M25 junction 10/A3 Wisley interchange TR010030

7.2 Outline Construction Environmental Management Plan

Regulation 5(2)(q)
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Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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The Infrastructure Planning (Application: Prescribed Forms and Procedure) Regulations 2009

M25 junction 10/A3 Wisley interchange

Development Consent Order 202[x]

7.2 OUTLINE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

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Rev 1	November 2019	Rule 6 Letter
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Glossary

Term	Description
BPM	Best Practicable Means
CDM 2015	The Construction (Design and Management) Regulations 2015
CEMP	Construction Environmental Management Plan
CMMP	Construction Materials Management Plan
COSHH	Control of Substances Hazardous to Health Regulations 2002
DCO	Development Consent Order
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EAP	Environmental Action Plan
ECoW	Environmental Clerk of Works
ECP	Environmental Control Plan
EMP	Environmental Management Plan
EMS	Environmental Management System
EnvIS	Environmental Information System
ES	Environmental Statement
GI	Ground Investigation
HEMP	Handover Environmental Management Plan
IAN	Interim Advice Note
ISO 14001	An international standard for environmental management systems
KPI	Key Performance Indicators
NMU	Non-motorised user
Principal Contractor	Under CDM 2015, a Principal Contractor is appointed by the client to control the construction phase of any project involving more than one contractor
PCF	Project Control Framework - Highways England's process for managing the development of major schemes
PPE	Personal Protective Equipment
PPG	Pollution Prevention Guidelines
PRoW	Public Rights of Way
QMS	Quality Management System
RAMS	Risk Assessment and Method Statement - these are specific to a task/operation
REAC	Register of Environmental Actions and Commitments
RHS	Royal Horticultural Society
RPS	Regulatory Position Statement
SGN	Southern Gas Networks
SPA	Special Protection Area
SHE	Safety, Health and Environmental

Term	Description
SHMP	Soil Handling Management Plan
SMS	Safety Management System
SoS	Secretary of State
SRN	Strategic Road Network
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage System
SWMP	Site Waste Management Plan
The Scheme	M25 junction 10/A3 Wisley interchange
Toolbox talk	A short presentation to the workforce on a single aspect of health, safety or environmental management
TPO	Tree Preservation Order
WFD	Water Framework Directive
Written Scheme of Investigation	Relating to an archaeological survey or monitoring activity
UXO	Unexploded Ordnance

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1. Introduction and background

1.1 Scheme description

1.1.1 In 2014, the Government published its Road Investment Strategy (RIS) for 2015-2020. This set-out a long-term programme for improvements to England's strategic road network. One scheme covered by the strategy is to improve traffic flow through the M25 junction 10/A3 Wisley interchange and to make the junction safer for drivers.

1.1.2 The M25 junction 10/A3 Wisley interchange (the Scheme) is located in the south west quadrant of the M25 London Orbital Motorway. At junction 10 the A3, a key radial route from London to Portsmouth, crosses the M25 motorway. Just to the north of junction 10 on the A3 is the Painshill junction with the A245. Together with M25 junction 10/A3 Wisley interchange, the junctions in the current configurations restrict traffic flow through the area and a package of options is required to improve junction performance. The location of the M25 junction 10/A3 interchange and the Scheme Layout Plans (application document TR010030/APP/2.8) are shown in Appendix A.

1.1.3 The Scheme has been developed in stages and is the result of analysis and assessment of traffic, engineering, buildability, value for money and environmental factors as well as consultation with stakeholders and members of the public. The layout of the Scheme has been developed to a sufficient level of detail to show the size and location of the various elements that comprise it. Further, detailed design and assessment will take place during later stages to refine it. The boundary of the works has therefore been drawn to allow for design development as described above.

1.1.4 Key environmental constraints on the Scheme are shown in Appendix B - Environmental Constraints Plan.

1.1.5 The highways proposals are shown on the Scheme Layout Plans (Appendix A, Application Ref: TR010030/APP/2.8). The principal components are:

- A larger, signalised gyratory for M25 junction 10, including free-flow left turn slip roads that bypass the traffic signals;
- Amended and extended slip roads onto and off the M25 and the A3;
- Widening of the A3 to dual-four lanes between Ockham Park junction and M25 junction 10 and between Painshill junction and M25 junction 10;
- Provision of four running lanes on the M25 through junction 10; and
- A comprehensive package of local road, private access and Public Rights of Way (PRoW) changes and additions.

