there are going to be permanent changes to journey times and safety and amenity is likely to be prejudiced. Furthermore, where 'pedestrians and others' travel patterns are complex and a scheme could have a major impact, origin destination surveys should be considered'. Is there any significance criteria that will be used to assess effects of the Scheme on NMUs? How will you determine if an effect is significant or not?
160	Chapter 13 People and Communities / Section 13.7.46	Is this an assumption? Have NMU surveys (including origin destination surveys) been carried out to confirm this?
161	Chapter 13/ People and Communities/ 13.7.48	Is there any significance criteria that will be used to assess effects of the Scheme on amenity for NMUs?
162	Chapter 13/ People and Communities/ 13.7.50	Is there any significance criteria that will be used to assess effects of the Scheme on severance?
163	Chapter 13/ People and Communities/ 13.7.62	Is there any significance criteria that will be used to assess effects of the Scheme on driver stress?

164	Chapter 13 / People and Communities 13.9	Some mention of construction management process would be helpful here to understand how construction impact may be mitigated.
165	Chapter 13/ People and Communities/ 13.9.1	Are there any mitigation proposals for agricultural land and NMUs? It is not clear how significant adverse effects will be assessed for NMUs either.
166	Chapter 13 People and Communities / Section 13.11.4	Vulnerability to major accidents and disasters - Should the effects of this be scoped out? Junction 10 of the M25 is one of the most congested junctions on the network. Accidents on the A3 cause significant delay. The scheme proposes closure of a number of side roads on the A3. Where an accident occurs on the A3 road users will seek to use alternative routes. This will include Portsmouth Road and the High Street through the village of Ripley. Where a major accident occurs, and the number of vehicles using the A3 has increased because of the scheme, there is likely to be a greater impact on Ripley from traffic seeking to use alternative routes. The impacts of a major incident on communities, particularly Ripley should therefore be considered, and mitigation identified as appropriate.
167	Chapter 13 / People and Communities / 13.11.4	No distinction is made in the summary table between the scoping of construction and operational effects.
168	Chapter 14 Climate / Overall Comment	Section 14.1.2 outlines that the chapter considers both the potential effects of the scheme on climate change and the vulnerability of the scheme to climate change, however the scoping assessment presented within this chapter purely focuses on the effects of the scheme on climate change. The vulnerability of the scheme to climate change has not been considered - it is recommended that this is considered and assessed within the ES in accordance with the EIA Regulations 2017.
169	Chapter 14/ Climate/ Section 14.4	No baseline conditions for regional climate is given.
170	Chapter 14/ Climate/ Section 14.4.3	In setting the scheme baseline emissions, what calculation tool has been used and will the same tool be used for this Scheme?

171	Chapter 14/ Climate/ Section 14.6.1	Bearing in mind there is currently no DMRB methodology or guidance on how to carry out a "simple" or "detailed" assessment for Climate, how did you draw the conclusion that a "simple" assessment is necessary?
172	Chapter 14/ Climate/ Section 14.7.3	Why is the Highways England Carbon Calculation Tool not being used for the final carbon footprint to be reported in the ES, as this will allow the Scheme to be intercompared with other Highways England schemes.
173	Chapter 14/ Climate/ Section 14.7.4.	It is noted that the CKB tool will be used for the assessment, and that this tool includes an emissions factor library that is automatically used to convert activity data to emissions data. In line with best practice, to ensure appropriate levels of transparency, it is recommended that the activity data and emissions factors used within the calculations should be presented alongside the calculation methodology in the technical appendix of the ES.
174	Chapter 14 Climate / Section 14.7.6	The references to the tables in this paragraph do not make sense, as this paragraph relates to significance criteria and the tables referenced outline the study area and the relevant legislation/policies. It would have been useful to include the criteria against which effects are classified as major, moderate, minor, negligible or no change specific to the climate change assessment - this needs to be provided in the ES to ensure clarity what constitutes each level of effect.
175	Chapter 14 Climate / 14.5.1	The potential impacts section states "there is only one impact, global warming, which occurs with the same level of effect per unit of emissions and is also entirely non-site specific." This is not quite correct as the real impact is climate change, which will include warming but will also have other impacts, such as an increase in extreme weather events and changing rainfall patterns (drier summers, wetter winters).
176	Chapter 15 Assessment of Cumulative Effects / Section 15.1	Reference should be made to PINS Advice Note Seventeen which is the most up-to-date guidance on the methodology for assessing cumulative effects for Nationally Significant Infrastructure Projects.

177	Chapter 15 Assessment of Cumulative Effects / Section 15.2.2	The approach to identifying the 'other developments' using proposed thresholds and spatial area (of developments) outlined in Section 15.2.2 separately to the identification of the ZOI for each topic in Table 15.1, does not accord with PINs Advice Note Seventeen. PINS Advice Note Seventeen states that the applicant should determine the likely spatial ZOI for each environmental topic area (as has been done in Table 15.1), it then states that ' the applicant undertakes a desk study of planning applications, development plan documents, relevant development frameworks and any other available sources to identify 'other developments' within the ZOI'. Therefore, developments should be identified on the basis of the topic ZOIs (the largest ZOI) not under a separate criteria. However, if chosen to also use the criteria in 15.2.2 then a definition needs to be provided of what constitutes a regionally significant development, a major development and a minor development.
178	Chapter 15 Assessment of Cumulative Effects / Section 15.2.5	This sentence states that 'the traffic model will take account of the operational effects of major developments in the area and the wider surrounding region' - the air quality and noise assessments use the traffic model data within their assessments, therefore cumulative operational assessments for air quality and noise are often already undertaken. If this is the case, this should be stated within the methodology and included for clarity.
179	Chapter 15 Assessment of Cumulative Effects / Section 15.2.6 - 15.2.12	It would be useful to have identified the distance of the developments from the Scheme; this should be outlined in the ES as per Appendix 1 Matrix 1 of PINS Advice Note Seventeen - additionally, it is recommended that a series of drawings are produced to accompany the ES, showing the proposed Scheme in relation to each of the 'other developments' and the ZOIs.
180	Chapter 15 Assessment of Cumulative Effects / Section 15.2.6 - 15.2.12	A 'level of certainty' for each development has not been assigned. In accordance with PINS Advice Note Seventeen, this should be done for each development (see Table 3 in PINS Advice Note Seventeen) and presented within the ES.
181	Chapter 15 Assessment of Cumulative Effects / Section 15.2.6 - 15.2.12	It is recommended that the information on the 'other developments' is presented within a table, as per Appendix 1 Matrix 1 of PINS Advice Note Seventeen, for the purpose of clarity and ease of comprehension.

182	Chapter 15 Assessment of Cumulative Effects / Section 15.2.7	The site area for this proposed allocation was enlarged to 95.9 ha in the updated Guildford borough Proposed Submission Local Plan: strategy and sites (Guildford Borough Council, June 2017) although the although the allocation of 2,000 homes was not changed.
183	Chapter 15 Assessment of Cumulative Effects / Section 15.2.8	The Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017) was submitted to the Secretary of State in December 2017. Examination is expected to begin in spring/early summer 2018 whilst the current published timetable anticipates adoption in December 2018.
184	Chapter 15 Assessment of Cumulative Effects / Section 15.2.9	An updated and consolidated Land Availability Assessment (2017) was submitted alongside the Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017) in December 2017. This includes a Housing Trajectory which indicates that development of the Former Wisley airfield site (Policy A35) as commencing in 2022/23 and completing by 2033/34.
185	Chapter 15 Assessment of Cumulative Effects / Section 15.2.9	As above comment, Examination is expected to begin in spring/early summer 2018 whilst the current published timetable anticipates adoption in December 2018.
186	Chapter 15 Assessment of Cumulative Effects / Section 15.2.10	It is unlikely that a decision on the planning appeal for the refused Former Wisley airfield planning application will be made until late 2018. The Inspector has indicated that his report to the Secretary of State will not be ready until mid-March 2018.
187	Chapter 15 Assessment of Cumulative Effects / Section 15.2.11	We note the thresholds in para 15.2.2 however would suggest that lower, more sensitive thresholds may be appropriate. There are significant developments proposed along the A3, south of Junction 10. Notably these include proposed site allocations: A43 Garlick's Arch (400 homes), A43a new southbound and northbound slips onto the A3, A58 Land at Burnt Common warehouse (minimum of 7,000 sqm industrial floorspace), A25 Gosden Hill (residential led development for 2,000 homes), A24 Slyfield Area Regeneration Project (1,500 homes), A26 Blackwell Farm (residential led development for 1,800 homes). These proposals are all likely to impact to come degree upon the north/south movement along the A3 and other routes.

188	Chapter 15 Assessment of Cumulative Effects / Sections 15.2.11 and 15.4.5	We suggest that the schemes referenced SRN9 and SRN10 for north facing junctions to be provided to the A3 at the A247 Burnt Common interchange, as included in Appendix C Infrastructure of the Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017), and cross-referenced as a Requirement for Policy A35 Former Wisley airfield, Ockham, should be included in the assessment. The Submission Local Plan was submitted to the Secretary of State in December 2017. Examination is expected to begin in spring/early summer 2018 whilst the current published timetable anticipates adoption in December 2018.Whilst this scheme is not confirmed at this time, paragraph 15.2.1 states with respect to the list of types of nearby potential developments that should be considered in the assessment that it is 'not necessarily limited to' those listed. As stated in the Topic Paper: Transport (Guildford Borough Council, December 2017), which accompanied the Guildford borough Submission Local Plan: strategy and sites (Guildford Borough Council, December 2017): 'These junctions are being promoted to mitigate the impact of the level of strategic planned growth and in particular the development traffic flows resulting from the development of a new settlement at the former Wisley airfield site (site Policy A35), as well as limiting any increase in traffic joining and leaving the A3 at the Ockham interchange.'
189	Chapter 15 Assessment of Cumulative Effects / Section 15.4	The methodology is lacking and does not seem to follow the staged approach set out in PINS Advice Note Seventeen - it is recommended that this approach is followed and outlined in the ES. In addition, the methodology does not differentiate the differing methodologies required for the two types of cumulative effects (cumulative effects for a single scheme and cumulative effects from different schemes). The methodology should reflect the differing approaches in the ES.
190	Chapter 15 Assessment of Cumulative Effects / Table 15.1	The zone of influence for the 'People and Communities' environmental topic should include the village of Ripley as it is considered that the scheme, as presently proposed, is likely to increase traffic flows through this village. The present pattern of recurrent peak period traffic congestion in Ripley and associated adverse community and environmental impacts is a concern to Surrey County Council, the Local Highway Authority. In addition, further consideration should also be given to including other settlements nearby to the proposed scheme, including Wisley, Ockham, East Horsley and West Horsley, within the zone of influence for the 'People and Communities' environmental topic.

191	Chapter 15 Assessment of Cumulative Effects / Section 15.7.3	No assessment has been undertaken in this chapter, therefore the Council is unsure how it can be concluded that 'the main developments that could cause combined and cumulative effects are the highway intervention schemes the M25 Junction 10 - 16 Smart Motorway Programme (SMP) and the A3 Guildford scheme, the RHS Wisley improvement works and the former Wisley Airfield adjacent the scheme'. Further information gathering and assessment is required to inform this conclusion, and therefore this should not be used as a basis to rule out 'other developments' from the cumulative assessment. The assessment process will need to be fully reported, in accordance with PINS Advice Note Seventeen, to ensure that the reasons for excluding any development from further consideration is clearly recorded and to clearly record any decisions made by the applicant in the assessment process.
192	Chapter 16 Summary / Table 16.1	Climate section of the table - the effects listed in this table correspond to the 'vulnerability of the Scheme to climate change', however as noted in comments above the 'vulnerability of the Scheme to climate change' has not been considered in the climate chapter. Therefore, how can it be concluded that these effects would result if this has not been considered in the chapter? Additionally, this table does not conclude the information that has actually been considered in the climate chapter which focusses on the 'effects of the Scheme on climate change'. Clarification is required as to what exactly the climate chapter/assessment of the ES will consider - it is recommended that both the 'effects of the Scheme on climate change' and the 'vulnerability of the Scheme to climate change' is considered and assessed in the ES.
END OF COMMENTS		

From:	Dave.Adams2@hse.gov.uk on behalf of NSIP.Applications@hse.gov.uk
To:	M25 Junction 10
Subject:	NSIP - Proposed M25 J10/A3 Wisley Interchange Improvement - HSE Response
Date:	02 January 2018 13:58:19
Attachments:	image003.png NSIP - Proposed M25 J10 A3 Wisley Interchange Improvement - EIA Scoping Consultation, HSE PDF Response.PDF

FAO Ms Gail Boyle

Dear Gail,

Thank you for your letter dated 13th December 2017. HSE does not comment on EIA Scoping Reports but the information attached is likely to be useful to the Applicant.

Kind regards,

Dave Adams
Dave.MHPD.Adams
Land Use Planning Policy, Chemicals, Explosives & Microbiological Hazards Division, Health and Safety Executive.
Desk 76, 2.2, Redgrave Court, Merton Road, Bootle, Merseyside L20 7HS
+44 (0) 20 3028 3408 dave.mhpd.adams@hse.gov.uk
www.hse.gov.uk | http://hse.gov.uk/landuseplanning
HSE EVP Blue Logo.png

From: M25 Junction 10 [mailto:M25Junction10@pins.gsi.gov.uk]
Sent: 13 December 2017 15:52
To: M25 Junction 10
Subject: TRIM: M25 Junction 10/ A3 Wisley Interchange improvement - EIA scoping report notification and consultation

Dear Sir/Madam

Please see the attached letter on the proposed M25 Junction 10/A3 Wisley interchange improvement.

Please note the deadline for consultation responses is 11 January 2018, and is a statutory requirement that cannot be extended.

Kind regards

Ian Wallis
EIA and Land Rights Advisor
Major Applications and Plans
The Planning Inspectorate, 3D Temple Quay House, Temple Quay, Bristol BS1 6PN

Direct Line: 0303 444 5724
Helpline: 0303 444 5000
Email: ian.wallis@pins.gsi.gov.uk
Web: www.gov.uk/government/organisations/planning-inspectorate (The Planning Inspectorate)

Web: www.infrastructure.planninginspectorate.gov.uk (National Infrastructure Planning)
Twitter: @PINSgov

This communication does not constitute legal advice.
Please view our Information Charter before sending information to the Planning Inspectorate.

HSE
Health and Safety Executive

CEMHD Policy - Land Use Planning
NSIP Consultations
Building 2.2, Redgrave Court
Merton Road, Bootle
Merseyside, L20 7HS

Your ref: TR010030
Our ref: 4.2.1.6227
HSE email: NSIP.applications@hse.gov.uk

FAO Gail Boyle
The Planning Inspectorate
Bristol
BS1 6PN
By e-mail

02/01/18

Dear Ms Boyle

PROPOSED M25 J10/A3 WISLEY INTERCHANGE IMPROVEMENT (the project)
PROPOSAL BY HIGHWAYS ENGLAND (the applicant)
INFRASTRUCTURE PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (as amended) – Regulations 10 and 11

Thank you for your letter of 13th December 2017 regarding the information to be provided in an environmental statement relating to the above project.

HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant.

HSE's land use planning advice

Will the proposed development fall within any of HSE's consultation distances?

The red line DCO boundary falls within the consultation zones for two major accident hazard pipelines:

HSE Ref	Operator	Pipeline ref	Name
6964	Southern Gas Networks	1236	Cobham PT / Cobham PRS
6963	Southern Gas Networks	1235	Hooley (V38) Ripley Pig Trap

Hazardous Substance Consent

The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) may require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others, for which HSC is required, and the associated Controlled Quantities, are set out in The Planning (Hazardous Substances) Regulations 2015.

Hazardous Substances Consent would be required if the site is intending to store or use any of the Named Hazardous Substances or Categories of Substances and Preparations at or above the controlled quantities set out in schedule 1 of these Regulations.

Explosives sites

HSE has no comment to make as there are no licensed explosive sites in the vicinity

Waste

In respect of waste management the applicant should take account of and adhere to relevant health and safety requirements. Particular attention should be paid in respect of risks created from historical landfill sites. More details can be found on HSE's website at: http://www.hse.gov.uk/waste/index.htm

Electrical Safety

No comment from a planning perspective

Please send any further electronic communication on this project directly to the HSE's designated e-mail account for NSIP applications. Alternatively any hard copy correspondence should be sent to:

Mr Dave Adams (MHPD)
NSIP Consultations
2.2 Redgrave Court
Merton Road, Bootle,
Merseyside L20 7HS

Yours sincerely,

[redacted]

Dave Adams
(CEMHD4 Policy)

From:	Burgess, Janice
To:	M25 Junction 10
Cc:	Planning SE
Subject:	M25 Junction 10/A3 Wisley Interchange Improvements: Scoping Consultation
Date:	03 January 2018 16:56:46
Attachments:	image002.png image004.png

For the attention of Gayle Boyle

I refer to the email dated 13 December 2017 from Ian Wallis inviting comment on the Scoping Consultation for the above improvement proposal.

Highways England Spatial Planning Team have been in consultation with the M25 Junction 10/A3 Wisley Improvement project team since project inception and therefore have had opportunities to feed into the creation of the current proposals. I therefore do not have any specific comments to add at this time.

Thank you for the opportunity to comment now and in the future as the project progresses through the Development Consent process.

Regards,

Janice Burgess, Spatial Planning Manager Area 5
Highways England Company Limited
Bridge House, 1 Walnut Tree Close, Guildford, Surrey, GU1 4LZ
Registered in England and Wales No. 9346363

Direct Tel: 0300 470 1055 | Mobile: 07834 333782
www.highwaysengland.co.uk

Consider the environment. Please don't print this e-mail unless you really need to.

Historic England

Gail Boyle
Senior EIA and Land Rights Advisor
Planning Inspectorate
3D Eagle Wing
Temple Quay House
2 The Square
BRISTOL
BS1 6PN

Our ref:
Your ref:
TR010030 - 000008
Telephone
01483 252038

08 January 2018

Dear Ms Boyle,

re: Scoping consultation – application by Highways England for Development Consent for the M25 J 10/A3 Wisley Interchange Improvement.

Thank you for consulting Historic England about EIA scoping for the above proposed development.

As the Government's statutory adviser, Historic England is keen to ensure that conservation and enhancement of the historic environment is fully taken into account at all stages and levels of the planning process. Accordingly, we have reviewed this consultation in the context of the National Planning Policy Framework (NPPF) and its core principle that heritage assets be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life for this and future generations. We have also considered the National Policy Statement for National Networks.

We are providing pre-application advice to Highways England focussed on the potential for this highways related development to have significant effects upon designated heritage assets and/or their settings. This has so far concentrated on the two registered historic parks and gardens – RHS Wisley and Painshill Park but now needs to include the full range of heritage assets that will be affected. We provided advice which has been used as part of the announcement of the preferred design option, but we retain concerns about some of the conclusions reached and we will expect these to be further scrutinised as part of the EIA process. We are in contact with Highways England about how we can continue to engage with their proposals as they work on a DCO application and an Environmental Statement.