1.1.6 The proposed M25 junction 10 layout entails elongating the roundabout from circular to oval, using the existing bridges under the A3 and new bridges over the M25. This will provide an additional lane and extended queueing lengths, which will increase capacity for right-turning traffic between and through the traffic signals. There will be dedicated left-turn free-flow lanes that enable this traffic to bypass the junction signals rather than using roundabout capacity. The existing bridges over the M25 will be demolished.

1.1.7 The A3 will be widened from dual-three lane to dual-four lane between slip roads from Ockham Park junction to M25 junction 10 and from Painshill junction to M25 junction 10, to cater appropriately for the volumes of merging and diverging traffic. There will be a two-lane drop and gain at M25 junction 10, through which the A3 remains as dual-two lane passing over the roundabout.

1.1.8 The M25 carriageway will not be widened, but the hard shoulder will be used to provide a fourth running lane through junction 10, between the slip road merges and diverges. Emergency refuges will be provided for broken down vehicles.

1.1.9 There will be several changes to the local road network, including:

- A diversion of Wisley Lane and an amended Royal Horticultural Society (RHS) Wisley entrance;
- Elm Lane upgraded to provide access suitable to all vehicles between Old Lane and Elm Corner;
- The connection to Old Lane from the junction 10 A3 southbound on-slip will be amended to improve safety, with toad underpasses provided on Old Lane near the Elm Lane junction and a reduced speed limit along Elm Lane;
- The existing access from the A3 into the Starbucks drive-through café will be closed and a new access provided via a local access road; and
- The A245 between Painshill junction roundabout and the B365 Seven Hills Road junction will be widened from dual-two lane to dual three lane westbound.
- A new access from the Painshill junction southbound A3 on slip for properties on the east of the A3 including New Farm, the Heyswood Girl Guides camp, the gas compound and Court Close Farm.
- A new access for properties to the west of the A3 including Hut Hill Cottage, Pond Farm and the Birchmere campsite via a replacement Cockcrow overbridge.

1.1.10 There will also be an extensive series of environmental works including:

- provision of new and improved facilities for pedestrians, cyclists and horse riders, including a new 5.5km long route between the Ockham Park and Painshill junctions, new and replacement bridges for the benefit of non-motorised users (NMUs) to cross both the M25 and the A3, and new and upgraded PRoWs in the vicinity of the M25 junction 10/A3 Wisley interchange; and
- extensive areas of habitat creation and enhancement and other environmental mitigation works, including measures to compensate for the impacts of the scheme on the Thames Basin Heaths Special Protection Area and on Bolder Mere, the provision of replacement common land and public open space and the provision of a new wildlife crossing over the A3 as part of a replacement Cockcrow overbridge.

1.1.11 A full Scheme description, including the environmental compensation and mitigation proposals, can be found in the Environmental Statement (ES) (application document TR010030/APP/6.3).

Strategy and Programme context

1.1.12 The Scheme is included for delivery in the Department for Transport (DfT) and Highways England Road Investment Strategy for 2015-2020.

1.1.13 A proposed construction programme with details of the timing of works has been prepared and is contained in Appendix C. Programme works phasing details are provided in Chapter 5 of this Outline Construction Environmental Management Plan (CEMP).

Construction

1.1.14 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 Principal Contractor have been identified and are included within the temporary land take for the Scheme.

1.1.15 Construction of the Scheme is planned to commence in winter 2020, with the Scheme planned to be open to traffic in autumn 2023.

Operation

1.1.16 The maintenance of the Scheme will be the responsibility of Highways England. The Scheme has an indefinite design life, it is not considered appropriate for decommissioning to be included in the environmental assessments, rather the focus is upon seeking to minimise disruption and to re-use materials during operational maintenance.

1.2 Scheme Objectives

1.2.1 The improvements to M25 junction 10 (as originally stated in the Road Investment Strategy) should deliver: “free-flowing movement in all directions, together with improvements to the neighbouring Painshill interchange on the A3 to improve safety and congestion across the two sites”. Subsequently the need for free flowing movements in all directions was revised as right turning movements could not be accommodated without unacceptable harm to the environment. For the purposes of this management plan, this is referred to as the aim of the Scheme.