We think that the principal historic environment issues applicable to this proposal will be

- Direct physical impacts upon designated heritage assets (most notably the two high grade registered historic parks and gardens),
- Indirect effects upon the significance of designated heritage assets by virtue of change within their settings affecting the contribution that these make to such significance,
- Effects upon the operation and viability of designated heritage assets under their established uses,
- Direct and Indirect effects upon non-designated heritage assets (specifically potentially those with archaeological value), some of which may yet to be recognised.

In general the above issues have been appropriately identified as matters to be addressed through the EIA process and we make the comments below to inform this.

Direct physical impacts upon heritage assets

Appendix F provides a gazetteer of the heritage assets to be taken into account. We are content that for the most part relevant designated and undesignated examples have been identified. However the Temple of Bacchus at Painshill Park is part of the RPG and is a structure that is now approaching complete restoration by the Trust. It is a heritage asset close to the location of the proposed works to widen the A3 and it therefore deserves individual consideration and inclusion in the gazetteer.

We note that the significance of Painshill Park in some part of the scoping report is understated, including when compared with the description of RHS Wisley (compare paras 9.3.2 & 9.3.3). We think there needs to be a read across between chapters 9 and 11 and that the statements of significance for these two high grade landscapes need to be fully accurate. Effects on that significance should then be more easily understood and mitigated. Painshill Park (grade 1 RPG) is of international significance as a one of the most important picturesque landscapes of the 18th century. It is open to the public for thousands of visits each year. Statements of Significance for both Painshill and RHS Wisley (grade II* RPG) as prepared by their owners exist and these should now be used to inform the proposal.

We also urge caution that some of the descriptions quoted in the Scoping Report come from older documents that are no longer accurate, such as table 9.2 for Elmbridge BC Landscape Character Areas or appendix F for National Heritage List for England data. For example, at Painshill Park both the Water Wheel and Grotto have now been fully conserved. The EIA team will be familiar with such issues as this and will we trust make their own assessments based on the present day position.

The illustrative material for the preferred design (drawings DR- CH-000001 – 11) is of a scale which makes it difficult for us to fully understand what land-take will be required from both of the RPGs but some such direct impact will be required. It appears to us to be more significant for Painshill Park than for RHS Wisley but we wish to understand this better. Loss of any registered land is to be regretted and we wish to understand why this is necessary. The contribution to significance made by the land so affected needs to be assessed so as to understand levels of harm, but in

addition other less direct effects will also need to be considered. For example the continued viability for the existing uses made by RHS Wisley of land adjacent to the A3 requires consideration.

Clarification of which trees would be lost is required and the significance of these, either individually or as part of the historic landscapes, is required. At Painshill Park we think that the land take will be more significant and again the effect on significance is required. Individual trees here might be individually less significant than at RHS Wisley but the relevance of these in providing screening (both visual and for noise) from the A3 needs to be considered. In addition attention is required as to how any tree removal and new structures might alter the existing environmental condition within the park, including for wind patterns. It will need to be demonstrated that agreed changes will not have unintentional consequences for the rest of the park and its planting, including for its longevity and vulnerability to storm events.

Indirect effects by virtue of change within the settings of heritage assets

Change within the settings of designated heritage assets has the potential to cause harm to significance. This is relevant to the RPGs, potentially to some other listed buildings and for the scheduled monuments located close to the existing M25 junction 10 or adjacent to Painshill Park.

Proposals for new overbridges at Wisley Lane and close to Redhill Road each have the potential to harm RHS Wisley and Painshill Park respectively. For the latter the proposed bridge in close proximity to the Gothic Tower (listed II*) is of particular concern. We wish to understand why less harmful solutions, such as a crossing nearer the San Dominico site, have not been adopted and whether re-consideration of this element is still possible. The EIA process will provide more precise understanding of the level of harm to be caused by a new bridge next to the high grade listed tower. We will expect harm to be minimised including by considering alternative designs and or locations. If harm cannot be avoided we understand that mitigation of harmful effects can be provided by Highways England. We think that opportunities to enhance the setting of designated heritage assets should form part of the proposed mitigation for unavoidable harm. For example the existing electricity pylons close to the Gothic Tower are very harmful and we think opportunities should be taken to relocate these as a public benefit that might help offset harm to be caused by the new works.

The scheduled barrow at Cock Crow Hill is already very close to the existing junction 10 and will remain so with on-going harm to its setting. We think that an improved management regime for this monument could be one way of mitigating some of that harm, particularly if existing trackways close to it are to be closed off. Agreement of a management plan for this barrow and any other archaeological remains that might now be identified (and the funding to carry this into effect) might be one form of mitigation of unavoidable harm.

Effects on the setting of heritage assets are most often described in visual terms but other factors are also relevant, of which noise is an important one. At present both

RPGs experience significant levels of road noise and it needs to be demonstrated how this will change under the proposals and what forms of mitigation, that are acceptable in historic environment terms, might now be possible. This might mean noise attenuation barriers but it could also be noise reduction road surfaces. The aim should be to achieve an improvement over the existing position and certainly not to make it worse. The operation of both RPGs includes opening to visitors and is hence affected by road noise. At Painshill Park this is of particular relevance to its existing and future operational viability. Funding to sustain the heritage asset and to continue its conservation is increasingly earned from fees for filming opportunities at the site and already road noise is an issue affecting how often the site is selected as a location and thus the income to be earned. This important source of income should not be reduced as a result of the proposal.

Undesignated heritage assets, including the potential for as yet unrecognised examples.

The Scoping Report includes the potential for there to be as yet unrecognised heritage assets which might be harmed by the proposal. This potential is possibly at its highest for the land near the scheduled barrows, since it is common for other buried archaeological remains to be found around such funerary or ceremonial structures. The report advances a fairly standard approach to understanding whether such remains exist and if they do for the effect of the proposal upon the significance of these. Walkover and geophysical surveys both have a role but we think that trial trenching will also be necessary (including potentially to verify that absence of evidence is indeed a reliable indicator that nothing exists). There is a potential role for analysis of LIDAR data in areas with existing tree cover and heathland in order to explore whether earthwork remains too subtle to be readily visible to the human eye might in fact be present.

Para 11.10 of the report describes assumptions and limitations should additional heritage assets not currently in the HER data be identified. At 11.01.1 it is wrongly assumed that such remains might only be of local to regional importance. It is possible that as yet unrecognised archaeological remains of a higher significance might be revealed and in which case these should be considered under NPPF criteria, whereby remains of an equivalent significance to scheduled monuments would under para 139 be treated as if they were a designated heritage asset. It should not be assumed that archaeological investigation to record significance will be the only appropriate option, since the presumption for nationally important archaeological remains begins with their physical preservation in situ, for example through design changes.

Finally para 11.10.1 also refers to “auxiliary work” of a temporary or permanent nature to include such issues as construction compounds, service diversions or habitat mitigation. It is stated that these will be restricted to within the study area. It is essential that this is the case since major harm to heritage assets can be caused if such activities are not planned in from the earliest stage and their environmental effects understood and mitigated. For temporary effects, such as construction compounds, harm to any heritage assets (including archaeological remains of

regional or local importance) should be avoided or minimised wherever possible since once caused this cannot be undone and all archaeological remains are worthy of consideration for physical preservation.

Should you have any questions about any of the advice contained in this letter please do not hesitate to contact us. We look forward to continuing our discussions with Highways England and indeed we have a meeting fixed for later this month in order to do so.

Please note that this advice is based on the information that has been provided to us and does not affect our obligation to advise on, and potentially object to any specific development proposal which may subsequently arise from these documents, and which may have adverse effects on the historic environment.

Yours sincerely

[redacted]

Peter Kendall
Principal Inspector of Ancient Monuments

Peter.kendall@historicengland.org.uk

London Borough of Hounslow

Economic Development and Environment

Regeneration, Economic Development and Environment Department

3D Eagle Wing
Temple Quay
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Development Management
London Borough of Hounslow, The Civic Centre
Lampton Road, Hounslow, TW3 4DN

Your contact is: **Nesha Burnham**
Direct Line: 020 8583 5145
Fax: 020 8583 4900
E-Mail: nesha.burnham@hounslow.gov.uk
Our ref: **C/2017/5311**
Your ref: **TR010030-TR010030-000008**
Date: **11th January 2018**

Dear Ms Boyle,

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Imapct Assessment) Regulations 2017 (the EIA Regulations)- Regulations 10 and 11

Application by Highways England for an Order granting Development Consent for the M25 Junction 10/A3 Wisley Interchange Improvement

Thank you for the consultation letter dated 13th December 2017 which seeks the London Borough of Hounslow's views in respect of Highways England's Environmental Scoping Report.

From the information submitted and made available on the National Infrastructure Planning website, the London Borough of Hounslow does not wish to make any comments.

I trust that this information is of assistance.

Yours sincerely,

Marilyn Smith
Chief Planning Officer

GH

National Grid house
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

Land and Acquisitions
Spencer Jefferies
Development Liaison Officer
Network management
Spencer.Jefferies@nationalgrid.com
Direct tel: +44 (0)7812 651481

www.nationalgrid.com

SUBMITTED ELECTRONICALLY:
M25Junction10@pins.gsi.gov.uk

09 January 2018

Dear Sir/Madam

Application by Highways England for an Order granting Development Consent for the M25 Junction 10/A3 Wisley Interchange Improvement (the Order)

Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

This is a response on behalf of National Grid Electricity Transmission PLC (NGET).

I refer to your letter dated 13th December 2017 regarding the Order. NGET wish to express their interest in further consultation while the impact on our assets is still being assessed.

In respect of existing NGET infrastructure, NGET will require appropriate protection for retained apparatus including compliance with relevant standards for works proposed within close proximity of its apparatus.

National Grid Electricity Transmission Assets affected by the Order

- ZM Overhead Line 275kV Route. Towers potentially affected: ZM007 to ZM025 (see attached plan)

Where the Promoter intends to acquire land, extinguish rights, or interfere with any of NGET's apparatus, both will require appropriate protection and further discussion on the impact to its apparatus and rights.

Please see relevant guidance for working near NGET assets below.

National Grid house
Warwick Technology Park
Gallows Hill, Warwick
CV34 6DA

Specific Comments – Electricity Infrastructure:

- National Grid's Overhead Line/s is protected by a Deed of Easement/Wayleave Agreement which provides full right of access to retain, maintain, repair and inspect our asset

- Statutory electrical safety clearances must be maintained at all times. Any proposed buildings must not be closer than 5.3m to the lowest conductor. National Grid recommends that no permanent structures are built directly beneath overhead lines. These distances are set out in EN 43 – 8 Technical Specification for "overhead line clearances Issue 3 (2004) and also shown in the following National Grid Document: http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=6169

- If any changes in ground levels are proposed either beneath or in close proximity to our existing overhead lines then this would serve to reduce the safety clearances for such overhead lines. Safe clearances for existing overhead lines must be maintained in all circumstances.

- The relevant guidance in relation to working safely near to existing overhead lines is contained within the Health and Safety Executive's (www.hse.gov.uk) Guidance Note GS 6 "Avoidance of Danger from Overhead Electric Lines" and all relevant site staff should make sure that they are both aware of and understand this guidance.

- Plant, machinery, equipment, buildings or scaffolding should not encroach within 5.3 metres of any of our high voltage conductors when those conductors are under their worse conditions of maximum "sag" and "swing" and overhead line profile (maximum "sag" and "swing") drawings should be obtained using the contact details above.

- If a landscaping scheme is proposed as part of the proposal, we request that only slow and low growing species of trees and shrubs are planted beneath and adjacent to the existing overhead line to reduce the risk of growth to a height which compromises statutory safety clearances.

- Drilling or excavation works should not be undertaken if they have the potential to disturb or adversely affect the foundations or "pillars of support" of any existing tower. These foundations always extend beyond the base area of the existing tower and foundation ("pillar of support") drawings can be obtained using the contact details above.

- National Grid Electricity Transmission high voltage underground cables are protected by a Deed of Grant; Easement; Wayleave Agreement or the provisions of the New Roads and Street Works Act. These provisions provide National Grid full right of access to retain, maintain, repair and inspect our assets. Hence we require that no permanent / temporary structures are to be built over our cables or within the easement strip. Any such proposals should be discussed and agreed with National Grid prior to any works taking place.

- Ground levels above our cables must not be altered in any way. Any alterations to the depth of our cables will subsequently alter the rating of the circuit and can compromise the reliability, efficiency and safety of our electricity network and requires consultation with National Grid prior to any such changes in both level and construction being implemented.

National Grid house
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To view the SSW22 Document, please use the link below:
http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33968

To view the National Grid Policy's for our Sense of Place Document. Please use the link below:
http://www2.nationalgrid.com/uk/services/land-and-development/publications/

To download a copy of the HSE Guidance HS(G)47, please use the following link:
http://www.hse.gov.uk/pubns/books/hsg47.htm

Further information in relation to in proximity to National Grid's apparatus can be found at:
http://www2.nationalgrid.com/UK/Safety/Library/

I hope the above information is useful. If you require any further information please do not hesitate to contact me.

Yours sincerely

Spencer Jefferies
Development Liaison Officer, Land and Acquisitions.

nationalgrid | Map Title

Legend:

- Substations Commissioned
- OHL 400Kv Commissioned
- OHL 275Kv Commissioned
- OHL 132Kv & Below Commissioned
- Towers Commissioned
- Buried Cable Commissioned
- Fibre Cable Commissioned
- Pilot Cable
- Gas Operational Boundary
- Gas Site Boundary
- Block Valve
- Compressor
- LNG Site
- Multijunction
- Minimum Offtake
- Future Minimum Offtake
- Offtake
- Pressure Reduction Installation
- Pig Trap
- Terminal
- Transferred Offtake
- Aerial Marker Post
- CP Test Post
- Transformer Rectifier
- Gas Pipe Feeder
  - Commissioned
  - Decommissioned Group
  - Planned and Spares
- SRP Sightings - Open
- SRP Sightings - Closed
- Eagles Enquiries - Open
- Eagles Enquiries - Closed

Notes:

0 0.63 1.3 Kilometers

Scale: 1: 34,392

Print by: **Jefferies, Spencer**

Date: 08/01/2018

Time: 11:18:38

Page size: A3 Portrait

Note: Any sketches on the map are approximate and not captured to any particular level of precision.

From:	Waterton, Laura
To:	M25 Junction 10
Cc:	Gibson, John; Botcherby, Rachel
Subject:	Scoping consultation response - M25 junction 10/Wisley interchange improvements
Date:	11 January 2018 11:39:20

Dear Sir/Madam

Re: Scoping consultation in relation to works associated with M25 junction 10/ Wisley interchange improvements

Thank you for contacting the National Trust regarding the content of the Environment Statement relating to the above.

We have now had the opportunity to review the relevant documentation and, in this instance, have **no comment** to make on the content of the Environment Statement.

We are taking this view on the understanding that this does not prejudice our ability to comment on subsequent consultations for this major road works.

Yours faithfully,

Laura Waterton

Laura Waterton BA (Hons) M UrbRegPlan DipTP MRTPI
Planning Adviser
t **National Trust - London and South East**
The Clare Charity Centre, Wycombe Road, Saunderton, Bucks HP14 4BF
Email: laura.waterton@nationaltrust.org.uk
Tel: 01494 569022
Mobile: 07483375357

****Working days: Tues, Wed and Thurs****

From:	NATS Safeguarding
To:	M25 Junction 10
Subject:	RE: M25 Junction 10/ A3 Wisley Interchange improvement - EIA scoping report notification and consultation (Our Ref: SG25591)
Date:	18 December 2017 09:18:07
Attachments:	image001.png image002.png image003.png image004.gif image005.png image006.png image007.png

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The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Public Limited Company ("NERL") has no safeguarding objection to the proposal, **however, we would request that the development does not exceed 45m in height**.

However, please be aware that this response applies specifically to the above consultation and only reflects the position of NATS (that is responsible for the management of en route air traffic) based on the information supplied at the time of this application. This letter does not provide any indication of the position of any other party, whether they be an airport, airspace user or otherwise. It remains your responsibility to ensure that all the appropriate consultees are properly consulted.

If any changes are proposed to the information supplied to NATS in regard to this application which become the basis of a revised, amended or further application for approval, then as a statutory consultee NERL requires that it be further consulted on any such changes prior to any planning permission or any consent being granted.

Yours Faithfully

NATS Safeguarding

D: 01489 444687
E: natssafeguarding@nats.co.uk

4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk

From: M25 Junction 10 [mailto:M25Junction10@pins.gsi.gov.uk]
Sent: 13 December 2017 15:52
To: M25 Junction 10
Subject: M25 Junction 10/ A3 Wisley Interchange improvement - EIA scoping report notification and consultation

---

Dear Sir/Madam

Please see the attached letter on the proposed M25 Junction 10/A3 Wisley interchange improvement.

Please note the deadline for consultation responses is 11 January 2018, and is a statutory requirement that cannot be extended.

Kind regards

Ian Wallis
EIA and Land Rights Advisor
Major Applications and Plans
The Planning Inspectorate, 3D Temple Quay House, Temple Quay, Bristol BS1 6PN

Direct Line: 0303 444 5724
Helpline: 0303 444 5000
Email: ian.wallis@pins.gsi.gov.uk
Web: www.gov.uk/government/organisations/planning-inspectorate (The Planning Inspectorate)
Web: www.infrastructure.planninginspectorate.gov.uk (National Infrastructure Planning)
Twitter: @PINSgov

Date: 22 December 2017
Our ref: 233944
Your ref: TR010030-TR010030-000008

Ian Wallis
ian.wallis@pins.gsi.gov.uk

BY EMAIL ONLY

Customer Services
Hornbeam House
Crewe Business Park
Electra Way
Crewe
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T 0300 060 3900

Dear Mr Wallis

Environmental Impact Assessment Scoping consultation (Regulation 15 (3) (i) of the EIA Regulations 2011): M25 Junction 10/A3 Wisley Interchange

Thank you for seeking our advice on the scope of the Environmental Statement in your consultation dated 13 December 2017 which we received on the same day.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

Case law[1] and guidance[2] has stressed the need for a full set of environmental information to be available for consideration prior to a decision being taken on whether or not to grant planning permission.

Summary of Natural England's Advice
Having reviewed the Regional Investment Programme M25 Junction 10/A3 Wisley Interchange Environmental Scoping Report, dated 6th December 2017, Natural England can confirm we are satisfied with the proposed scope of the assessment. Furthermore, we would offer the following detailed advice:

- In relation to assessment of air quality impacts Natural England is pleased to see the proposal to apply a precautionary approach and to use recommended standards for levels of NOx deposition which pose a risk of impacts on sensitive vegetation types. Lowland heathland is vulnerable to adverse impacts arising from nutrient deposition, including elevated levels of NOx. This can change the character of heathland from heather-dominated vegetation to more grass-dominated types, and encourage the growth of trees and shrubs thus rendering the habitat less suitable for ground-nesting birds. This risk has been recognised in the document. The proposal to limit assessment of potential impacts on sensitive vegetation to 200 metres is in line with agreed policy between Highways England and Natural England.

- In relation to assessment of noise impacts Natural England is pleased to see proposed consideration of the use of noise barriers to ameliorate potential disturbance effects on sensitive breeding birds.