1.2.2 The current challenges at the M25 junction 10/A3 Wisley interchange include:

- Congestion and delay disrupting journeys on the Strategic Road Network (SRN);
- Poor resilience resulting in frequent disruption and unreliable journey times;
- Safety concerns; and
- Congestion causing a barrier to growth. Enterprise M3 Local Enterprise Partnership has highlighted the M25 junction 10/A3 Wisley interchange as a part of the transport network where projected increases in traffic would cause further congestion and delays and hinder growth in the area unless addressed.

Table 1.1: Client Scheme Requirements

Requirement	Actions
Route Operation	Support any projected traffic increases from other committed schemes on the SRN and avoid or mitigate against causing adverse effects elsewhere on the Local Road Network.
Customer	Throughout the design and delivery stages, the Scheme should ensure that customers and communities are fully considered. Specifically, this should include: • Understanding the needs of all segments of customers (including vulnerable users), stakeholders and partners; • Responding to those needs such that the end product delivers an improved customer experience; and • Assessing the impact of works on road users and communities, minimising disruption and delivering appropriate mitigation measure. The assessment should look at issues through customer's eyes.
Capacity	Reduce the average delay (time lost per vehicle per mile) on the mainline A3 and on M25 through junction running.
	Smooth the flow of traffic by improving journey time reliability (Planning Time Index) on the mainline A3.
Safety	Reduce annual collision frequency and severity ratio on the mainline A3, slip roads and M25 junction 10 gyratory.
Social	Support the projected population and economic growth in the area.
	Support walking and cycling by incorporating safe, convenient, accessible and attractive routes for pedestrians, cyclists and equestrians and improving crossing facilities.
	Take account of the concerns of local communities and other key stakeholders raised during consultations.
Environment	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 objectives for local air quality management areas.
	Avoid, mitigate and compensate for adverse effects on the integrity of the Thames Basin Heaths Special Protection Area (SPA) and other statutory designated nature conservation sites and promote opportunities.
	Recognise the significance of designated heritage assets close to the route of the Scheme, including at Painshill Park and at Wisley Gardens through incorporating suitable mitigation and/or design measures to avoid or reduce significant harm.
	Improve the quality of life for nearby residents, through addressing the effects of noise on people in the declared noise important area's and ensuring that significant noise effects are mitigated.
	Ensure through good design, that an appropriate balance is achieved between functionality and 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.

1.3 Purpose of the Construction Environmental Management Plan

1.3.1 This document is the Outline CEMP for the Scheme. It is based on the current preliminary design (Highways England's Project Control Framework (PCF) Stage 3) of the Scheme and contains the appropriate level of detail for the preliminary design stage. The Outline CEMP is to accompany the DCO application for the Scheme.

1.3.2 The CEMP will be secured by requirement 3 of the DCO. The CEMP is to be substantially in accordance with this Outline CEMP, which will be submitted to and approved in writing by the Secretary of State (Sos), following consultation with the relevant planning authority.

1.3.3 The environmental effects of the Scheme described in the ES and the related actions and mitigation measures in the Register of Environmental Action and Commitments (REAC) (application document TR010030/APP/7.3) have formed the basis of this Outline CEMP.

1.3.4 The purpose of the Outline CEMP is to:

- Link the environmental issues between the design, construction and maintenance and operation stages of the Scheme;
- Record environmental risks and identify how they will be managed during the construction of the Scheme;
- Demonstrate compliance with relevant environmental legislation, policy and good practice;
- Record objectives, commitments and mitigation measures to be implemented and set their programme and dates of achievement;
- Identify key environmental staff and their responsibilities, including communication and training requirements;
- Provide environmental handover information to the responsible body for operational management, including management and monitoring requirements and commitments; and
- Provide a review, monitoring and audit mechanism to determine the effectiveness of and compliance with the environmental control measures and how corrective action will take place.

1.3.5 This Outline CEMP has been prepared in accordance with the design guidelines of Highway Agency Guidance Design Manual for Roads and Bridges (DMRB) Volume 11, Section 2, Part 5 HA 205/08[1], Volume 11, Section 2, Part 6 HD 48/08[2], and Interim Advice Note (IAN) 183/14 Environment Management Plans[3].

1.3.6 A full CEMP will be prepared by the Principal Contractor once in post, and the detailed design and construction plans have been finalised. The final CEMP will be adopted and integrated into the Principal Contractor's Handover Environmental Management Plan (HEMP) and Construction Phase Health and

[1] http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section2/ha20508.pdf
[2] http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section2/hd4808.pdf
[3] http://www.standardsforhighways.co.uk/ha/standards/ians/pdfs/ian183.pdf

Safety Plan. The final CEMP will be written in line with this document but may not be the same format.