[1] Harrison, J in *R. v. Cornwall County Council ex parte Hardy* (2001)
[2] *Note on Environmental Impact Assessment Directive for Local Planning* Authorities Office of the Deputy Prime Minister (April 2004) available from http://webarchive.nationalarchives.gov.uk/+/http://www.communities.gov.uk/planningandbuilding/planning/sustainabilityenvironmental/environmentalimpactassessment/noteenvironmental/

- In relation to biodiversity, Natural England is satisfied with the proposed limits of the study area.

- Natural England is satisfied with the interpretation of chapter 5 (Biodiversity) of the National Policy Statement for National Networks as set out in the document.

- Natural England is satisfied that the proposed ecological studies and surveys are sufficient and appropriate to inform the Environmental Impact Assessment.

- Natural England is satisfied with the proposed valuation of environmental resources and receptors. These are in accordance with advice provided by Natural England during informal consultation. I can confirm that Natural England and Highways England are in regular and continuing communication over the scope of ecological surveys as stated in the document.

Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again.

We would be happy to comment further should the need arise but if in the meantime you have any queries please do not hesitate to contact us. For any queries relating to the specific advice in this letter only please contact Rebecca Ingram on rebecca.ingram@naturalengland.org.uk or 02080267712. For any new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

Yours sincerely,

Rebecca Ingram
Thames Team

Public Health England

CRCE/NSIP Consultations
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Ms Gail Boyle
Senior EIA and Land Rights Adviser
The Planning Inspectorate
3D Eagle Wing
Temple Quay House
2 The Square
Bristol BS1 6PN

Your Ref : TR010030-TR010030-000008

Our Ref : 41860

11th January 2018

Dear Gail

Re: Scoping Consultation
Application for an Order Granting Development Consent for the proposed M25 Junction 10/ A3 Wisley Interchange

Thank you for including Public Health England (PHE) in the scoping consultation phase of the above application. Our response focuses on health protection issues relating to chemicals and radiation. Advice offered by PHE is impartial and independent.

We understand that the promoter will wish to avoid unnecessary duplication and that many issues including air quality, emissions to water, waste, contaminated land etc. will be covered elsewhere in the Environmental Statement (ES). We believe the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

In terms of the level of detail to be included in an ES, we recognise that the differing nature of projects is such that their impacts will vary. Any assessments undertaken to inform the ES should be proportionate to the potential impacts of the proposal, therefore we accept that, in some circumstances particular assessments may not be relevant to an application, or that an assessment may be adequately completed using a qualitative rather than quantitative methodology. In cases where this decision is made the promoters should fully explain and justify their rationale in the submitted documentation.

The attached appendix outlines generic areas that should be addressed by all promoters when preparing ES for inclusion with an NSIP submission. We are happy to assist and discuss proposals further in the light of this advice.

Yours sincerely,

Environmental Public Health Scientist

nsipconsultations@phe.gov.uk

Please mark any correspondence for the attention of National Infrastructure Planning Administration.

Appendix: PHE recommendations regarding the scoping document

General approach

The EIA should give consideration to best practice guidance such as the Government's Good Practice Guide for EIA[1]. It is important that the EIA identifies and assesses the potential public health impacts of the activities at, and emissions from, the installation. Assessment should consider the development, operational, and decommissioning phases.

It is not PHE's role to undertake these assessments on behalf of promoters as this would conflict with PHE's role as an impartial and independent body.

Consideration of alternatives (including alternative sites, choice of process, and the phasing of construction) is widely regarded as good practice. Ideally, EIA should start at the stage of site and process selection, so that the environmental merits of practicable alternatives can be properly considered. Where this is undertaken, the main alternatives considered should be outlined in the ES[2].

The following text covers a range of issues that PHE would expect to be addressed by the promoter. However this list is not exhaustive and the onus is on the promoter to ensure that the relevant public health issues are identified and addressed. PHE's advice and recommendations carry no statutory weight and constitute non-binding guidance.

Receptors

The ES should clearly identify the development's location and the location and distance from the development of off-site human receptors that may be affected by emissions from, or activities at, the development. Off-site human receptors may include people living in residential premises; people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly-accessible land. Consideration should also be given to environmental receptors such as the surrounding land, watercourses, surface and groundwater, and drinking water supplies such as wells, boreholes and water abstraction points.

Impacts arising from construction and decommissioning

Any assessment of impacts arising from emissions due to construction and decommissioning should consider potential impacts on all receptors and describe monitoring and mitigation during these phases. Construction and decommissioning will be associated with vehicle movements and cumulative impacts should be accounted for.

We would expect the promoter to follow best practice guidance during all phases from construction to decommissioning to ensure appropriate measures are in place

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[1] Environmental Impact Assessment: A guide to good practice and procedures - A consultation paper; 2006; Department for Communities and Local Government. Available from: http://webarchive.nationalarchives.gov.uk/20100410180038/http:/communities.gov.uk/planningandbuilding/planning/sustainabilityenvironmental/environmentalimpactassessment/

[2] DCLG guidance, 1999 http://www.communities.gov.uk/documents/planningandbuilding/pdf/155958.pdf

to mitigate any potential impact on health from emissions (point source, fugitive and traffic-related). An effective Construction Environmental Management Plan (CEMP) (and Decommissioning Environmental Management Plan (DEMP)) will help provide reassurance that activities are well managed. The promoter should ensure that there are robust mechanisms in place to respond to any complaints of traffic-related pollution, during construction, operation, and decommissioning of the facility.

Emissions to air and water

Significant impacts are unlikely to arise from installations which employ Best Available Techniques (BAT) and which meet regulatory requirements concerning emission limits and design parameters. However, PHE has a number of comments regarding emissions in order that the EIA provides a comprehensive assessment of potential impacts.

When considering a baseline (of existing environmental quality) and in the assessment and future monitoring of impacts these:

- should include appropriate screening assessments and detailed dispersion modelling where this is screened as necessary
- should encompass all pollutants which may be emitted by the installation in combination with all pollutants arising from associated development and transport, ideally these should be considered in a single holistic assessment
- should consider the construction, operational, and decommissioning phases
- should consider the typical operational emissions and emissions from start-up, shut-down, abnormal operation and accidents when assessing potential impacts and include an assessment of worst-case impacts
- should fully account for fugitive emissions
- should include appropriate estimates of background levels
- should identify cumulative and incremental impacts (i.e. assess cumulative impacts from multiple sources), including those arising from associated development, other existing and proposed development in the local area, and new vehicle movements associated with the proposed development; associated transport emissions should include consideration of non-road impacts (i.e. rail, sea, and air)
- should include consideration of local authority, Environment Agency, Defra national network, and any other local site-specific sources of monitoring data
- should compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as UK Air Quality Standards and Objectives and Environmental Assessment Levels)
    - If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (a Tolerable Daily Intake or equivalent). Further guidance is provided in Annex 1
    - This should consider all applicable routes of exposure e.g. include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion
- should identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities) in the area(s) which may be affected by emissions, this should include consideration of any new receptors arising from future development

Whilst screening of impacts using qualitative methodologies is common practice (e.g. for impacts arising from fugitive emissions such as dust), where it is possible to undertake a quantitative assessment of impacts then this should be undertaken.

PHE's view is that the EIA should appraise and describe the measures that will be used to control both point source and fugitive emissions and demonstrate that standards, guideline values or health-based values will not be exceeded due to emissions from the installation, as described above. This should include consideration of any emitted pollutants for which there are no set emission limits. When assessing the potential impact of a proposed installation on environmental quality, predicted environmental concentrations should be compared to the permitted concentrations in the affected media; this should include both standards for short and long-term exposure.

Additional points specific to emissions to air
When considering a baseline (of existing air quality) and in the assessment and future monitoring of impacts these:

- should include consideration of impacts on existing areas of poor air quality e.g. existing or proposed local authority Air Quality Management Areas (AQMAs)
- should include modelling using appropriate meteorological data (i.e. come from the nearest suitable meteorological station and include a range of years and worst case conditions)
- should include modelling taking into account local topography

Additional points specific to emissions to water
When considering a baseline (of existing water quality) and in the assessment and future monitoring of impacts these:

- should include assessment of potential impacts on human health and not focus solely on ecological impacts
- should identify and consider all routes by which emissions may lead to population exposure (e.g. surface watercourses; recreational waters; sewers; geological routes etc.)
- should assess the potential off-site effects of emissions to groundwater (e.g. on aquifers used for drinking water) and surface water (used for drinking water abstraction) in terms of the potential for population exposure
- should include consideration of potential impacts on recreational users (e.g. from fishing, canoeing etc) alongside assessment of potential exposure via drinking water

Land quality
We would expect the promoter to provide details of any hazardous contamination present on site (including ground gas) as part of the site condition report.

Emissions to and from the ground should be considered in terms of the previous history of the site and the potential of the site, once operational, to give rise to issues. Public health impacts associated with ground contamination and/or the

migration of material off-site should be assessed[3] and the potential impact on nearby receptors and control and mitigation measures should be outlined.
Relevant areas outlined in the Government's Good Practice Guide for EIA include:

- effects associated with ground contamination that may already exist
- effects associated with the potential for polluting substances that are used (during construction / operation) to cause new ground contamination issues on a site, for example introducing / changing the source of contamination
- impacts associated with re-use of soils and waste soils, for example, re-use of site-sourced materials on-site or offsite, disposal of site-sourced materials offsite, importation of materials to the site, etc.

Waste

The EIA should demonstrate compliance with the waste hierarchy (e.g. with respect to re-use, recycling or recovery and disposal).
For wastes arising from the installation the EIA should consider:

- the implications and wider environmental and public health impacts of different waste disposal options
- disposal route(s) and transport method(s) and how potential impacts on public health will be mitigated

Other aspects

Within the EIA PHE would expect to see information about how the promoter would respond to accidents with potential off-site emissions e.g. flooding or fires, spills, leaks or releases off-site. Assessment of accidents should: identify all potential hazards in relation to construction, operation and decommissioning; include an assessment of the risks posed; and identify risk management measures and contingency actions that will be employed in the event of an accident in order to mitigate off-site effects.

The EIA should include consideration of the COMAH Regulations (Control of Major Accident Hazards) and the Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations 2009: both in terms of their applicability to the installation itself, and the installation's potential to impact on, or be impacted by, any nearby installations themselves subject to the these Regulations.

There is evidence that, in some cases, perception of risk may have a greater impact on health than the hazard itself. A 2009 report[4], jointly published by Liverpool John Moores University and the HPA, examined health risk perception and environmental problems using a number of case studies. As a point to consider, the report suggested: "Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard. This is true even when the physical health risks may be

[3] Following the approach outlined in the section above dealing with emissions to air and water i.e. comparing predicted environmental concentrations to the applicable standard or guideline value for the affected medium (such as Soil Guideline Values)

[4] Available from: http://www.cph.org.uk/wp-content/uploads/2012/08/health-risk-perception-and-environmental-problems--summary-report.pdf

negligible.” PHE supports the inclusion of this information within EIAs as good practice.

Electromagnetic fields (EMF)

This statement is intended to support planning proposals involving electrical installations such as substations and connecting underground cables or overhead lines. PHE advice on the health effects of power frequency electric and magnetic fields is available in the following link:

https://www.gov.uk/government/collections/electromagnetic-fields#low-frequency-electric-and-magnetic-fields

There is a potential health impact associated with the electric and magnetic fields around substations, and power lines and cables. The field strength tends to reduce with distance from such equipment.

The following information provides a framework for considering the health impact associated with the electric and magnetic fields produced by the proposed development, including the direct and indirect effects of the electric and magnetic fields as indicated above.

Policy Measures for the Electricity Industry

The Department of Energy and Climate Change has published a voluntary code of practice which sets out key principles for complying with the ICNIRP guidelines:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf

Companion codes of practice dealing with optimum phasing of high voltage power lines and aspects of the guidelines that relate to indirect effects are also available:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224766/powerlines_vcop_microshocks.pdf

Exposure Guidelines

PHE recommends the adoption in the UK of the EMF exposure guidelines published by the International Commission on Non-ionizing Radiation Protection (ICNIRP). Formal advice to this effect was published by one of PHE’s predecessor organisations (NRPB) in 2004 based on an accompanying comprehensive review of the scientific evidence:-

http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/NPRBArchive/DocumentsOfTheNRPB/Absd1502/

Updates to the ICNIRP guidelines for static fields have been issued in 2009 and for low frequency fields in 2010. However, Government policy is that the ICNIRP guidelines are implemented in line with the terms of the 1999 EU Council Recommendation on limiting exposure of the general public (1999/519/EC):

http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Publichealth/Healthprotection/DH_4089500

Static magnetic fields

For static magnetic fields, the ICNIRP guidelines published in 2009 recommend that acute exposure of the general public should not exceed 400 mT (millitesla), for any part of the body, although the previously recommended value of 40 mT is the value used in the Council Recommendation. However, because of potential indirect adverse effects, ICNIRP recognises that practical policies need to be implemented to prevent inadvertent harmful exposure of people with implanted electronic medical devices and implants containing ferromagnetic materials, and injuries due to flying ferromagnetic objects, and these considerations can lead to much lower restrictions, such as 0.5 mT.

Power frequency electric and magnetic fields

At 50 Hz, the known direct effects include those of induced currents in the body on the central nervous system (CNS) and indirect effects include the risk of painful spark discharge on contact with metal objects exposed to the field. The ICNIRP guidelines published in 1998 give reference levels for public exposure to 50 Hz electric and magnetic fields, and these are respectively 5 kV m^{-1} (kilovolts per metre) and 100 μT (microtesla). The reference level for magnetic fields changes to 200 μT in the revised (ICNIRP 2010) guidelines because of new basic restrictions based on induced electric fields inside the body, rather than induced current density. If people are not exposed to field strengths above these levels, direct effects on the CNS should be avoided and indirect effects such as the risk of painful spark discharge will be small. The reference levels are not in themselves limits but provide guidance for assessing compliance with the basic restrictions and reducing the risk of indirect effects.

Long term effects

There is concern about the possible effects of long-term exposure to electromagnetic fields, including possible carcinogenic effects at levels much lower than those given in the ICNIRP guidelines. In the NRPB advice issued in 2004, it was concluded that the studies that suggest health effects, including those concerning childhood leukaemia, could not be used to derive quantitative guidance on restricting exposure. However, the results of these studies represented uncertainty in the underlying evidence base, and taken together with people's concerns, provided a basis for providing an additional recommendation for Government to consider the need for

further precautionary measures, particularly with respect to the exposure of children to power frequency magnetic fields.

The Stakeholder Advisory Group on ELF EMFs (SAGE)

SAGE was set up to explore the implications for a precautionary approach to extremely low frequency electric and magnetic fields (ELF EMFs), and to make practical recommendations to Government:

http://www.emfs.info/policy/sage/

SAGE issued its First Interim Assessment in 2007, making several recommendations concerning high voltage power lines. Government supported the implantation of low cost options such as optimal phasing to reduce exposure; however it did not support not support the option of creating corridors around power lines on health grounds, which was considered to be a disproportionate measure given the evidence base on the potential long term health risks arising from exposure. The Government response to SAGE's First Interim Assessment is available here:

http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107124

The Government also supported calls for providing more information on power frequency electric and magnetic fields, which is available on the PHE web pages (see first link above).

Ionising radiation

Particular considerations apply when an application involves the possibility of exposure to ionising radiation. In such cases it is important that the basic principles of radiation protection recommended by the International Commission on Radiological Protection[5] (ICRP) are followed. PHE provides advice on the application of these recommendations in the UK. The ICRP recommendations are implemented in the Euratom Basic Safety Standards[6] (BSS) and these form the basis for UK legislation, including the Ionising Radiation Regulations 1999, the Radioactive Substances Act 1993, and the Environmental Permitting Regulations 2016.

PHE expects promoters to carry out the necessary radiological impact assessments to demonstrate compliance with UK legislation and the principles of radiation protection. This should be set out clearly in a separate section or report and should not require any further analysis by PHE. In particular, the important principles of justification, optimisation and radiation dose limitation should be addressed. In addition compliance with the Euratom BSS and UK legislation should be clear.

[5] These recommendations are given in publications of the ICRP notably publications 90 and 103 see the website at http://www.icrp.org/

[6] Council Directive 96/29/EURATOM laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation.

When considering the radiological impact of routine discharges of radionuclides to the environment PHE would expect to see a full radiation dose assessment considering both individual and collective (population) doses for the public and, where necessary, workers. For individual doses, consideration should be given to those members of the public who are likely to receive the highest exposures (referred to as the representative person, which is equivalent to the previous term, critical group). Different age groups should be considered as appropriate and should normally include adults, 1 year old and 10 year old children. In particular situations doses to the fetus should also be calculated[7]. The estimated doses to the representative person should be compared to the appropriate radiation dose criteria (dose constraints and dose limits), taking account of other releases of radionuclides from nearby locations as appropriate. Collective doses should also be considered for the UK, European and world populations where appropriate. The methods for assessing individual and collective radiation doses should follow the guidance given in 'Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012 [8].It is important that the methods used in any radiological dose assessment are clear and that key parameter values and assumptions are given (for example, the location of the representative persons, habit data and models used in the assessment).

Any radiological impact assessment should also consider the possibility of short-term planned releases and the potential for accidental releases of radionuclides to the environment. This can be done by referring to compliance with the Ionising Radiation Regulations and other relevant legislation and guidance.

The radiological impact of any solid waste storage and disposal should also be addressed in the assessment to ensure that this complies with UK practice and legislation; information should be provided on the category of waste involved (e.g. very low level waste, VLLW). It is also important that the radiological impact associated with the decommissioning of the site is addressed. Of relevance here is PHE advice on radiological criteria and assessments for land-based solid waste disposal facilities[9]. PHE advises that assessments of radiological impact during the operational phase should be performed in the same way as for any site authorised to discharge radioactive waste. PHE also advises that assessments of radiological impact during the post operational phase of the facility should consider long timescales (possibly in excess of 10,000 years) that are appropriate to the long-lived nature of the radionuclides in the waste, some of which may have half-lives of millions of years. The radiological assessment should consider exposure of members of hypothetical representative groups for a number of scenarios including the expected migration of radionuclides from the facility, and inadvertent intrusion into the facility once institutional control has ceased. For scenarios where the

[7] HPA (2008) Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public. Doc HPA, RCE-5, 1-78, available at https://www.gov.uk/government/publications/embryo-fetus-and-breastfed-infant-application-of-dose-coefficients

[8] The Environment Agency (EA), Scottish Environment Protection Agency (SEPA), Northern Ireland Environment Agency, Health Protection Agency and the Food Standards Agency (FSA). Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296390/geho1202bklh-e-e.pdf

[9] HPA RCE-8, Radiological Protection Objectives for the Land-based Disposal of Solid Radioactive Wastes, February 2009

probability of occurrence can be estimated, both doses and health risks should be presented, where the health risk is the product of the probability that the scenario occurs, the dose if the scenario occurs and the health risk corresponding to unit dose. For inadvertent intrusion, the dose if the intrusion occurs should be presented. It is recommended that the post-closure phase be considered as a series of timescales, with the approach changing from more quantitative to more qualitative as times further in the future are considered. The level of detail and sophistication in the modelling should also reflect the level of hazard presented by the waste. The uncertainty due to the long timescales means that the concept of collective dose has very limited use, although estimates of collective dose from the ‘expected’ migration scenario can be used to compare the relatively early impacts from some disposal options if required.