1.3.7 The CEMP is a 'live' document and will be maintained throughout the life of the Scheme.

1.4 Objectives of the CEMP

1.4.1 The overall objectives of the CEMP are as follows:

- To minimise the risk of any type of pollution incident or other form of unauthorised discharge;
- To avoid or minimise impact to the nearby receptors;
- To be compliant with statutory legislation and contract specifications; and
- To provide a framework for the implementation and review of the CEMP and other relevant documents.

1.4.2 This Outline CEMP takes due consideration of the documents submitted to the Planning Inspectorate and assessments undertaken on behalf of Highways England, as well as the draft DCO for the Scheme itself, and identifies mitigation measures and environmental issues associated with the following phases of construction:

- Pre-construction (e.g. advanced works, site preparation, vegetation clearance);
- During construction (e.g. works); and
- Post construction, or pre-occupation, including demobilisation plan.

1.4.3 Upon the making of a DCO for the Scheme, specific references in this document made to the Requirements and Protective Provisions, relating to the various phases of construction, will be updated.

2. Approach to Environmental Management

2.1 General approach

2.1.1 The process of environmental management for the Scheme is outlined below.

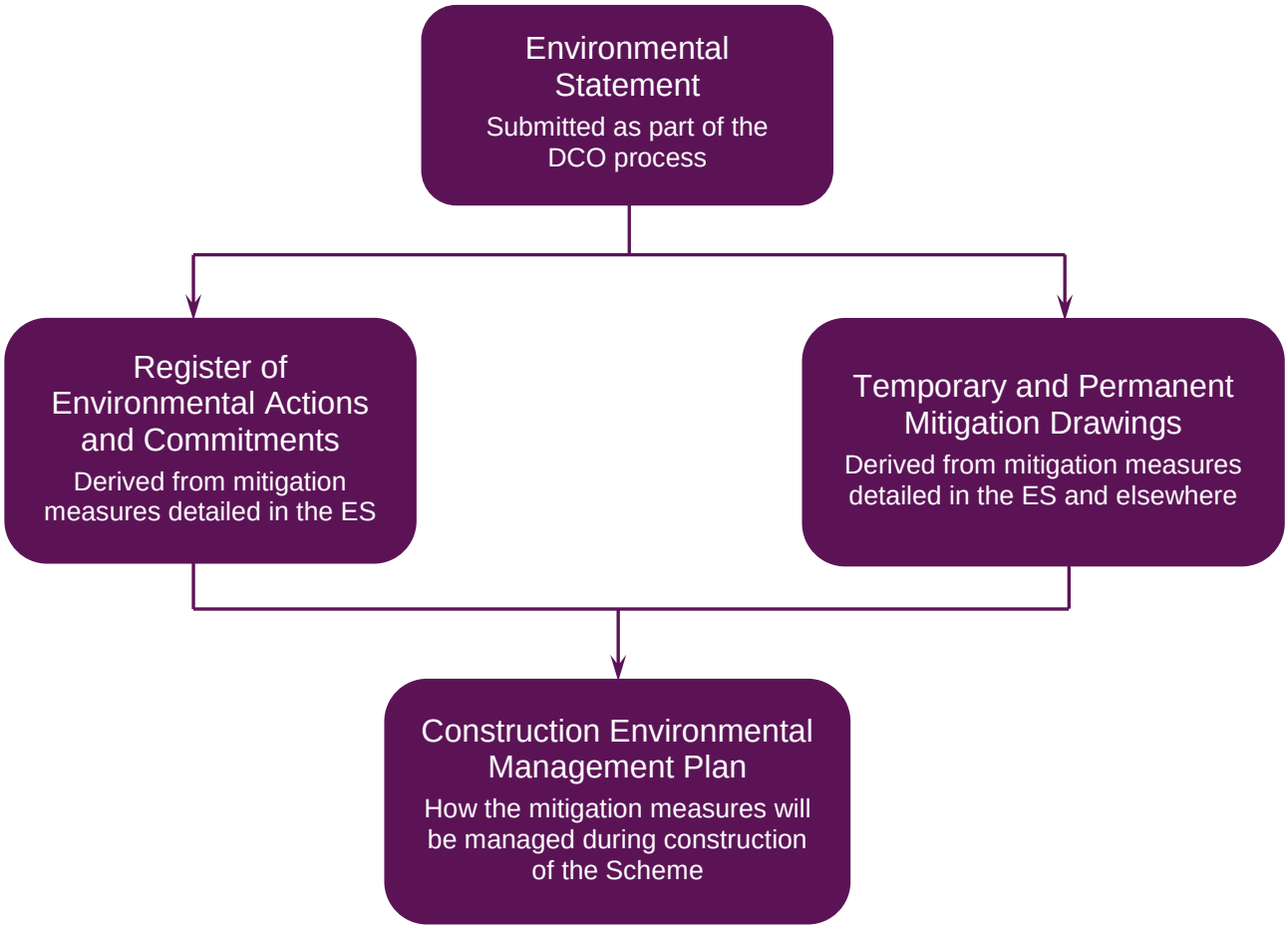


Figure 2.1: Environmental Management Process

2.1.2 A clear approach and structure for environmental management is necessary to fulfil the aims of the CEMP and meet environmental commitments. This includes outlining roles and responsibilities; required communication; appropriate hold points and all the mitigation, conditions, consents, licences and good working practices that need to be implemented. The CEMP sets out a clear process whereby these commitments are properly documented, agreed and implemented throughout the lifespan of the Scheme.

2.1.3 The REAC ensures environmental actions and mitigation commitments are communicated and addressed during detailed design and construction. Where appropriate, these may also be added to design information, such as the Scheme Layout Plans (application document TR010030/APP/2.8) or other drawings and specifications to highlight issues and protection areas where necessary.

2.1.4 The final CEMP will draw together all relevant environmental information relating to the Scheme, including, but not limited to:

- Actions and mitigation measures set out in the ES and REAC;
- Relevant Requirements set out in Schedule 2 of the DCO as granted;
- Any additional mitigation measures agreed post publication of the DCO;
- Any other commitments agreed between Highways England and specific landowners or occupiers;
- Any other requirements relating to licences, permits and consents not included as part of the DCO; and
- Environmental best practice measures including those set out by statutory agencies.

3. Roles and responsibilities

3.1 Site roles and responsibilities

3.1.1 The site-based roles and responsibilities in relation to environmental management are summarised below. The Principal Contractor will be required to delegate responsibilities to experienced onsite personnel within the key areas of the site. The delegation of responsibilities will be clearly identified within relevant Scheme documents and site files.

3.2 Project management organisation

3.2.1 Highways England shall be responsible for overseeing management of the Scheme. Highways England will delegate some roles and responsibilities to specialist consultants to supervise, monitor or check the Principal Contractor's Method Statements including sensitive activities where required (method statements are contained in Appendix D). The key Scheme roles for Highways England and the Principal Contractor are listed in **Error! Reference source not found.**Table 3.1.

3.2.2 [Note: Individual names and contact details will need to be confirmed and inserted where applicable by Highways England and the Principal Contractor into Table 2.1 prior to commencement of the construction phase.]

3.2.3 [Note: Principal Contractor to produce and include Method Statements in Appendix D when appointed.]

Table 3.1: General Site Contacts and Responsibilities

Role	PCF Stage	Contact and Organisation	Phone	Email
Highways England Project Manager	All	TBC	TBC	TBC
Principal Contractor Site Manager	All	TBC	TBC	TBC
Principal Contractor DCO Manager	All	TBC	TBC	TBC
Principal Contractor Environmental Manager	5/6	TBC	TBC	TBC
Principal Contractor Environmental Clerk of Works	5/6	TBC	TBC	TBC
Principal Contractor Environmental Specialist(s)	All	TBC selected specialists	TBC	TBC
Principal Contractor Community Liaison Officer	5/6	TBC	TBC	TBC

3.3 Environmental management responsibilities

3.3.1 Highways England, the Principal Contractor and subcontractors are all responsible for adhering to and complying with the Scheme's environmental policies, relevant environmental legislation, bylaws and regulations. It is a requirement that all site personnel will be made aware of their duty of care to the

environment and will be provided with adequate training, supervision or instruction in the form of toolbox talks, site induction modules and specific method statements as necessary.