Annex 1

Human health risk assessment (chemical pollutants)

The points below are cross-cutting and should be considered when undertaking a human health risk assessment:

- The promoter should consider including Chemical Abstract Service (CAS) numbers alongside chemical names, where referenced in the ES
- Where available, the most recent United Kingdom standards for the appropriate media (e.g. air, water, and/or soil) and health-based guideline values should be used when quantifying the risk to human health from chemical pollutants. Where UK standards or guideline values are not available, those recommended by the European Union or World Health Organisation can be used
- When assessing the human health risk of a chemical emitted from a facility or operation, the background exposure to the chemical from other sources should be taken into account
- When quantitatively assessing the health risk of genotoxic and carcinogenic chemical pollutants PHE does not favour the use of mathematical models to extrapolate from high dose levels used in animal carcinogenicity studies to well below the observed region of a dose-response relationship. When only animal data are available, we recommend that the 'Margin of Exposure' (MOE) approach[10] is used

[10] Benford D et al. 2010. Application of the margin of exposure approach to substances in food that are genotoxic and carcinogenic. Food Chem Toxicol 48 Suppl 1: S2-24

From:	Nick Greenwood
To:	M25 Junction 10
Subject:	M25 Junction 10 / A3 Wisley Interchange Improvement
Date:	22 December 2017 15:01:29

Dear Sir/Madam

Thank you for your recent correspondence regarding the application by Highways England for an Order granting Development Consent for the M25 Junction 10 / A3 Wisley Interchange Improvement.

On initial inspection, the Scoping Report appears comprehensive, and this authority has no specific observations at this time. However, we would be grateful to be maintained as a consultation body and to be fully informed of any future developments, with the opportunity to comment at the appropriate time.

Thank you

Kind regards

Nick Greenwood

--
Nick Greenwood
Senior Transport Planner

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Royal Borough of Kingston upon Thames
Guildhall 2 | Kingston upon Thames | KT1 1EU
Tel: 020 8547 5359

nick.greenwood@kingston.gov.uk
Website: www.kingston.gov.uk

M25 Junction 10/A3 Wisley Interchange Improvements

Royal Mail Group Limited comments on information to be provided in applicant's Environmental Statement

Introduction

Reference the letter from PINS to Royal Mail dated 13 December 2017 requesting Royal Mail's comments on the information that should be provided in Highways England's Environmental Statement for the proposed M25 Junction 10/A3 Wisley Interchange Improvements.

Royal Mail's consultants BNP Paribas Real Estate have reviewed the applicant's Scoping Report as submitted to the Secretary of State on 8 December 2017.

Royal Mail– relevant information

Royal Mail is responsible for providing efficient mail sorting and delivery nationally. As the Universal Service Provider under the Postal Services Act 2011, Royal Mail has a statutory duty to deliver mail to every residential and business address in the country as well as collecting mail from all Post Offices and post boxes six days a week.

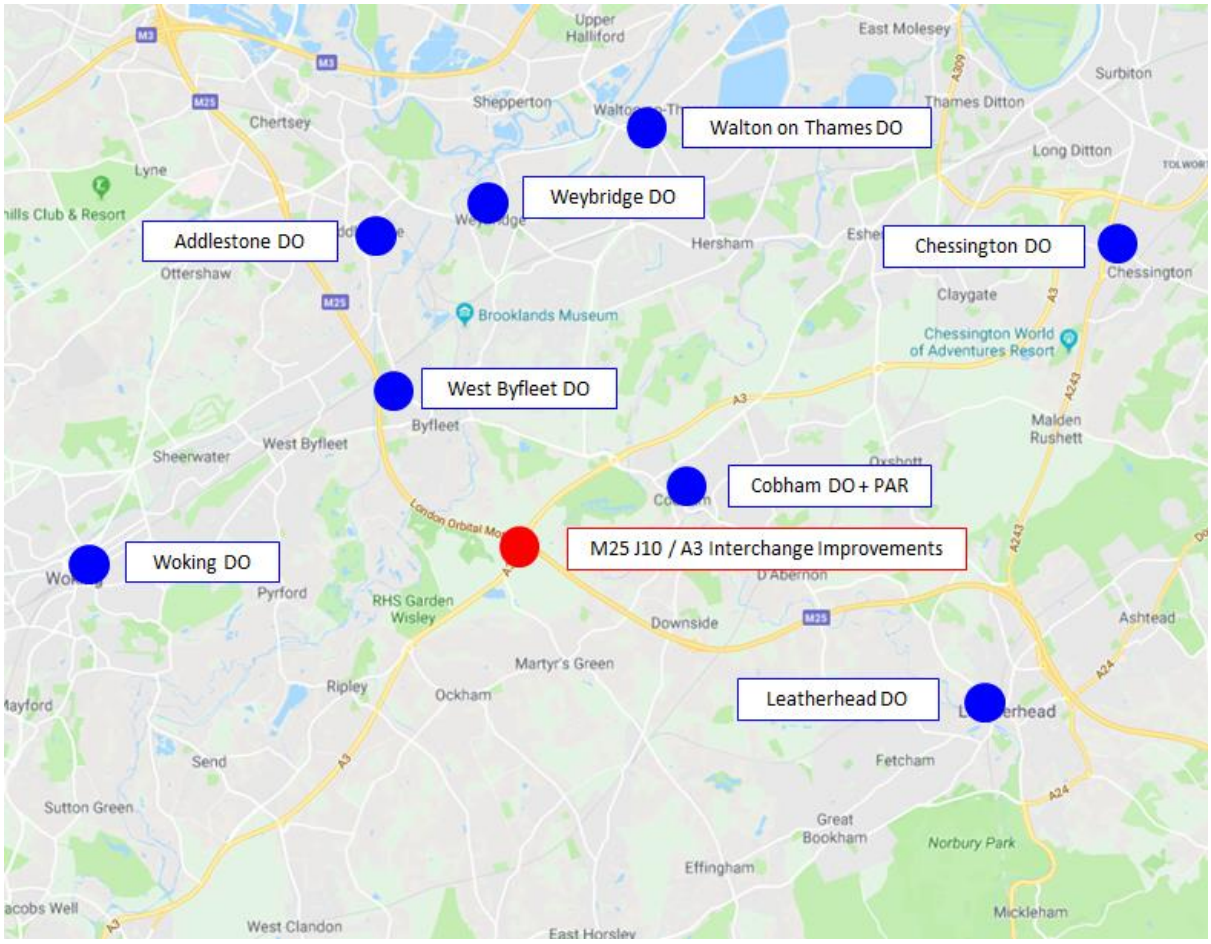
Royal Mail's postal sorting and delivery operations rely heavily on road communications. Royal Mail's ability to provide efficient mail collection, sorting and delivery to the public is sensitive to changes in the capacity of the highway network.

Royal Mail is a major road user nationally. Disruption to the highway network and traffic delays can have direct consequences on Royal Mail's operations, its ability to meet the Universal Service Obligation and comply with the regulatory regime for postal services thereby presenting a significant risk to Royal Mail's business.

Royal Mail therefore wishes to ensure the protection of its future ability to provide an efficient mail sorting and delivery service to the public in accordance with its statutory obligations which may potentially be adversely affected by the construction of this proposed road scheme.

Royal Mail's has nine operational properties within 10.2 miles of the proposed DCO boundary as listed and shown on plan below:

Cobham Delivery Office	1 High Street, Cobham KT11 3EL	2.4 miles
Cobham Vehicle Park	Tiltwood, Hog Hill Lane, Cobham KT11 2AQ	2.9 miles
West Byfleet Delivery Office	Circuit Centre, Avro Way KT13 0XG	4.7 miles
Weybridge Delivery Office	1 Elmgrove Road, Weybridge KT13 8AA	5.5 miles
Walton on Thames Delivery Office	73 Hersham Road, Walton-on-Thames, KT12 7LN	5.8 miles
Addlestone Delivery Office	75 Station Road, Addlestone KT15 2AA	6.4 miles
Leatherhead Delivery Office	Station Road, Leatherhead KT22 7AE	7.6 miles
Chessington Delivery Office	Elm Road, Chessington KT9 1AA	9.3 miles
Woking Delivery Office	White Rose Lane, Woking GU22 7ZZ	10.2 miles



The M25 and A3 are both strategically important distribution routes for Royal Mail operational traffic. Also, in exercising its statutory duties Royal Mail vehicles use on a daily basis all of the local roads that may potentially be affected by additional traffic arising from the construction of the proposed junction improvements.

It is envisaged that the proposed M25 Junction 10/A3 Wisley Interchange Improvements will, once constructed, reduce congestion which will have benefits for Royal Mail operational traffic movements. However, Royal Mail is concerned about the potential for disruption to its operations during the construction phase. In particular, Royal Mail requires more information and certainty about traffic management measures that will be put in place to mitigate construction impacts on traffic flows on the M25 and A3 and the surrounding local highway network.

Royal Mail's comments on information that should be provided in Highways England's Environmental Statement

In view of the above, Royal Mail has the following comments / requests:

1. The ES should include information on the needs of major road users (such as Royal Mail) and acknowledge the requirement to ensure that major road users are not disrupted though full advance consultation by the applicant at the appropriate time in the DCO and development process.

2. The ES and DCO application should include detailed information on the construction traffic mitigation measures that are proposed to be implemented by Highways England / its contractor, including a draft Construction Traffic Management Plan (CTMP).

3. Royal Mail is fully pre-consulted by Highways England / its contractor on any proposed road closures / diversions/ alternative access arrangements, hours of working and the content of the CTMP. The ES should acknowledge the need for this consultation with Royal Mail and other relevant major road users.

Royal Mail is able to supply Highways England with information on its road usage / trips if required.

Should PINS or Highways England have any queries in relation to the above then in the first instance please contact Joe Walsh ***(joseph.walsh@royalmail.com)*** of Royal Mail's Legal Services Team or Daniel Parry-Jones ***(daniel.parry-jones@bnpparibas.com)*** of BNP Paribas Real Estate.

RUSHMOOR BOROUGH COUNCIL

Council Offices, Farnborough Road,
Farnborough, Hants. GU14 7JU
Tel: (01252) 398 399

Website: www.rushmoor.gov.uk

Contact David Stevens
Telephone 01252 398738
Email david.stevens@rushmoor.gov.uk
Date 19th December 2017
Your Ref TR010030-TR010030-000008
Our Ref 17/01020/ADJ

Highways England
c/o The Planning Inspectorate
Fao: Mr Ian Wallis, EIA & Land Rights Advisor, Major Applications & Plans
The Planning Inspectorate
3D Temple Quay House
Temple Quay
Bristol
BS1 6PN

Dear Sirs

CONSULTATION : SCOPING OPINION : Application by Highways England for an Order granting Development Consent for the M25 Junction 10/A3 Wisley Interchange Improvement.

Thank you for your consultation concerning the above matter, which was received on 13 December 2017.

I confirm that Rushmoor Borough Council has no comments to make in respect of this consultation. Nevertheless, it is noted that that the application site involves some sections of land designated as SSSI and also component parts of the Thames Basin Heaths Special Protection Area (SPA). Accordingly any decision to be made must take this into account in order to remain Habitats Regulations compliant.

Yours sincerely

[redacted]

pp **Keith Holland**
Head of Planning
Rushmoor Borough Council

From:	Robert Ainslie
To:	M25 Junction 10
Cc:	Ian Wallis
Subject:	RE: M25 Junction 10/ A3 Wisley Interchange improvement - EIA scoping report notification and consultation
Date:	22 December 2017 10:13:55
Attachments:	image001.jpg

Dear Mr Wallis

Thank you for your e-mail. The Authority does not wish to comment on the Scoping Opinion and do not consider it needs to be a statutory consultee for this development.

I trust this is of assistance.

Yours sincerely

Rob Ainslie
Development Manager
South Downs National Park Authority
Tel: 01730 819265 | Mobile: 07885446941
South Downs Centre, North Street, Midhurst, West Sussex, GU29 9DH
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RTPI Award

From: M25 Junction 10 [mailto:M25Junction10@pins.gsi.gov.uk]
Sent: 13 December 2017 15:52
To: M25 Junction 10 <M25Junction10@pins.gsi.gov.uk>
Subject: M25 Junction 10/ A3 Wisley Interchange improvement - EIA scoping report notification and consultation

Dear Sir/Madam

Please see the attached letter on the proposed M25 Junction 10/A3 Wisley interchange improvement.

Please note the deadline for consultation responses is 11 January 2018, and is a statutory requirement that cannot be extended.

Kind regards

Ian Wallis
EIA and Land Rights Advisor
Major Applications and Plans
The Planning Inspectorate, 3D Temple Quay House, Temple Quay, Bristol BS1 6PN

Direct Line: 0303 444 5724
Helpline: 0303 444 5000
Email: ian.wallis@pins.gsi.gov.uk
Web: www.gov.uk/government/organisations/planning-inspectorate (The Planning Inspectorate)
Web: www.infrastructure.planninginspectorate.gov.uk (National Infrastructure Planning)
Twitter: @PINSgov

From:	Mounty, Russ
To:	M25 Junction 10
Subject:	TR010030-TR010030-000008 - Pproposed M25 junction 10 /A3 Wisley Interchange Improvement.
Date:	10 January 2018 16:42:41

Dear Ms Boyle,

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(the EIA Regulations) – Regulations 10 and 11
Application by Highways England for an Order granting Development Consent for the M25 Junction 10/A3 Wisley Interchange Improvement
Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

Thank you for consulting Spelthorne Borough Council regarding the proposed M25 junction 10 /A3 Wisley interchange improvement.

I can confirm that Spelthorne Borough council has no comments.

Regards

Russ Mounty MSc MRTPI
Principal Planning Officer
Spelthorne Borough Council
Council Offices| Knowle Green|Staines-upon-Thames |TW18 1XB
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Spelthorne Means Business

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SURREY
COUNTY COUNCIL

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Penrhyn Road
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KT1 2DN

Ms Gail Boyle
Senior EIA & Land Rights Adviser
The Planning Inspectorate
3D Eagle Wing
Temple Quay House
2 The Square
Bristol BS1 6PN

11 January 2018

Dear Ms Boyle,

Response to Consultation under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

Application by Highways England for an Order Granting Development Consent for the M25 Junction 10 / A3 Wisley Interchange Improvement

PINS Reference: TR010030-TR010030-000008

1. We write in response to your letter dated 13 December 2017, seeking the views of Surrey County Council on the information to be included in the Environmental Statement (ES) that will be submitted by Highways England as part of the application for a Development Consent Order (DCO) for the proposed improvement works at the M25 Junction 10 / A3 Wisley interchange. The County Council has reviewed the information presented in the prospective applicant's environmental scoping report, and has a number of recommendations to make in respect of the proposed scope of the EIA for the scheme.

2. Due to the relatively short period of time allowed for the consultation, we have been unable to review the submitted material in as great a depth as might otherwise have been the case. Consequently our comments and advice are somewhat limited, in terms of the level and depth of detail provided.

Part A: Air Quality – Chapter 5 (pp.48-66) of the Environmental Scoping Report

3. **Definition of Study Area**: Section 5.2 (p.48) of the Environmental Scoping Report defines the extent of the area that would be covered by the assessment with reference to the impacts of the proposed development on air quality. A study area extending to some 200 metres from the defined site boundary is specified with reference to the potential effects of the construction phase (paragraph 5.2.1, p.48), and of the operational phase (paragraph 5.2.4, p.48). The County Council concurs with the proposed extent of the study area for the operational effects of the development, but recommends that for the construction phase the study area be extended to 350 metres from the site boundary, in line with the Institute of Air Quality Management (IAQM) '*Guidance on the assessment of dust from demolition & construction'* (2014).

4. **Description of Baseline Conditions**: Section 5.4 (pp.51-59) of the Environmental Scoping Report provides an account of baseline conditions at the proposed application site, and in the surrounding area. Measured and modelled information is provided for background levels of particulate matter and nitrogen dioxide at the proposed site and in the wider surrounding area (paragraphs 5.4.3 to 5.4.24, pp.52-55, and Tables 5-2, p.53 to 5-7, pp.58-59). The location of sensitive receptors, in terms of both human health and ecology, that are located in close proximity to the site of the proposed development, is covered in paragraphs 5.4.25 to 5.4.29 (p.58) and Table 5-7 (pp.58-59). The County Council has no comments to make on the sources of baseline that it is proposed be relied upon, nor on the sensitive receptors that would be covered by the assessment.

5. **Proposed Method of Assessment**: Section 5.5 (pp.59-60) of the Environmental Scoping Report identifies the main impacts that it is proposed be addressed through the assessment, for both the construction and operational phases of the scheme. Those impacts include emissions of dust for the construction phase, and emissions from vehicles for the construction and operational phases. The County Council concurs with the types of impacts that have been identified as requiring assessment during the construction and demolition phases of the scheme.

6. Section 5.6 (pp.60-61) and section 5.7 (pp.61-64) of the Environmental Scoping Report discuss the way in which the assessment of impacts on air quality would be undertaken, and cite the guidance that would be followed (DMRB and associated IANs, and Defra's local air quality management technical guidance).

    6.1 For the construction phase, a qualitative assessment of dust impacts is proposed (paragraph 5.7.5, p.61), which would be carried out in line with the method set out in the DMRB. The County Council advises that, for construction effects, the assessment should follow the methodology set out in the IAQM's '*Guidance on the assessment of dust from demolition & construction'* (2014), which includes a specific risk assessment methodology for construction dust.

6.2 For the construction phase, a quantitative assessment of the traffic impacts of the scheme would only be undertaken if suitable and sufficient information, on vehicle numbers, flows, composition and speeds, and traffic management measures were available (paragraph 5.7.5, p.61). The County Council recommends that the applicant estimate the vehicle movements that would be expected to arise from the construction phase, and compare those numbers with the criteria cited in the DMRB for determining which roads would be affected. Where impacts are identified (i.e. the relevant criteria are exceeded), it is recommended that modelling be undertaken to establish the likely significance of the predicted effects.

6.3 For the operational phase, the proposed method of assessment is set out in paragraphs 5.7.6 to 5.7.20 (pp.62-64), and would consider the impacts of operational traffic on local air quality, on regional emissions, and the effect on the development of major accidents and disasters. The County Council concurs with the proposed method of assessment in respect of operational air quality effects.

6.4 For cumulative effects, it is noted that a zone of influence of 200 metres from the affected road network is specified for air quality impacts in chapter 15 (cumulative effects) of the Environmental Scoping Report. The County Council recommends that such a distance is appropriate for the operational phase of the project, but that a distance of 350 metres be used for the assessment of construction phase impacts.

7. **Mitigation Measures**: Section 5.9 (pp.64-65) of the Environmental Scoping Report identifies the mitigation measures that would be deployed during the construction and operational phases of the scheme.

7.1 For the construction phase, the County Council recommends that the mitigation and control measures described in the IAQM's '*Guidance on the assessment of dust from demolition & construction'* (2014), be applied.

7.2 For the operational phase, the need for mitigation of effects on sensitive human receptors appears to have been ruled out in advance of the assessment having been undertaken. The County Council recommends that a transparent assessment of the likely effects be provided, and that appropriate mitigation measures be identified and deployed.

Part B: Noise & Vibration – Chapter 6 (pp.67-77) of the Environmental Scoping Report

8. **Definition of Study Area**: Section 6.2 (p.67) of the Environmental Scoping Report defines the extent of the area that would be covered by the assessment with reference to the impacts of the proposed development on background levels of noise and vibration. Paragraph 6.2.3 (p.67) indicates that the study area would cover land situated within 600 metres of the carriageway edge of any affected road links that are located within 1

kilometre of the proposed scheme, and was determined in line with the guidance set out in Volume 11, Part 3, Section 7 HD 213/11 Noise of the DMRB. The County Council confirms that the approach used to define the study area is acceptable.

9. **Description of Baseline Conditions**: Section 6.4 (pp.70-72) of the Environmental Scoping Report provides an account of baseline conditions at the proposed application site, and in the surrounding area. Paragraph 6.4.1 (p.70) refers to a number of data sources that would be used to determine background noise conditions for the affected area of land, and to identify noise sensitive receptors in the vicinity. A preliminary suite of noise sensitive receptors is identified in paragraphs 6.4.2 to 6.4.6 (pp.70-71), and the sources of information that would be used to define the baseline noise climate, including noise surveys, are described in paragraphs 6.4.7 to 6.4.11 (pp.71-72). The County Council agrees with the preliminary list of noise sensitive receptors, and the sources of baseline information that would be used. The County Council would welcome the opportunity to review and comment upon any changes that may be made to the list of sensitive receptors as the assessment proceeds, and on any amendments that may be made in respect of the proposed baseline monitoring method and locations.

10. **Proposed Method of Assessment**: Section 6.5 (pp.72-73) of the Environmental Scoping Report identifies the main impacts that it is proposed be addressed through the assessment, for both the construction and operational phases of the scheme. For the construction phase the impacts would be temporary, and would arise from the physical works, and from temporary traffic control measures (paragraphs 6.5.2 and 6.5.3, p.73). For the operational phase, the impacts would be associated with changes in traffic (type, volume, density, and speed), and with changes in the alignment of the road network relative to sensitive noise receptors (paragraph 6.5.4, p.73).

11. Section 6.6 (p.73) and section 6.7 (pp.74-76) of the Environmental Scoping Report discuss the way in which the assessment of the proposed scheme's impacts on the noise environment would be undertaken. Paragraph 6.6.1 (p.73) states that traffic data for the noise assessment would be sourced from the South East regional strategic traffic model (SERTM). Paragraphs 6.6.3 (p.73), and paragraphs 6.7.1 to 6.7.10 (pp.74-75) report that the assessment of operational impacts would be carried out in accordance with the detailed appraisal method defined in the DMRB HD 213/11 guidance. The County Council understands that the DMRB is currently under review, and therefore recommends that the assessment take account of the likely changes to that guidance, by including assessment of night-time noise, and including the use of 'no observed effects levels' (NOELs), 'lowest observed effects levels' (LOELs), and 'significant observed effects levels' (SOELs).

12. **Mitigation & Residual Effects**: Section 6.9 (p.76) of the Environmental Scoping Report identifies the mitigation measures that would be deployed to address the noise impacts arising from the scheme. The proposed mitigation would be focused on the operational phase of the scheme, and would primarily comprise of low noise road surfacing, and the construction of noise barriers or bunds alongside the carriageway. The County Council recommends that consideration also be given to the potential for the scheme to deliver

improvements in existing noise mitigation measures situated within the proposed application area.

Part C: Biodiversity – Chapter 7 (pp.78-112) of the Environmental Scoping Report

13. **Definition of Study Area**: Section 7.2 (pp.78-79) of the Environmental Scoping Report defines the extent of the area that would be covered by the assessment with reference to the impacts of the proposed development on ecological assets and systems. The extent of the proposed study area is dependent on the ecological aspect under consideration, ranging from 50 metres for veteran trees, to one kilometre for Ancient Woodlands, notable habitats, and notable or protected species, to two kilometres for conservation verges, non-statutory Sites of Nature Conservation Importance (SNCIs), and statutory nature conservation designations (SSSIs, SPAs, SACs, Ramsar Sites, NNRs and LNRs), to ten kilometres for bats, and to thirty kilometres for SACs where bats are a qualifying species. The County Council concurs with the proposed study area, and with the aspects of the natural environment to be covered by the assessment.

14. **Description of Baseline Conditions**: Section 7.4 (pp.85-100) of the Environmental Scoping Report provides an account of baseline conditions at the proposed application site, and in the surrounding area. The sources of baseline information to be used in the assessment are listed under paragraph 7.4.1 (pp.85-86), and include both existing records and the findings of surveys commissioned for the purposes of the scheme. Paragraph 7.4.1 (pp.85-86) reports that a Phase 1 Habitat Survey and a NVC survey have been carried out on the publically accessible land around Junction 10, and surveys of a range of fauna have been carried out in 2016 and 2017 on land surrounding the junction. The County Council is content that the proposed ecological baseline covers all relevant aspects of the natural environment.

15. **Proposed Method of Assessment**: Section 7.5 (pp.100-101) of the Environmental Scoping Report identifies the main impacts that it is proposed be addressed through the assessment, for both the construction and operational phases of the scheme, with reference to ecology. The primary impact of concern is the permanent removal of land that is currently subject to statutory and non-statutory nature conservation designations, which extends to some 25.7 hectares, with a further 32.8 hectares subject to temporary change of use (paragraph 7.5.2, p.100). In terms of habitat loss, paragraph 7.5.6 (p.101) reports that some 22.4 hectares of habitats of principal importance would be permanently altered, and a further 22.4 hectares of habitats of principal importance would be affected by a temporary change of use. Paragraphs 7.5.8 and 7.5.9 (p.101) report that impacts, including disturbance, disruption of migration and commuting routes, loss of foraging areas, population fragmentation, and the risk of death or injury, could arise in respect of a range of protected and notable faunal species. The County Council notes that no reference is made in Section 7.5 of the Environmental Scoping Report to the potential ecological effects of changes in air quality, noise disturbance or hydrology, but acknowledges that such matters are raised in Section 7.6 (pp.101-106) and 7.7 (pp.106-109) of the report.

16. Section 7.6 (pp.101-106) and 7.7 (pp.106-109) of the Environmental Scoping Report discuss the way in which the assessment of impacts on the ecological interest of the affected land would be undertaken. Table 7-8 (pp.102-103) in Section 7.6, reports that the assessment would cover impacts on a wide range of ecological assets, including statutory and non-statutory designated sites, and protected and notable habitats and species. A list of the organisations that are considered to be key stakholders with respect to the natural environment is provided in paragraph 7.6.3 (pp.101-102), to which the County Council requests that it be added, as a major landowner, alongside the Surrey Wildlife Trust, which manages Ockham & Wisley Commons on the County Council's behalf.

17. Paragraph 7.7.3 (p.106) of Section 7.7 of the Environmental Scoping Report indicates that the assessment would be undertaken in line with the published CIEEM guidance on ecological impact assessment, and relevant parts of the DMRB Volume 11. Paragraph 7.7.15 (pp.108-109) reports on the surveys, of habitats and species, that commenced in May 2017, and will continue throughout the preliminary design stage of the project, and paragraph 7.7.16 (p.109) reports that an arboricultural assessment of veteran trees would be undertaken. The County Council is generally content with the range of surveys proposed, but would recommend that the survey of veteran trees include an ecological assessment, due to their potential to harbour important assemblages of bats and invertebrates.

18. **Mitigation & Residual Effects**: Section 7.9 (pp.110-111) of the Environmental Scoping Report identifies the mitigation measures that would be deployed during the construction and operational phases of the scheme. Paragraph 7.9.1 (pp.110-111), at the eighth bullet point, makes reference to the purchase of land, which would be managed to create compensatory heathland and woodland habitats, to offset the losses incurred by the SSSI and the SPA as a consequence of the proposed scheme. The County Council notes that the report does not explain the methodology that would be used to calculate the amounts and types of compensatory habitat required, and recommends that the approach outlined in the Defra publication 'Technical Paper: the metric for the biodiversity offsetting pilot in England' (2012) (copy enclosed) could be appropriate. The County Council also notes that, although the need for compensatory habitat is identified, the discussion of mitigation does not extend to the longer term management of those areas, and it is recommended that arrangements for such are developed in light of the guidance set out in the Surrey Nature Partnership's 'Biodiversity Opportunity Area Policy Statement TBH06 Wisley, Ockham & Walton Heaths' (copy enclosed).

Part D: Road Drainage & the Water Environment – Chapter 8 (pp.113-128) of the Environmental Scoping Report

19. **Definition of Study Area**: Section 8.2 (p.113) of the Environmental Scoping Report defines the extent of the area that would be covered by the assessment with reference to the impacts of the proposed development on the water environment. Paragraph 8.2.1 (p.113) reports that the assessment would cover all components of the water environment located within 1 kilometre of the area of land affected by the proposed scheme, extending beyond

1 kilometre where effects could arise further afield (e.g. downstream flood risk, hydromorphological change). For the underlying groundwater body, the Chobham Bagshot Beds, paragraph 8.2.1 (p.113) indicates that the assessment would cover the entire waterbody. The County Council concurs with the proposed study area, and with the aspects of the water environment to be covered by the assessment.

21. **Description of Baseline Conditions**: Section 8.4 (pp.116-119) of the Environmental Scoping Report provides an account of baseline conditions at the proposed application site, and in the surrounding area. Paragraphs 8.4.2 to 8.4.7 report on the aspects of the water environment that would be covered by the assessment, including surface water bodies and other surface water features, groundwater bodies, licensed abstractions and discharges, and all sources of flood risk. The County Council recommends that a hydrogeological risk assessment is undertaken, to inform the groundwater impact assessment, and to provide information about existing groundwater levels, and the quality of groundwater and surface waters. The County Council also recommends that the assessment cover the potential physical effects (e.g. truncation or diversion of flows, changes to base flows to surface water features, etc.) of the proposed scheme on the groundwater environment, in addition to the potential chemical effects of contamination.

23. **Proposed Method of Assessment**: Section 8.5(pp.119-120) of the Environmental Scoping Report identifies the main impacts that it is proposed be addressed through the assessment, for both the construction and operational phases of the scheme, with reference to the water environment. For the construction phase, paragraphs 8.5.2 (p.119) and 8.5.4 (p.120) report that the main issues of concern would be the release of sediments or contaminants into watercourses, the mobilisation of contamination, and changes in flood risk from fluvial, pluvial and groundwater sources. For the operational phase, paragraph 8.5.5 (p.120) reports that the main issues of concern would be physical and chemical effects on surface waters and groundwaters, and changes in flood risk associated with the permanent changes in land use.

24. Section 8.6 (pp.120-124) and section 8.7 (pp.124-125) of the Environmental Scoping Report discuss the way in which the assessment of impacts on the water environment and flood risk would be undertaken. Table 8-4 (pp.120-121) reports that the assessment would cover the impacts of the proposed scheme on surface waterbodies and lakes, on groundwater bodies, on abstractions and discharges, on flood risk, on the Water Framework Directive status of nearby waterbodies that are subject to monitoring under that regime, and on water dependent designated nature conservation sites. The methods that would be applied with respect to the aspects of the water environment requiring assessment are outlined in paragraphs 8.7.1 to 8.7.7 (pp.124-125). The County Council is generally content with the proposed approach, but would recommend that a hydrogeological risk assessment be included with reference to groundwater, and that account be taken of the most up-to-date guidance with reference to flood risk assessment and climate change allowances.

25. **Mitigation & Residual Effects**: Section 8.9 (pp.125-126) of the Environmental Scoping Report identifies the mitigation measures that would be deployed during the construction and operational phases of the scheme with reference to management of the impacts of the scheme on the water environment and flood risk. The County Council is broadly content with the approach proposed, with reference to the identification of mitigation measures.

Part E: Landscape – Chapter 9 (pp.129-147) of the Environmental Scoping Report

26. **Definition of Study Area**: Section 9.2 (p.129) of the Environmental Scoping Report defines the extent of the area that would be covered by the assessment with reference to the impacts of the proposed development on the landscape and visual amenity. For landscape effects, paragraph 9.2.2 (p.129) the study area would extend to 1.5 kilometres beyond the perimeter of the land covered by the proposed scheme. A similar study area is proposed in paragraph 9.2.5 (p.129) with reference to visual impacts. The County Council concurs with the proposed extent of the study area for landscape and visual effects, subject to there being no substantial alterations to the proposed scheme.

27. **Description of Baseline Conditions**: Section 9.4 (pp.132-135) of the Environmental Scoping Report provides an account of baseline conditions at the proposed application site, and in the surrounding area, with reference to landscape character and the visual environment.

    27.1 For landscape character, paragraphs 9.4.2 to 9.4.7 (pp.132-135) identify and summarise the National Character Areas and local Landscape Character Areas relevant to the affected land. It is noted that reference is made to the 2015 Surrey Landscape Character Assessment with reference to those parts of the scheme situated in the borough of Elmbridge, but not for those parts situated in the borough of Guildford. The County Council recommends that the baseline description of landscape character make reference to the County level LCA (2015) across the entire area of the scheme, in addition to national and local level assessments.

    27.2 For the visual environment, paragraphs 9.4.8 to 9.4.11 (p.135) identify and summarise the key categories of visual receptors to be taken into account in the assessment. The County Council concurs with the proposed list of potentially affected visual receptors that would be taken into consideration during the assessment.

28. **Proposed Method of Assessment**: Section 9.5 (pp.135-137) of the Environmental Scoping Report identifies the main impacts on landscape character and visual amenity that it is proposed would be addressed through the assessment, for both the construction and operational phases of the scheme. For landscape character, paragraphs 9.5.2 to 9.5.7 (p.136) identify the key impacts as being, changes in land use and land form, changes in tranquillity, and the introduction of new built elements into the area. For visual amenity, paragraphs 9.5.8 to 9.5.14 (pp.136-137) identify the key impacts as being, changes in land

use and land form, and the introduction of new built elements into the area. The County Council concurs with the impacts and effects that the assessment proposes to cover.

29. Section 9.6 (pp.137-140) and section 9.7 (pp.140-146) of the Environmental Scoping Report discuss the way in which the assessment of impacts on landscape character and visual amenity would be undertaken. The scope of the landscape character assessment, and the aspects of the landscape to be taken into account, is discussed in paragraphs 9.6.7 to 9.6.8 and Table 9-3 (p.138). The scope of the visual impact assessment, and the visual receptors to be taken into account, is discussed in paragraph 9.6.9 (p.139) and Table 9-4 (pp.139-140). The proposed methods of assessment for landscape character and visual amenity are discussed in paragraphs 9.7.1 to 9.7.14 (pp.140-146), with paragraph 9.7.1 (p.140) reporting that the assessment would be carried out in line with the 'Guidelines for Landscape & Visual Impact Assessment' (3rd edition, Landscape Institute & IEMA). The County Council is broadly content with the proposed methodology, but would recommend that photomontages are used to illustrate the changes to key views, and that the Landscape Institute's 'Technical Guidance Note 02/17' is followed.

30. **Mitigation & Residual Effects**: Section 9.9 (p.146) of the Environmental Scoping Report identifies the mitigation measures that would be deployed during the construction and operational phases of the scheme with reference to management of the impacts of the scheme on landscape character and visual amenity. The County Council is broadly content with the approach proposed, with reference to the identification of mitigation measures.

Part F: Geology & Soils – Chapter 10 (pp.148-165) of the Environmental Scoping Report

31. **Definition of Study Area**: Section 10.2 (p.148) of the Environmental Scoping Report defines the extent of the area that would be covered by the assessment with reference to the impacts of the proposed development on geology and soil resources. Paragraph 10.2.1 (p.148) reports that the study area would extend to 500 metres from the perimeter of the land affected by the proposed scheme. The County Council concurs with the proposed extent of the study area for geology and soils, subject to there being no substantial alterations to the proposed scheme.

32. **Description of Baseline Conditions**: Section 10.4 (pp.149-151) of the Environmental Scoping Report provides an account of baseline conditions at the proposed application site, and in the surrounding area. The range of issues to be covered by the description of baseline conditions is broad, including geology, hydrogeology, hydrology, agricultural soils, land contamination, and unexploded ordnance. The County Council would recommend that the topics of hydrogeology and hydrology be more appropriately tackled in the water environment chapter of the Environmental Statement, to avoid potential duplication of assessment. The County Council would also advise that the area of land affected by the proposed scheme does not coincide with any of the Mineral Safeguarding Areas defined under the Surrey Minerals Plan, and consequently the scheme is considered unlikely to result in the sterilisation of significant minerals resources.

33. **Proposed Method of Assessment**: Section 10.5 (p.152) of the Environmental Scoping Report identifies the main impacts that it is proposed be addressed through the assessment, for both the construction and operational phases of the scheme. The main issues of concern include the potential for contamination of the land, the potential to create new areas of instability, and the potential to give rise to contamination of ground and surface waters. The County Council is broadly content with the range of issues that have been identified as requiring assessment with respect to geology and soils.

34. Section 10.6 (pp.152-153) and section 10.7 (pp.154-162) of the Environmental Scoping Report discuss the way in which the assessment of impacts on geology and soils would be undertaken. Paragraph 10.6.2 (pp.152-153) reports that ground investigations have been specified and would be undertaken to inform the assessment, and paragraph 10.6.4 (p.153) reports that a range of physical and chemical impacts would be covered by the assessment. Paragraphs 10.7.2 to 10.7.17 (pp.154-160) report on the contaminated land risk assessment and impact assessment that would be undertaken, and on which the Environment Agency would be consulted. Paragraphs 10.7.18 to 10.7.24 (p.161) report on the agricultural soils assessment that would be carried out, which would follow the method set out in Volume 11 of the DMRB. The County Council is broadly content with the approach that has been proposed to the assessment of the schemes effects on land contamination, and on agricultural soils. The County Council would recommend that a land instability risk assessment be undertaken as part of the assessment for geology and soils.

35. **Mitigation & Residual Effects**: Section 10.9 (pp.162-164) of the Environmental Scoping Report identifies the mitigation measures that would be deployed during the construction and operational phases of the scheme with reference to management of the impacts of the scheme on geology and soils. The County Council is broadly content with the approach proposed, with reference to the identification of mitigation measures.

Part G: Cultural Heritage – Chapter 11 (pp.166-181) of the Environmental Scoping Report

36. **Definition of Study Area**: Section 11.2 (p.166) of the Environmental Scoping Report defines the extent of the area that would be covered by the assessment with reference to the impacts of the proposed development on heritage assets. Paragraph 11.2.1 (p.166) reports that the study area would extend some 500 metres beyond the perimeter of the land affected by the proposed scheme. The County Council concurs with the proposed extent of the study area for cultural heritage, subject to there being no substantial alterations to the proposed scheme.