3.3.2 Responsibilities for site environmental management will be delegated to key personnel by the Principal Contractor. These personnel will be responsible for implementation, reporting and monitoring of environmental mitigation during the contract period. Where required, environmental specialists will be consulted to provide advice on specific issues or site activities, in consultation with the Principal Contractor. The key environmental management roles and responsibilities are shown in Table 3.2: ~~Table 3.2: Table 3.2: Table 3.2~~.

Table 3.2: Environmental Management Responsibilities

Role	Responsibility
Highways England Project Manager	Oversee implementation of whole Scheme and the individual's undertaking specific roles and duties. To be reported to as per Contract requirements.
Principal Contractor Site Manager	• Responsible for management of the construction phase of the Scheme. Has overall responsibility for the environmental performance of the Scheme; and • Regular communication with Highways England and the relevant statutory environmental bodies on all environmental matters (as they arise).
Principal Contractor DCO Manager	• Responsible for overseeing and maintaining the commitments register; • Reporting and liaison to the local authorities; • Produce and agree a process for variations to the DCO with the local authorities; • Assessing variations and requests for change to the DCO; • Act as the focal contact for all DCO related queries and requests for information; • Provide training and briefings to relevant staff on the implementation of the DCO; • Monitor compliance to the DCO requirements; • Assist in the review of design and construction methodology changes; • Monitor non-compliances/incidents in relation to the DCO; • Report to the Highways England Project Manager on progress with the DCO; • Liaise with the Principal Contractor Planner to enable the efficient running of the construction programme; and • Work with the Principal Contractor Community Liaison Manager to respond to complaints, community liaison, and consultations relevant to the DCO.
Principal Contractor Environmental Manager	• Principal Contractor Environmental Manager or the delegate shall be responsible for overseeing and maintaining the environmental components and documentation of the Scheme; • Develop and review the Environmental Control Plans (ECPs) throughout the construction period; • Act as the focal point of contact for all environmental issues on site and identify key environmental concerns on site as the Scheme develops; • Coordination with environmental specialists and ensure the site environmental management compliance in line with the ECPs;

Role	Responsibility
	• Ensure compliance with environmental legislation, consents, objectives, targets and other environmental commitments, including those from the ES; • Audit the Principal Contractor's Site Environmental Management System and Programmes (e.g. Waste Management Plan and activities associated with onsite waste management); • Audit the Principal Contractor's Environmental Management System ISO 14000; • Monitor compliance with the environmental requirements of the Works Information; • Assist in the review of method statements; • Compile applications for unexpected authorisations with assistance of the Principal Contractor Environmental Clerk of Works (ECoW) if necessary; • Accompany statutory authorities on site visits (with the Principal Contractor ECoW if necessary); • Investigate environmental incidents; • Assist with the delivery of environmental training of the workforce; • Assess and check survey results and update databases, ECPs, etc with new information; • Identify cost saving and best practice activities; • Liaise with site supervisors, site management team and general construction workers; • Liaise with relevant bodies for the application, and implementation of required consents and permits; and • Liaise with relevant stakeholders.
Principal Contractor Environmental Clerk of Works	• Support the project team in delivering the environmental component of the works during the construction phase; • Record the progress of the environmental works; • Identify key environmental concerns on site as the Scheme develops; • Monitor and update the Principal Contractor Environmental Manager on the progress of pre-construction surveys; • Input into the Health and Safety team lead site induction on environmental practices, conduct toolbox talks, specialist surveys and oversee monitoring activities as required; • Undertake day to day monitoring and supervision of construction activities in relation to environmental aspects; • Monitor environmental compliance on site; • Assist in monthly formal audits with the Principal Contractor Environmental Manager; • Assess and check survey results and update databases, ECPs, etc with new information; • Input and review site specific method statements; • Monitor dust, noise and vibration; • Monitor hours of working to meet accepted environmental noise and vibration limits in consultation with the relevant Environmental Health Officer; • Develop and liaise with Principal Contractor Health and Safety Officer management plans, such as the Emergency Spill Response Plan for incidents on site;