37. **Description of Baseline Conditions**: Section 11.4 (pp.170-172) of the Environmental Scoping Report provides an account of baseline conditions at the proposed application site, and in the surrounding area. The designated and undesignated heritage assets that are situated within the specified study area are shown on Figure 2.1, with details of those assets recorded in Appendix F (Gazetteer of Heritage Assets) (pp.302-320) to the Environmental Scoping Report. The County Council is broadly content with the heritage baseline that has been defined and described in Section 11.4 of the Environmental Scoping

Report, but notes that a number of assets are missing from the gazetteer presented in Appendix F, although they are shown on Figure 2.1. The missing heritage assets that need to be included within the gazetteer are the one Grade I Listed Building, the five Grade II* Listed Buildings, and five of the Grade II Listed Buildings that have been identified as being located within 500 metres of the land covered by the proposed scheme.

38. **Proposed Method of Assessment**: Section 11.5 (pp.172-175) of the Environmental Scoping Report identifies the main impacts that it is proposed be addressed through the assessment, for both the construction and operational phases of the scheme. In both cases potential is identified for the scheme to impact upon known heritage assets, including features of archaeological interest, on unknown archaeological assets, and upon the context and setting of a range of heritage assets. The County Council is broadly content with the range of issues that have been identified as requiring assessment with respect to the archaeological, built and cultural heritage.

39. Section 11.6 (p.175) and section 11.7 (pp.175-179) of the Environmental Scoping Report discuss the way in which the assessment of impacts on the archaeological, built and cultural heritage would be undertaken. Paragraph 11.7.1 (pp.175-176) reports that the assessment would initially take the form of a desk based exercise, with the need for further archaeological investigation determined on the basis of the findings of that preliminary work. Paragraph 11.7.6 (pp.178-179) reports on the range of assessments that would inform the EIA process, which would include the desk-based assessment, archaeological evaluation and trial trenching or geo-physical surveys (where necessary), the preparation of statements of significance for the nearby Registered Parks & Gardens and assessment of their settings, and assessment of the settings of those heritage assets potentially affected by the scheme. Where the applicant has indicated that the need for further investigations, and the form and focus of those investigations, would be determined in consultation with relevant bodies, and the County Council would welcome the opportunity to participate in those discussions.

40. **Mitigation & Residual Effects**: Section11.9 (pp.179-180) of the Environmental Scoping Report identifies the mitigation measures that would be deployed during the construction and operational phases of the scheme with reference to management of the impacts of the scheme on archaeology and the built and cultural heritage. The County Council is broadly content with the approach proposed, with reference to the identification of mitigation measures, and would welcome the opportunity to comment on any schemes of investigation and evaluation prepared in light of the findings of the initial assessment.

Part H: Materials & Waste – Chapter 12 (pp.182-195) of the Environmental Scoping Report

41. **Definition of Study Area**: Section 12.2 (p.182) of the Environmental Scoping Report defines the extent of the area that would be covered by the assessment with reference to the impacts of the proposed development on material resources and waste. The County

Council concurs with the proposed extent of the study area for materials and waste, subject to there being no substantial alterations to the proposed scheme.

42. **Description of Baseline Conditions**: Section 12.4 (pp.186-189) of the Environmental Scoping Report provides an account of baseline conditions in terms of material resources and waste that are relevant to the proposed scheme. For material resources consideration is given to the availability of relevant materials at the national level. For waste arisings and waste management capacity information is provided for construction, demolition and excavation waste and for hazardous waste at the Surrey level. The County Council would direct the applicant to the recently published waste capacity assessment that has been prepared to inform the review of the Surrey Waste Plan as a source of current information on waste arisings and existing management capacity within the county.

43. **Proposed Method of Assessment**: Section 12.5 (p.189) of the Environmental Scoping Report identifies the main impacts that it is proposed be addressed through the assessment, for both the construction and operational phases of the scheme. Paragraph 12.5.2 (p.189) identifies the issues to be addressed as, the market for the key construction materials required for the scheme, the wastes expected to arise from the construction phase of the scheme, and the capacity of existing waste infrastructure. The County Council is broadly content with the range of issues that have been identified as requiring assessment with respect to materials and waste.

44. Section 12.6 (pp.189-191) and section 12.7 (pp.191-194) of the Environmental Scoping Report discuss the way in which the assessment of impacts on materials and waste would be undertaken. The County Council is broadly content with the approach that has been outlined with reference to the assessment of the scheme's effects on demand for material resources and on the management of waste arisings.

45. **Mitigation & Residual Effects**: Section 12.9 (p.194) of the Environmental Scoping Report identifies the mitigation measures that would be deployed during the construction and operational phases of the scheme with reference to management of the impacts of the scheme on demand for materials and on waste arisings. The County Council is broadly content with the approach proposed, with reference to the identification of mitigation measures.

Part I: People & Communities – Chapter 13 (pp.196-223) of the Environmental Scoping Report

46. **Definition of Study Area**: Section 13.2 (p.196) of the Environmental Scoping Report defines the extent of the area that would be covered by the assessment with reference to the impacts of the proposed development on communities and the human population. The County Council recommends that the study area include those elements of the local road network, for example the B2215 in Ripley, that would be affected as a consequence of the changes made by the scheme.

47. **Description of Baseline Conditions**: Section 13.4 (pp.200-205) of the Environmental Scoping Report provides an account of baseline conditions at the proposed application site, and in the surrounding area. The aspects of the community covered by the description of baseline conditions includes residents, businesses and community assets, agricultural land (which would be better addressed under the geology and soils chapter), development land (in terms of land subject to proposals for development, or identified as suitable for development through Local Plans), and vehicular and non-vehicular users of the local road network. The County Council is keen to ensure that full consideration is given to the impacts of the proposed works on the wider local road network and its users, and would encourage the applicant to include baseline traffic information for all potentially affected road links as part of the assessment.

48. **Proposed Method of Assessment**: Section 13.5 (pp.205-207) of the Environmental Scoping Report identifies the main impacts that it is proposed be addressed through the assessment, for both the construction and operational phases of the scheme. Consideration would be given the potential effects of land take, severance and changes in amenity for residents and community assets (paragraphs 13.5.1 to 13.5.8, pp.205-206), and on local businesses, and agricultural and development land (paragraphs 13.5.9 to 13.5.14, p.206). For users of the local road network, consideration is given to the length of journeys, to patterns of travel, to amenity, to severance, to views, and to the likelihood of stress (paragraphs 13.5.15 to 13.5.22, pp.206-207). The County Council is broadly content with the range of issues that have been identified as requiring assessment with respect to the impacts of the scheme on the community.

49. Section 13.6 (p.207) and section 13.7 (pp.207-221) of the Environmental Scoping Report discuss the way in which the assessment of impacts on the community would be undertaken. The County Council is broadly content with the approaches that have been outlined with reference to the assessment of the scheme's effects on residents, businesses and community assets (paragraphs 13.7.5 to 13.7.33, pp.208-214), on agricultural land and development land (paragraphs 13.7.34 to 13.7.41, pp.214-215), and on vehicular and non-vehicular users of the local road network (paragraphs 13.7.42 to 13.7.73, pp.216-221).

50. **Mitigation & Residual Effects**: Section 13.9 (p.221) of the Environmental Scoping Report identifies the mitigation measures that would be deployed during the construction and operational phases of the scheme. The County Council would expect appropriate mitigation or compensatory measures to be identified in respect of each of the aspects of the community adversely affected by the proposed scheme.

Part J: Climate – Chapter 14 (pp.224-237) of the Environmental Scoping Report

51. **Definition of Study Area**: Section 14.2 (pp.224-226) of the Environmental Scoping Report defines the extent of the area that would be covered by the assessment with reference to the impacts of the proposed development on the climate. The County Council concurs with the proposed extent of the study area for climate change, subject to there being no substantial alterations to the proposed scheme.

52. **Description of Baseline Conditions**: Section 14.4 (pp.229-231) of the Environmental Scoping Report provides an account of baseline conditions at the proposed application site, and in the surrounding area. The County Council concurs with the approach that is proposed to define the baseline for the scheme with reference to the issue of climate change, in terms of emissions of greenhouse gases.

53. **Proposed Method of Assessment**: Section 14.5 (p.232) of the Environmental Scoping Report identifies the main impact that it is proposed be addressed through the assessment, for both the construction and operational phases of the scheme, which in this instance comprises the global atmosphere. The County Council agrees that the applicant has identified the key impact of concern with reference to the climate.

54. Section 14.6 (p.232) and section 14.7 (pp.232-233) of the Environmental Scoping Report discuss the way in which the assessment of impacts on the climate would be undertaken. The proposal to provide a quantified assessment of the scheme's likely contribution to greenhouse gas emissions is welcomed by the County Council.

55. **Mitigation & Residual Effects**: Section 14.10 (pp.234-235) of the Environmental Scoping Report identifies the mitigation measures that would be deployed during the construction and operational phases of the scheme. The County Council is content with the approach to mitigation of the greenhouse gas emissions that has been proposed by the applicant.

Part K: Final Comments

56. We hope that the above comments are of value to the process of defining the scope of the EIA for the proposed scheme, and would welcome the opportunity to engage further with the applicant as the development of the scheme and the associated assessment progresses. Please do not hesitate to contact us should you require any further information, or wish to seek clarification of any of the comments that we have made.

Yours sincerely

Caroline Smith
Planning Development Manager

Enclosures: *Defra, 'Technical Paper: the metric for the biodiversity offsetting pilot in England' (2012)*

Surrey Nature Partnership, 'Biodiversity Opportunity Area Policy Statement TBH06 Wisley, Ockham & Walton Heaths'

www.defra.gov.uk

Biodiversity Offsetting Pilots

Technical Paper: the metric for the biodiversity offsetting pilot in England

March 2012

NATURAL ENGLAND

defra
Department for Environment
Food and Rural Affairs

This document/publication is also available on our website at:

http://www.defra.gov.uk/publications/

Any enquiries regarding this document/publication should be sent to us at:

Bio.offsets@defra.gsi.gov.uk

PB 13745

Contents

Technical Paper – metric for the biodiversity offsetting pilot in England

1. Biodiversity offsets are conservation activities designed to deliver biodiversity benefits in compensation for losses, in a measurable way. Biodiversity offsets are distinguished from other forms of ecological compensation by the requirement for measurable outcomes: the losses resulting from the impact of the development and the gains achieved through an offset are measured in the same way.

2. A metric is a tool that allows biodiversity losses and compensation to be measured. This technical paper describes the metric that will be used in the biodiversity offsetting pilots in England. It has developed by Natural England in consultation with a range of experts.

3. This is version 2 of this paper. It updates an earlier version that was published in July 2011. The changes to the paper have been made in the light of ongoing discussions with stakeholders and potential participants in the biodiversity offsetting pilots. The paper also reflects the new strategy for Biodiversity in England – Biodiversity 2020[1].

4. This paper:

- explains what a metric is and describes the metric we will use in the biodiversity offsetting pilots
- explains what 'multipliers' are, and how they can be used to manage risks involved in expanding and restoring habitats
- explains how multipliers can be used to take account of the difference in time between the impact of a development and the delivery of biodiversity benefits in an offset project
- sets out our approach to dealing with hedgerows and species.

5. This paper explains the rationale and thinking behind the approach we have taken, setting out the issues that we have considered in developing the metric and our conclusions.

6. Separate guidance is available for offset providers and developers that would like to participate in the biodiversity offsetting pilot. This separate guidance is a step-by-step guide to using the metric. This guidance, and other background papers, can be found at: http://www.defra.gov.uk/environment/natural/biodiversity/uk/offsetting/.

[1] http://www.defra.gov.uk/publications/2011/08/19/pb13583-biodiversity-strategy-2020/

Background

7. Biodiversity offsets are conservation activities designed to deliver biodiversity benefits in compensation for losses, in a measurable way. Biodiversity offsets are distinguished from other forms of ecological compensation by the formal requirement for measurable outcomes: the losses due to impact, and gains achievable through the offset, are measured in the same way, even if the habitats concerned are different.

8. Biodiversity in its entirety is impossible to measure so a 'metric' is used to represent, and provide a measure of, overall biodiversity.

9. Metrics are surrogates[2], or combinations of measurements, that together provide an assessment of the biodiversity value of a particular area. The metric allows the biodiversity impact of a development to be quantified so that the offset requirement, and the value of the compensatory action, can be clearly defined. Metrics are transferable between sites and habitats, allowing an impact on one habitat type to be offset with conservation action elsewhere, or involving a different habitat type and/or quality of habitat.

10. There are a number of different types of metrics used in offsetting schemes around the world. Some use single attributes but most use multiple attributes. In many cases, metrics also make use of a quantity measurement, for example land area adjusted in some way for quality (Eftec, 2010). There are no "off the shelf packages" suitable for all situations. The mechanism used depends on the characteristics of the biodiversity interests and the scheme's objectives.

11. Examples of single-attribute metrics (or surrogates) include measures of vegetation density; cover, or biomass; density of seedlings; index of vegetation structural diversity. Multiple attribute metrics make use of a number of different measures to come up with a single figure or index. Multiple attribute metrics by their nature are more complex and potentially more accurate as a measure of biodiversity value.

12. Perhaps the best known metric system is "habitat hectares". This approach was originally developed for use in Victoria, Australia and is described in Parks, Newell & Cheal, (2003), and forms the basis for a number of different metrics currently being developed and used. Habitat hectares is an example of a multiple attribute metric that has been developed specifically for offsetting. The attributes measured in the habitat hectares approach are: large trees, tree (canopy) cover, understory strata, lack of weeds, recruitment, organic litter, logs, patch size, neighbourhood, and distance to core area.

[2] "Surrogates are measurements that act as a substitute for a complete measurement of the total biodiversity found within a particular area.

Habitat hectares assesses these various attributes against 'benchmarks' representing the average characteristics of mature stands of native vegetation of the same community type in a 'natural' or 'undisturbed' condition.

13. The habitat hectares system used in Australia is intensive in terms of the input required to assess the habitat. It requires trained operators to ensure the required levels of consistency. Consultants have to pass an exam before they are allowed to submit assessments (Cara Reece pers. com.).

14. In the USA, where offsets schemes have been running for 30 years, there are a broad range of metrics in use. The majority of assessments in offsetting schemes in the USA make use of an area measurement and a multiplier, and sometimes an approximate quality assessment based on expert opinion (Briggs et al. 2009, BOPP 2009).

Metrics for biodiversity offsetting in England

15. Biodiversity offsetting, where conservation activities are designed to deliver biodiversity benefits in compensation for losses, in a measurable way, are one way of providing compensation for biodiversity loss. We believe that a consistent framework for biodiversity offsetting has the potential to improve the implementation of planning policy requirements for biodiversity compensation.

16. Applying biodiversity offsetting in this way in England would be a new and innovative approach, and there are many aspects which we don't fully understand yet. There are a number of issues that need to be clarified before we decide exactly whether, and how, we can make best use of biodiversity offsetting in England. That is why we are working with local authorities and other partners to test biodiversity offsetting in 6 pilot areas.

17. The principles we have used to develop an approach to biodiversity offsetting in England are set out in the Guiding Principles for Biodiversity Offsetting Document, available on Defra's website. The principles include the following:

Offsetting should:

- not change existing levels of protection for biodiversity
- expand and restore habitats, not merely protect the extent and condition of what is already there
- contribute to enhancing England's ecological network by creating more, bigger, better and joined areas for biodiversity (as discussed in *Making Space for Nature*[3])
- be managed at the local level as far as possible

[3] http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf

- be as simple and straightforward as possible, for developers, local authorities and others

- be transparent, giving clarity on how the offset calculations are derived and allowing people to see how offset resources are being used.

18. The approach to the metric we will use for the biodiversity offsetting pilot is described in these papers, and reflects these principles.

19. The proposed system is a variation of the habitat hectares approach and draws heavily on the work done by Treweek et al. for the Defra scoping study on offsets (2009).

Habitat type

20. The metric we propose for the biodiversity offsetting pilots is based on habitats. Development sites need to be mapped and divided into habitat parcels. The offset requirement can then be worked out on a habitat basis. The same basic approach can then be used to work out what level of compensation an offset project is able to deliver.

21. Habitats are pre-assigned to one of three habitat type bands (**Figure 1** below). Habitats are assigned to these bands on the basis of their distinctiveness. Distinctiveness includes parameters such as species richness, diversity, rarity (at local, regional, national and international scales) and the degree to which a habitat supports species rarely found in other habitats (Treweek et al 2010). Details of the distinctiveness bands can be found in **Appendix 1 - Distinctiveness Bands for the Biodiversity Offsetting Pilot**, which is available on Defra's website.

22. One of the guiding principles for developing our approach to offsetting is that it should result in an improvement in the extent or condition of the ecological network. To do this the focus of habitat restoration or creation through offsetting should be on priority habitats[4]. Where development is taking place on habitats in the low distinctiveness band, the offset actions should result in expansion or restoration of habitats in the medium or, preferably, high distinctiveness band. At no time should an offset result in "trading down", for instance in the replacement of habitat of high distinctiveness with creation or restoration of a habitat of medium distinctiveness. Habitats that are of high distinctiveness would generally be expected to be offset with "like for like" i.e. the compensation should involve the same habitat as was lost.

23. Some very valuable habitats are either very rare, difficult/impossible to recreate, or both. Whilst development on these habitats would be unlikely, if a local planning authority did decide that a development should go ahead on this type of habitat, any compensation

[4] Section 41(S41) of the Natural Environment and Rural Communities (NERC) Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. Further information about this list can be found here: http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx

would have to be bespoke, and managed on a case by case basis. It would be for the local planning authority to decide if the offsetting mechanism could be used.

24. **Figure 1** shows the habitat bands we are using for the biodiversity offsetting pilots.

Figure 1: Habitat type bands

Habitat type band	Distinctiveness	Broad habitat type covered	Type of offset
High	High	Priority habitat, as defined in Section 41 of the NERC Act[5]	Same band type, and ideally like for like
Medium	Medium	Semi natural	Within band type or trade up
Low	Low	E.g. Intensive agricultural– but may still form an important part of the ecological network in an area.	Trade up

25. As per the guiding principles, decisions about exactly where offsets should be targeted geographically, and towards which conservation priorities, should be taken at the local level as far as possible. In line with this principle, local authorities in pilot areas, working with their partners, could decide to add conditions to the metric to reflect their particular circumstances and priorities, as part of the development of their offsetting strategy. For example, they may decide that a particular habitat is especially important in their area, and therefore would like any offsets provided to compensate for loss of that particular habitat to comprise expansion or restoration of that habitat. They may decide that in their area a particular habitat is in a higher distinctiveness band than that suggested by the national guidance. Where changes to the standard approach are made, the rationale would have to be clearly set out, and the information about the difference available to all potential participants, at the start of the process.

5 http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/habsandspeciesimportance.aspx

26. In the pilot we want to learn more about how often local authorities want to make these kinds of adjustments, and how it might work in practice.

27. Each band of habitat distinctiveness has a number associated with it as in **Figure 2** below. This is the starting point for calculating the number of "units" of biodiversity per hectare a particular habitat is worth.

Figure 2: Habitat distinctiveness[6]

Habitat distinctiveness	
High	6
Medium	4
Low	2

Habitat condition

28. Different sites and habitats will be in different conditions when they are lost to development, and in addition, offsetting projects will not always involve taking a habitat in poor condition and improving it to good condition. We therefore propose that the metric we use for the biodiversity offsetting pilots takes account of habitat condition, as well as habitat distinctiveness.

29. Condition assessment requires that we have agreed standards and a related methodology for measuring habitat condition. There is currently no standard habitat condition assessment tool, although various methods are used for specific purposes.

30. Perhaps the best known condition assessment tool is Common Standards Monitoring (CSM). This methodology has been devised specifically for monitoring Sites of Special Scientific Interest (SSSIs) and as such it is (a) based around a subset of the most important habitats and (b) is designed to give a very specific output – namely to answer the question "is the site in favourable condition?". It categorises sites into 'favourable', 'favourable recovering' and 'unfavourable'.

31. Whilst suitable for assessing SSSIs, these categories would not work well in the metric described here. They are not evenly spread, and there can be a very wide range within the favourable recovering category. In addition, they may describe the management of the site, rather than the actual condition of the habitat.

[6] [6] Based on the paper "Biodiversity Offsets", Treweek et al.

32. The Higher Level agri-environment Scheme (HLS) has a condition assessment tool which better meets the design criteria for our approach to offsetting. The condition assessment for HLS is based on habitat condition, rather than management, and the categories are spread evenly in a way which fits with the design of the offsetting metric. For most habitat types the HLS Farm Environment Plan handbook provides a clear and transparent methodology which divides condition into one of 3 categories. The methodology was widely consulted on when it was devised. We therefore propose to use this methodology to assess the habitat condition in the offsetting pilot. Part of the aim of the pilot will be to see how this works in practice.

33. An assessment of the condition of the habitat can be combined with the distinctiveness band to give an overall score in biodiversity units per hectare, as set out in **Figures 3** and **4** below.

Figure 3: Condition weighting[7]

Habitat Condition	
Good	3
Moderate	2
Poor	1

Figure 4: Matrix showing how condition and distinctiveness are combined to give the number of biodiversity units per hectare[8]

		Habitat distinctiveness		
		Low (2)	**Medium (4)**	**High (6)**
Condition	**Good (3)**	6	12	18
	Moderate (2)	4	8	12
	Poor (1)	2	4	6

[7] Based on the paper "Biodiversity Offsets", Treweek et al.

[8] Based on the paper "Biodiversity Offsets", Treweek et al.

Using the metric to measure compensation provided

34. The measurement of the biodiversity value of impacted sites determines the offsetting requirement. It is also necessary to measure the offsetting potential of proposed offset sites, so that providers can calculate how many units they can offer.

35. Offset providers can either expand[9] or restore[10] habitat to deliver units of biodiversity.

36. In consultation with stakeholders, the definition of "restore" that we are using for the offsetting pilot has been expanded beyond the definition used under the previous England Biodiversity Strategy to include "restoration" as the term might more commonly be interpreted, i.e. improve the condition (where it is poor) of the existing habitat resource.

37. The rationale for expanding the definition in this way is:

- that a site in poor condition might continue deteriorating for ever because there was no requirement or incentive for a change in management - and yet in conservation terms putting that site into better management would be a key priority

- that it is likely that an offset (particularly those covering a relatively large area, able to act as compensation for more than one development) would often be something more complex than a single action on a single unit of land - for example it might contain a mosaic of habitats and parcels across which a number of actions may have been undertaken including recreation and restoration. Excluding restoration that aimed to improve condition would make this very complex.

38. The number of units of biodiversity an offset can provide could be based on either:

(a) a **future target value**, i.e. you have a piece of land and a management plan for conservation action you will take on it. In this case, the number of units available would be the difference between the current condition and the target future condition. We expect that this type of offset is what will be offered in the biodiversity offsetting pilots.

(b) the habitat's **current condition**, i.e. you have already implemented the conservation work needed. In this case there would need to be a record of the initial condition of the habitat, before the work was undertaken, so that additionality could be demonstrated, and the number of units provided could be calculated. This is the approach that a 'habitat bank' would take – creating a 'bank' of habitat, from which units could be sold to developers as and when they were needed.

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[9] expansion (creation): establish priority habitat on land where it is not present and where no significant relicts of the habitat currently exist

[10] restoration: improve the condition of the existing habitat resource

39. On the offset provision side therefore ,the value of an offset site in terms of biodiversity units is a function of:

- the size of the site,
- the habitat type band it is assigned to (distinctiveness) and,
- its quality: the condition of the habitat at the start of the offset project, and its condition at the end.

40. Where an offset provider is undertaking work for a third party, and charging them for it, they will need to agree a fee. This should cover the cost of the work being undertaken, and management that lasts at least as long as the impact of the development, and ideally in perpetuity.

Differences in size between the impacted site and the offset

41. In international literature about biodiversity offsetting, “currency based multiplier” is the term commonly used to describe the difference between the size of an area of an impacted site and the size of an area covered by the offset. This difference comes about because of the difference in quality between the site impacted, and the offset provided. For example, if a habitat of low distinctiveness is impacted and is offset with action on a habitat of high distinctiveness, theoretically the area needed to offset can be less than the area impacted.

42. As a simple example, if the impacted site is worth 10 biodiversity units per hectare, and the offset site worth 30 units per hectare, 3 hectares of impacted site could be offset with 1 hectare of offset. This is referred to as a ‘fraction multiplier’.

43. The Business and Biodiversity Offsets Partnership (BBOP)[11] recommend that, because of the number of uncertainties in terms of currency and what is being exchanged, the area ratio should never go below 1:1. However their guidance is aimed at particular situations and it may be that it is not applicable to England. For instance where a development is taking place on 20 hectares of habitat of low distinctiveness, it does not seem reasonable to expect a developer to have to contribute 20 hectares of habitat to a habitat creation or restoration scheme where the biodiversity value per hectare may be considerably greater than the impacted site.

44. Discussions with stakeholders support the view that fraction multipliers are acceptable in the English situation, and that we should not enforce a minimum 1:1 ratio.

[11] The Business and Biodiversity Offsets Partnership (BBOP) is a partnership between companies, governments and conservation experts to explore biodiversity offsets. See http://bbop.forest-trends.org/ for more information.

Dealing with Risk

45. Offset providers will be required to deliver the number of biodiversity units they have committed to provide, and will bear the risk of failing to do so. There are two main types of risk that offset providers may face:

Delivery risks: The risks associated with the actual delivery of the offset due to, for instance, uncertainty in the effectiveness of restoration or habitat creation/management techniques.

Spatial risks: These reflect ecological risks deriving from the change in location of the habitat or resource. For example, it may be that recreating a type of habitat in a new location may reduce its biodiversity value.

46. Where risks cannot be mitigated, some form of insurance is likely to be needed. This could take the form of an increase in the area of habitat creation/restoration provided for a given number of units. Or, where an increase in the area of land available for the offset is not possible, you could reduce the number of units available on a given hectare of land. Where a change in the number of units/area provided is used to manage risk a **multiplier** can be used to determine the number of units available from a given area.

Multipliers

47. The aim of a multiplier is to correct for a disparity or risk. In practice this is very difficult to achieve, not least because of uncertainty in the measurement of the parameters and the complexity of gathering the required data. This means that multipliers are a complex element of offsetting. There are a great number of different views on how and when they should be used.

48. The use of multipliers is discussed in a BBOP consultation document (Ekstrom et al., 2008). The main findings of that document were:

- that multipliers have received very little attention in the ecological literature to date, (particularly those dealing with spatial risk) although this is now starting to change. Where research has been undertaken it tends to suggest that the multipliers used to date are too low to achieve no net loss.

- that multipliers are widely considered in offsetting systems around the world, and tend to based on rules of thumb loosely based on some science.

49. As an example of a piece of research that argued that multipliers used are often too low, a paper by Moilanen et al. (2009) concluded that for some ecological restoration and reconstruction very high ratios were needed. However, the conclusion of the BBOP paper is that where there are real risks around the methods and certainty of restoration or creation then the Moilanen framework is applicable; but for some other situations, (averted risk, habitat banks and where restoration techniques are tried and tested), lower ratios can be used.

Delivery risks and multipliers

50. As discussed above, offsets will involve either restoration or expansion of habitats, and both are likely to have risks associated with them. Some habitats are more difficult than others to restore or expand, and there will therefore be different levels of risk for different habitats. However, for any particular habitat, restoration is likely to be lower risk than expansion.

51. Development on areas of habitat that fall into the high habitat distinctiveness band will often need to be offset with conservation action to expand or restore the same habitat type (like for like compensation). These habitats are likely to be more difficult to expand or restore than others, and as a result avoiding development on such habitats can effectively reduce the risks associated with habitat creation.

52. There is a developing body of evidence about the likelihood of success or failure of expansion or recreation projects for a number of different habitats, including the time that such habitats would take to develop (TEEB 2009, Rey Benayas et al., 2009, Fagan et al., 2008, for instance). Once there is an estimate of the failure risk, it is possible to work out the necessary multiplier to achieve a suitable level of confidence (Butcher pers. com., Moilanen 2009, Treweek & Butcher, 2010). The work of Moilanean provides a basis for different multipliers of various levels of risk. We have used this work to come up with categories of difficulty of restoration/expansion, and associated multipliers, as set out in **Figure 5** below.

53. At **Appendix 1** below we have assigned habitats to these broad categories using expert opinion. These assignments have had some input from Natural England specialists but it is important to note that this is meant purely as an indicative guide. The starting position with regard to substrate, nutrient levels, state of existing habitat etc will have an impact on the actual risk factor, which may need to be taken into account.

Figure 5: Multipliers for different categories of delivery risk

Difficulty of recreation/restoration	Multiplier
Very High	10
High	3
Medium	1.5
Low	1

The limits of multipliers in managing delivery risks

54. If the worst case risk is realised (i.e. the restoration or expansion fails to deliver), a multiplier will not solve the problem. In terms of the overall outcome it will make little difference whether the offset is the same, twice or five times the size of the impacted site, if the offset fails to develop into the target habitat or required condition. A simple multiplier is therefore not going to be appropriate in all cases, and some projects will require a more complex approach to ensuring the biodiversity outcomes are delivered.

55. For example, Moilanen et al. (2009) recommend that where the uncertainly is high, to achieve a more reliable outcome a 'hedge betting' solution should be applied where by a number of different restoration or offsetting solutions are used across a number of different sites.

Spatial risks and multipliers

56. Offsets are likely to deliver greatest benefits if they are positioned strategically. In the biodiversity offsetting pilot, this means offset projects that are in line with the strategies for using offsetting developed by the local planning authorities working with their partners. These will identify the priority habitats for the area, and priority locations for contributing to the ecological network, as outlined in the Natural Environment White Paper and Making Space for Nature. Locating offsets strategically will greatly reduce the risk of an offset being delivered in a spatially less favourable location than the impacted site.

57. In situations where, for whatever reason, an offset is delivered in a location which doesn't contribute to the ecological network as indentified in the local offsetting strategy, a local authority could choose to require offset providers to apply a multiplier to manage the risk of the compensation failing to deliver the required level of compensation for biodiversity loss. (They could also decide that the project wasn't acceptable as compensation). Figure 6 sets out a suggested approach for offset providers to follow if they choose to use a multiplier to manage this risk.

Figure 6: Proposed multipliers to deal with spatial risk

Location parameters	Multiplier
Offset is in a location identified in the offsetting strategy	No multiplier required
Offset is buffering, linking, restoring or expanding a habitat outside an area identified in the offsetting strategy	2
Offset is not making a contribution to the offsetting strategy	**3**

Insurance

58. A further approach to managing risks is insurance. An offset provider could take out insurance against their failure to deliver the right number of units, in addition to, or instead of, using multipliers.

59. Financial insurance would provide a source of funds for re-attempting the offset project that had failed, thus still allowing the offset provider to meet their obligation in terms of units of biodiversity. The insurance premiums paid by offset providers would likely reflect the type of habitat creation/restoration scheme being undertaken, and therefore its specific risk of failure. In **Appendix 1** to this document, habitats have been assigned to broad risk categories both for expansion (recreation) and restoration.

60. The pilot will help us to learn more about how offset providers choose to manage their risks.

Multipliers and time

61. In delivering offsets there may be a mismatch in the timing of impact and offset, i.e. the difference in time between the negative impact on biodiversity and the offset reaching the required quality or level of maturity, which results in loss of biodiversity for a period of time.

62. This issue could be managed by encouraging the creation of offsets ahead of the impact taking place, either though the setting up of habitat banks or, for projects with a long lead in, by starting the offset work well ahead of the development.

63. However, particularly in the early stages of introducing a new approach to offsetting, many offsets are likely to be developed concurrently with the impact taking place. This will be the case in the biodiversity offsetting pilots. Even where the offset has been started in advance, the time taken for habitats to mature means that there will almost inevitably be a time lag. Where a time lag does occur, a multiplier can be applied to take account of it.

64. Discounting over time is an economic technique used to compare costs and benefits that occur in different time periods based around the principle that, generally, people prefer to receive goods and services now rather than later (more details on discounting can be found in the Treasury Green Book Guidance[12]). Whilst for individuals the evidence for a preference to consume today is good, the evidence as to why society should do this, the ecological basis for it is more complex (for discussion see Annex 5 REMEDE 2008, NOAA 2006).

[12] http://www.hm-treasury.gov.uk/data_greenbook_index.htm

65. Discussions with stakeholders indicate that they support the use of a multiplier to account for the temporal risk in the approach to offsetting we use in England. This is because it would:

- incentivise habitat banking: if the habitat is established there is no need to apply multipliers to manage delivery risks, and to take account of time differences. So more units will be available from a particular area of land.

- create a disincentive for damaging habitats that take a long time to recreate or restore (i.e. many habitats in the 'high' distinctiveness band), by increasing the area of offset needed to compensate for the loss.

66. Where time discounting is used in offset or compensation schemes, for instance in the US and in Defra's Environmental Liability Directive guidance, they tend to use a standard discount rate, for example 7% or 3%, discussed in NOAA 2006 and 3.5%, Defra, 2009. In England, the Treasury Green Book recommends a discount rate of 3.5% to reflect the value society attaches to 'consumption' (i.e. enjoyment of goods and services) at different points in time. It is therefore recommended that this is the rate (3.5%) that should be used for time discounting calculations within an English offsetting scheme.

67. **Figure 7** shows the multipliers that derive for a number of time periods using a discount rate of 3.5 %

Figure 7: Multipliers for different time periods using a 3.5% discount rate

Years to target condition	Multiplier
5	1.2
10	1.4
15	1.7
20	2.0
25	2.4
30	2.8
32	3

68. The following are the parameters within which the time discounting should operate for the biodiversity offsetting pilot.

69. The number of years that time discounting should take into consideration is from the point of impact to the estimated time that it will take for the habitat to reach the pre-agreed target quality (i.e. the point at which the agreed number of units is delivered). For simplicity and to allow upfront estimates of the offsetting provision this will require some guidelines. TEEB 2009 provides a good starting point, and **Appendix 2** has a table of estimated timescales from that publication. The actual figure will need to be calculated on a case by case basis for each offset management plan, taking into account the habitat type, and the amount of restoration or expansion being undertaken.

70. The calculations around the time discount multiplier should cover the whole period concerned. The calculations should assume that there is a quality jump from the baseline condition to the target condition once the relevant number of years has elapsed. The calculations therefore do not need to take into account increasing quality in the habitat, and do not need to be re-done annually.

71. Offsets should last at least as long as the impact of the development, and ideally in perpetuity. However, to be practical, there needs to be a limit on application of the discount rate used for time preference. We therefore propose that the maximum multiplier used to take account of temporal risk is x3.

72. We think that offset providers participating in the pilot should apply a temporal multiplier to their projects when calculating how many units of biodiversity they are able to offer.

Hedgerows

73. Hedgerows are a feature almost unique to the UK and there is no experience of dealing with them in offset schemes elsewhere that we can draw on. Hedgerows' contribution to biodiversity in the landscape is far greater per unit of area than even the most biodiversity rich habitats because of their role in provision of nest sites, corridors, feeding sites, shelter belts etc. They cannot simply be treated as other habitats and accounted for on a hectarage basis. It is therefore necessary to come up with a mechanism to account for hedgerows in our approach to offsetting that both recognises their unique contribution to biodiversity whilst at the same time meeting our guiding principle of simplicity.

74. Although this description is written to describe how we deal with hedgerows the conclusions and approach could equally apply, in theory, to other field boundary features such as hedge banks and rows of trees.

75. There is little if any science to draw on that compares the value of a hedgerow to other habitats. Even if such evidence did exist, it is likely that the exact value would be so dependent on a wide range of factors as to make its use as a generalisation difficult. Consequently it is recommended that hedgerows are treated as a separate case out with the main metric system.

76. Hedgerows are in the high distinctiveness habitat type band, and we believe there should be a requirement for “like-for-like” offsetting.

77. It is proposed that in the offsetting pilot, the hedgerow offset is treated as a separate habitat type band alongside the main offset requirement i.e. an area of grassland with hedgerows being developed on might have an offset requirement of XX units of grassland offset plus YY metres of hedgerow offset.

78. In terms of the offset requirement, for most habitats it is proposed that the offset should be either expansion or restoration. For hedges it is proposed that only expansion (in effect planting new hedges) is appropriate. This is because of the complexity of defining restoration and assigning metres of offset requirement to hedge restoration work.

79. The amount of hedgerow required to offset each metre of hedgerow destroyed will depend, just as with habitats, on the quality of the hedgerow lost as a result of development.

80. The Higher Level agri-environment Scheme Farm Environmental Plan handbook provides a good model for condition assessment for hedgerows that assigns hedges to one of three quality bands (see **Appendix 3**). Any difference in the quality of hedgerow in the offset and the hedgerow lost would be dealt with by a simple multiplier as shown in **Figure 8** below:

Figure 8: Multiplier required for different conditions of offset provision

Condition of hedgerow lost	Multiplier applied
Good	3
Moderate	2
Poor	1

81. Unless you are dealing with a well-established habitat bank, (and this will not be the case in the pilots) this will apply to all hedgerows provided as offsets.

82. Finally it is worth considering green lanes/double hedgerows. Whilst they are likely to be impacted only very rarely, partly on account of their association with rights of way, if they are the offset should be a double hedge rather than a single hedge. The reason for making this distinction is that double hedges are known to be particularly important for wildlife (Walker et al., 2005, Walker et al., 2006).

Species and offsets

83. Some stakeholders have expressed a desire to see species treated more explicitly in the metric. This approach has not been taken for the offsetting pilot. The reasons for this are:

- One of the guiding principles for our approach to the offsetting pilot is that there will be no change to existing levels of protections for our biodiversity. So existing protections for habitats and species (such as those made under the EU Habitats and Species Directive), and the processes that go with them, are not part of the offsetting pilot.

- It is apparent that most of the species issues that arise are localised. Different species will be the main issue in different areas. We have sought to avoid designing details that will apply in very few situations, and which would require a significant degree of local interpretation.

84. With this as background the way species are dealt within the biodiversity offsetting pilot is as follows:

- Where there is an existing legal process for protecting species this takes precedent (as with habitats) and is the mechanism by which impacts are addressed. Local discretion could then be used to decide whether the mechanisms in place for offsets provision (habitat banks etc) can be harnessed as a way of delivering any required compensation.

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Appendix 1: Risk factors for restoring or recreating different habitats

* N.B: These assignments are meant purely as an indicative guide. The starting position with regard to substrate, nutrient levels, state of existing habitat etc will have a major impact in the actual risk factor. Final risks should be agreed locally as part of setting up the offset.

Habitats	Technical difficulty of recreating	Technical difficulty of restoration
Aquifer Fed Naturally Fluctuating Water Bodies	Very high/impossible	Medium
Arable Field Margins	Low	n/a
Blanket Bog	Very high/impossible	High
Calaminarian Grasslands	High	Medium
Coastal and Floodplain Grazing Marsh	Low	Low
Coastal saltmarsh	Medium	Medium
Coastal Sand Dunes	Very high/impossible	Medium
Coastal Vegetated Shingle	High	High
Eutrophic Standing Waters	Medium	Medium
Hedgerows	Low	Low
Inland Rock Outcrop and Scree Habitats	Very high/impossible	Medium
Limestone Pavements	Very high/impossible	High
Lowland Beech and Yew Woodland	Medium	Low
Lowland Calcareous Grassland	Medium	Low

Lowland Dry Acid Grassland	Medium	Low
Lowland Fens	Medium	Low
Lowland Heathland	Medium	Medium
Lowland Meadows	Medium	Low
Lowland Mixed Deciduous Woodland	Medium	Low
Lowland Raised Bog	Very high/impossible	Medium
Maritime Cliff and Slopes	Very high/impossible	High
Mountain Heaths and Willow Scrub	High	Medium
Oligotrophic and Dystrophic Lakes	Medium	Medium
Open Mosaic Habitats on Previously Developed Land	Low	Low
Ponds	Low	Low
Purple Moor Grass and Rush Pastures	High	Medium
Reedbeds	Low	Low
Saline lagoons	Low	Low
Traditional Orchards	Low	Low
Upland Calcareous Grassland	High	Medium
Upland Flushes, Fens and Swamps	High	Medium
Upland Hay Meadows	Medium	Low

Upland Heathland	Medium	Medium
Upland Mixed Ashwoods	Medium	Low
Upland Oakwood	Medium	Low
Wet Woodland	Medium	Low
Wet Heath	High	High
Wood-Pasture & Parkland	Medium	Low

Appendix 2: Feasibility and timescales of restoring: examples from Europe

Ecosystem type	Time-scale	Notes
Temporary pools	1-5 years	Even when rehabilitated, may never support all pre-existing organisms.
Eutrophic ponds	1-5 years	Rehabilitation possible provided adequate water supply. Readily colonised by water beetles and dragonflies but fauna restricted to those with limited specialisations.
Mudflats	1-10 years	Restoration dependent upon position in tidal frame and sediment supply. Ecosystem services: flood regulation, sedimentation.
Eutrophic grasslands	1-20 years	Dependent upon availability of propagules. Ecosystem services: carbon sequestration, erosion regulation and grazing for domestic livestock and other animals.
Reedbeds	10-100 years	Will readily develop under appropriate hydrological conditions. Ecosystem services: stabilisation of sedimentation, hydrological processes.
Saltmarshes	10-100 years	Dependent upon availability of propagules, position in tidal frame and sediment supply. Ecosystem services: coastal protection, flood control.
Oligotrophic grasslands	20-100 years +	Dependent upon availability of propagules and limitation of nutrient input. Ecosystem services: carbon sequestration, erosion regulation.
Chalk grasslands	50-100 years +	Dependent upon availability of propagules and limitation of nutrient input. Ecosystem services: carbon sequestration, erosion regulation.
Yellow dunes	50-100 years +	Dependent upon sediment supply and availability of propagules. More likely to be restored than re-created. Main ecosystem service: coastal protection.
Heathlands	50-100 years +	Dependent upon nutrient loading, soil structure and availability of propagules. No certainty that vertebrate and invertebrate assemblages will arrive without assistance. More likely to be restored than re-created. Main ecosystem services: carbon sequestration, recreation.
Grey dunes and dune slacks	100-500 years	Potentially restorable, but in long time frames and depending on intensity of disturbance Main ecosystem service: coastal protection, water purification.
Ancient woodlands	500 – 2000 years	No certainty of success if ecosystem function is sought – dependent upon soil chemistry and mycology plus availability of propagules. Restoration is possibility for plant assemblages and ecosystem services (water regulation, carbon sequestration, erosion control) but questionable for rarer invertebrates.
Blanket/Raised bogs	1,000 – 5,000 years	Probably impossible to restore quickly but will gradually reform themselves over millennia if given the chance. Main ecosystem service: carbon sequestration.
Limestone pavements	10,000 years	Impossible to restore quickly but will reform over many millennia if a glaciation occurs.

Appendix 3: Condition assessment for high environmental value hedges from FEP handbook

No condition assessment is required for hedgerows that have been planted, laid or coppiced within the last five years.

Criteria:

1. Height: The hedgerow must meet a minimum threshold of 2 min height. Assess the height of the woody component of the hedgerow from the base of the stems to the top of the shoots of the woody species. This should be assessed along the whole length of the hedgerow and the most common height used. Gaps are not included, nor are hedgerow trees. Where a bank is present, the height of the bank must be excluded.

2. Width: The hedgerow must meet a minimum threshold of 1.5 m in width. Assess the width of the woody component between the shoot tips at the widest point. This should be assessed along the whole length of the hedgerow and the most common width used. Gaps are not included.

3. Gappiness: Assess the horizontal gappiness of the woody component. Gaps are complete breaks in the woody canopy of the hedgerow (see **Figure below**). No more than 10% of the hedgerow length should be occupied by gaps and no one gap should be greater than 5 m wide (this excludes access points and gates).Where dormice or target species of bat are present in the hedgerow there must be no gaps.

Number of missed/failed criteria	Condition assessment category	Probable management level
0	A	Maintain
1	B	Maintain or restore
2 or more	C	Resore

Biodiversity Opportunity Area **TBH06: Wisley, Ockham & Walton Heaths**

Local authorities: Elmbridge, Guildford

Aim & justification

The aim of **Biodiversity Opportunity Areas** (BOAs) is to establish a strategic framework for conserving and enhancing biodiversity at a landscape-scale, making our wildlife more robust to changing climate and socio-economic pressures. BOAs are those areas where targeted maintenance, restoration and creation of UK Biodiversity Action Plan (BAP) **Priority habitats** will have the greatest benefit towards achieving this aim.

Recognition of BOAs directly meets **National Planning Policy Framework** policy for the planning system to contribute to international commitments for halting the overall decline in biodiversity, ***by establishing coherent ecological networks that are more resilient to current and future pressures*** (para. 109). Designation of BOAs in local plans will also fulfil NPPF requirements to ***plan for biodiversity at a landscape-scale across local authority boundaries***; *and* ***identify & map components of the local ecological networks*** (para. 117).

Explanatory

BOAs identify the most important areas for wildlife conservation remaining in Surrey and each include a variety of habitats, providing for an 'ecosystem approach' to nature conservation across and beyond the county. By working with larger, more dynamic ecosystems, it will be possible to create a wider range of habitats and their variants, which will in turn increase the ability of the landscape to support the largest variety of species.

1. Overview

This Biodiversity Opportunity Area includes an almost continuous area of historic commons with some farmed land, from Ockham in the south to the outskirts of Weybridge in the north. The M25/A3(T) interchange fragments the BOA considerably at Ockham and Wisley Commons. The BOA is adjacent to the Wey floodplain (R06) at Byfleet and the Mole (R05) along much of the eastern margin. **Area**: 1180.8 ha

2. Natural Character Areas

Thames Basin Heaths (NCA 129), Thames Basin Lowlands (NCA 114)

3. Profile

3.1 Physiology

Bagshot Sands, Sand & Gravel, Alluvium, River Terrace Deposits. The BOA occupies a series of gently undulating river terraces dividing the catchments of the Rivers Wey and Mole.

[Naturally wet very acid sandy and loamy soils; Freely draining slightly acid loamy soils; Freely draining slightly acid sandy soils; Freely draining very acid sandy and loamy soils Loamy soils with naturally high groundwater]

3.2 Biodiversity

3.2.1 Statutory protected sites

Natura 2000 (SPA/SAC): Thames Basin Heaths SPA
SSSI: Ockham & Wisley Commons

LNR: Ockham & Wisley

3.2.2 Local Sites

SNCI: 5
IBA/IPA: Thames Basin Heath(land)s (Birdlife/Plantlife)

3.2.3 NERC Act S.41

Habitats of Principal Importance (***Priority habitats***):
Heathland, Acid grassland, Wet woodland, Arable field margins

Species of Principal Importance (***Priority species***):
Plants: Annual knawel, Chamomile, Copse-bindweed, Cornflower, Glandular eyebright, Pillwort*, Red-tipped cudweed*, Rusty fork-moss, Pitted frillwort, Large-celled flapwort, Millimetre moss*
Fungi/Lichens: -
Invertebrates: Grayling, Silver-studded blue, Small heath, Blue pepper-pot beetle, Heath tiger-beetle*, Poplar leaf-rolling weevil, Shining guest ant, Hornet robber-fly, Southern yellow splinter (cranefly), Mottled bee-fly
Vertebrates: Bullfinch, Cuckoo, Grey partridge*, Lesser redpoll, Linnet, Nightjar, Skylark, Song thrush, Spotted flycatcher, Reed bunting, Tree pipit, Tree sparrow*, Woodlark, Yellowhammer; Adder, Common lizard, Grass snake, Sand lizard, Slow-worm, Common toad; Brown long-eared bat, Harvest mouse, Hedgehog, Noctule bat, Soprano pipistrelle bat

3.2.4 Further important species interest: Bog hair-grass, Common cudweed, Corn spurrey, Dwarf gorse, Heath cudweed, Lemon-scented fern, Lesser water-plantain, Loose silky-bent, Marsh St. John's-wort, Needle spike-rush, Meadow thistle, Petty-whin, Shepherd's-cress, Shoreweed, Royal fern, Whorl-grass; *Amara infima* (a ground beetle), Bog bush-cricket, *Tipula livida*, *Limonia inusta* (both craneflies), White-faced dragonfly*, Wood cricket; Dartford warbler, Hobby

3.2.5 Ancient woodland: x individual woodlands

3.2.6 Landscape scale conservation activity: SyWT Grazing Project

3.3 Archaeology

Hengi-form Monument at Red Hill, Bell Barrow on Cockcrow Hill, Bowl Barrow west of Cockcrow Hill

3.4 Access

3.4.1 Publically-accessible Natural OS: Ockham Common & Chatley Heath, Wisley Common, Snake's Field/Bolder Mere (SyWT/SCC); Walton Common (part - Elmbridge BC)

3.4.2 Long-distance PRoW, etc: -

3.5 Key ecosystem services

Agricultural production; Timber production; Carbon sequestration; Flooding regulation; Pollination services; Recreational (walking, equestrian, golf); Spiritual uses

* probably extinct/extinct in BOA

3.6 Socio-Economic

3.6.1 Employment profile: Agriculture and silviculture sector; Leisure sector (golf, hospitality, equestrian)

3.6.2 LEP: Enterprise M3

4. Objectives & Targets

TBH06/O1: SSSI units to achieve favourable condition. **T1**: All by 2020

TBH06/O2: SNCI protected by planning policy & in positive management. **T2**: All by 2020

TBH06/O3: Priority habitat restoration & creation.

- **Heathland/T3a**: 7.75 ha by 2020
- **Acid grassland/T3b**: 7.25 ha by 2020
- **Wet woodland/T3c**: x ha by 2020

TBH06/O4: Priority species recovery.

- **T4**: By 2020, evidence of at least stabilisation & preferably recovery in the local populations of listed Priority species:

Annual knawel	**Pillwort**	**Heath tiger-beetle**
Nightjar	**Woodlark**	**Sand lizard**

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Gail Boyle
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E-mail M25Junction10@pins.gsi.gov.uk

21st December 2017

Dear Ms Boyle

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(the EIA Regulations) – Regulations 10 and 11
Application by Highways England for an Order granting Development Consent for the M25 Junction 10/A3 Wisley Interchange Improvement
Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

Thank you for the opportunity to comment on the scoping consultation with regard to the above scheme.

Surrey Heath Borough Council, along with ten other Local Authorities, is impacted by the Thames Basin Heaths Special Protection Area (TBHSPA) and the need to provide avoidance measures to mitigate the impact of residential development on the TBHSPA.

The avoidance measures are set out in the Thames Basin Heaths Supplementary Planning Document http://www.surreyheath.gov.uk/residents/planning/planning-policy/supplementary-planning-documents/thames-basin-heaths-special
These measures have been agreed by Natural England and the eleven Local Authorities. The measures include a 400m exclusion zone and the need to provide avoidance measures for residential development within a 5-7km radius of the TBHSPA.

The avoidance measure is through the provision of Suitable Alternative Natural Greenspace (SANG).

The proposed M25 junction/A3 Wisley Interchange Improvement will require the loss of at least 8 hectares of TBHSPA. This loss will have to be re provided as new TBHSPA elsewhere.

Surrey Heath Borough Council raise concerns that the re provision of the new TBHSPA could impact on the on the avoidance measures required in respect of the new TBHSPA. It may require a new 400m buffer zone or lead to an extension of the 5-7km zone where avoidance measures are required. It could also impact in respect of the provision of new SANG. This could impact on an authority's ability to achieve avoidance measures and therefore on housing delivery.

The Scoping Opinion should therefore identify where the new TBHSPA will be provided and that avoidance measures can be achieved.

In addition there needs to be a robust assessment of the proposed interchange improvements on air quality and soil quality on the TBHSPA in the vicinity of the proposal.

Yours Sincerely

Jane Ireland
Planning Policy and Conservation Manager
Policy and Conservation
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Our ref: 18/0044
Your ref: TR010030-TR010030-000008

Gail Boyle
The Planning Inspectorate
3D Eagle Wing
Temple Quay House
2 The Square
Bristol, BS1 6PN

10th January 2018

Dear Gail,

M25 Junction 10 / A3 Wisley Interchange Improvement EIA Scoping – TfL's comments

Thank you for consulting with TfL.

The following comments are made by TfL City Planning officers on a 'without prejudice' basis and are intended to ensure that this policy document is in line with relevant London Plan transport policies and reflects the draft Mayor's Transport Strategy. You should not interpret them as indicating any subsequent Mayoral decision and these comments do not necessarily represent the views of the GLA.

TfL's initial comments relate to the lack of a separate traffic and transport section in the scoping opinion. Whilst there is some acknowledgement of the need for strategic transport modelling in terms of air quality and noise, there is no detail on the methodology.

TfL would expect strategic highway modelling using fully calibrated and validated models to webTAG, as well as demand response modelling to measure induced traffic from the capacity increase and to quantify the traffic and environmental impacts of this scheme. Some more substantive text on their proposed modelling / assessment approach would be welcomed.

I trust that the above provides you with an understanding of TfL's current position on EIA Scoping Opinion. Please do not hesitate to contact me if you have any questions or need clarification on any of the points raised.

Yours sincerely,

Lucy Simpson
Principal Technical Planner – TfL Borough Planning
Email: LucySimpson@tfl.gov.uk
Direct Line: 0203 054 7039

From:	Danielle Thomas on behalf of Dig
To:	M25 Junction 10
Subject:	RE: M25 Junction 10/ A3 Wisley Interchange improvement - EIA scoping report notification and consultation
Date:	19 December 2017 10:31:21
Attachments:	image001.png

Good morning,

With regards to your below request, this is not Wales & West Utilities area. This falls within Southern Gas Network's area, contact details for them below:

Email: plantlocation@sgn.co.uk
Telephone: 0845 070 3497

If you have any further questions please don't hesitate to contact me. Many thanks

Kind Regards,

Danielle Thomas
Plant Protection Team
Administrator Assistant

Telephone: **02920 278 912**
Email: Danielle.Thomas@wwutilities.co.uk

Wales & West Utilities Ltd | Wales & West House | Spooner Close | Celtic Springs | Newport | NP10 8FZ

From: M25 Junction 10 [mailto:M25Junction10@pins.gsi.gov.uk]
Sent: 13 December 2017 15:52
To: M25 Junction 10
Subject: M25 Junction 10/ A3 Wisley Interchange improvement - EIA scoping report notification and consultation

Dear Sir/Madam

Please see the attached letter on the proposed M25 Junction 10/A3 Wisley interchange improvement.

Please note the deadline for consultation responses is 11 January 2018, and is a statutory requirement that cannot be extended.

Kind regards

Ian Wallis
EIA and Land Rights Advisor
Major Applications and Plans
The Planning Inspectorate, 3D Temple Quay House, Temple Quay, Bristol BS1

6PN

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Twitter: @PINSgov

From:	Graham Parrott
To:	M25 Junction 10
Cc:	Martin Knowles
Subject:	M25 Junction 10/ A3 Wisley Interchange improvement - EIA scoping report notification and consultation
Date:	11 January 2018 14:57:18

Dear Sir/Madam

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(the EIA Regulations) – Regulations 10 and 11

Application by Highways England for an Order granting Development Consent for the M25 Junction 10/A3 Wisley Interchange Improvement

Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

Thank you for consulting Waverley Borough Council on the above. As requested in your letter dated 13 December 2017 we confirm that at this stage of the process we have no comments to make. However, as the scheme progresses through the DCO process and more information is made available this may change and we request that you continue to consult with us throughout the process.

Yours faithfully

Graham Parrott
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Ms Gail Boyle
Senior EIA and Land Rights Advisor
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5th January 2018

Dear Ms Boyle,

Your ref: TR010030-TR010030-000008 **Our ref:** N/A

Location: M25 Junction 10/A3 Wisley Interchange Improvement

Proposal: Environmental Impact Assessment Scoping Opinion Report submitted by Highways England relating to the M25 Junction 10/A3 Wisley Interchange Improvement.

Thank you for your consultation on the above Scoping Opinion sent by email dated 13th December 2017. Officers have considered the proposal and wish to draw the applicant's attention to potential highway mitigation measures being considered by Woking Borough Council and Surrey County Council to improve junction performance along the A245, especially at the A245 Byfleet Road/Seven Hills Road Junction. The potential mitigation measures study (Woking Local Plan, Potential Mitigation, Document No. 53613T44/07, dated 4th October 2017) is a draft and the conclusions may vary.

In addition to the above potential mitigation measures being considered along the A245, the Council wish to draw the applicant's attention to a joint study by Surrey County Council, Woking Borough Council and Guildford Borough Council titled: 'Guildford and Woking Transport Infrastructure: A3 Economic Impact Assessment, March 2015'. The study explores the potential economic benefits to businesses and residents of improving the A3 corridor. This study has a direct bearing on M25 Junction 10/A3 Wisley Interchange Improvements.

We request that the aforementioned documents are considered and that the potential impact of the proposals on the surrounding network (including during the construction phase) form part of the scope of any Environmental Statement submission.

Yours faithfully,

Will Flaherty

Senior Planning Officer

For further information please contact Will Flaherty on 01483 743457 (Direct Line) or william.flaherty@woking.gov.uk