Role	Responsibility
	• Immediate reporting of incidents to the Safety, Health and Environmental (SHE) department; • Monitor all consents and permit requirements, including local Environment Agency consents and permits; • Liaise with site supervisors, site management team and general construction workers; • Provide daily updates to the Principal Contractor Environmental Manager on site progress, compliance, issues, problems, successes, etc; • Accompany statutory authorities on site visits (with the Principal Contractor Environmental Manager if necessary); and • Identify cost saving and best practice activities.
Principal Contractor Environmental Specialist(s)	• Contamination and remediation specialist; • Waste Management Specialist, may be a member of the Principal Contractor dedicated quality and safety team; • Ecologist to supervise if protected species presence confirmed or risk identified during works; • Landscape Manager to supervise planting and aftercare; • Noise and vibration and air quality specialists; • Archaeologists; • Agricultural specialist; and • Others, as required.
Principal Contractor Community Liaison Officer	Key liaison with all of the above and Highways England's Public Liaison Officer: • Maintain and develop Community Relations Strategy; and • Maintain comment and enquiries log, and disseminate identified comments for response and implementation of action.

3.4 Detailed Principal Contractor responsibilities

Pre-construction

3.4.1 The Principal Contractor is responsible for approving the appointment of the site Environmental Manager and any environmental specialists prior to any work starting on site.

3.4.2 The Principal Contractor is responsible for the following prior to construction commencement:

- Developing this Outline CEMP into the fully detailed final CEMP;
- Defining roles and responsibilities for their own and their key subcontractors' personnel relating to environmental issues;
- Developing an environmental training plan covering all personnel;
- Developing a programme of internal and subcontractor inspections/monitoring;
- Developing Scheme-specific emergency procedures for environmental incidents;

- Finalising and implementing a programme for works to allow all preconstruction surveys to be arranged and completed within the required timeframe;
- Agreeing a non-compliance reporting procedure with Highways England to manage any environmental incidents or non-compliance events for the Scheme; and
- Developing the required ECPs. These will be updated as required up to construction commencement to reflect any new, relevant information provided by Highways England or other statutory consultees (e.g. further consent conditions, landowner agreements) or through design development, construction planning, pre-construction surveys etc.

Construction

3.4.3 The Principal Contractor is responsible on site for delivering the commitments in the ES and REAC, as described within the Scheme design and controlled by the CEMP.

3.4.4 The Principal Contractor will implement the procedures set out in the CEMP with technical advice from competent environmental specialists. They are responsible for all their subcontractors on site and for ensuring these subcontractors comply with the requirements of the CEMP.

3.4.5 The Principal Contractor is responsible for ensuring that there are no breaches in legislation and that good practice is followed throughout the duration of the construction.

3.4.6 The Principal Contractor must ensure that all onsite works are adequately monitored.

3.4.7 The Risk Assessments and Method Statements (RAMS) and ECPs will be used to ensure all environmental commitments are delivered on site. The success of implementing the requirements of the RAMS, ECPs and delivery of mitigation measures relating to the Scheme will be the responsibility of the Principal Contractor.

3.4.8 Any improvements or deviations relating to environmental matters required to the RAMS and/or ECPs shall be approved by the Principal Contractor Environmental Manager and will be subject to Highways England consent where required. The Principal Contractor will provide regular feedback and information to the Highways England Project Manager and Principal Contractor Environmental Manager on the progress and success in delivering all mitigation and commitments on site.

3.4.9 The REAC will be updated to demonstrate progress and for environmental auditing purposes, with updates periodically sent to the relevant Highways England management personnel.

3.4.10 All site personnel will have the responsibility and authority to halt works in any activity where environmental commitments are not being successfully delivered or where legal requirements are being breached.

3.4.11 All site personnel will be encouraged to draw attention to any environmental risk or potential environmental risk arising on site (for example, refuelling being carried out too close to a watercourse or working outside the agreed limits of

deviation for any aspect of the works). This approach will be promoted in all site inductions and training.

3.4.12 Any incidents or non-compliance with commitments will be recorded using the Principal Contractor management processes contained in the following documents:

- How to classify incidents/hazards;
- How to manage minor incidents; and
- How to manage major incidents.

3.4.13 The Principal Contractor will also:

- Have sole responsibility for pollution prevention measures being successfully implemented;
- Take all reasonable precautions and undertake all reasonable measures within their control to ensure that all legal requirements are complied with and that no unnecessary damage, disturbance or pollution results from undertaking the works; and
- Be available for environmental audits monthly.

3.4.14 Immediately prior to construction, Highways England's Employer's Agent (or equivalent) and the Principal Contractors nominated person will undertake a site condition survey of each section of the Scheme. This survey will usually include a photographic record. This will be used to ensure effective reinstatement following completion of the works and provide a 'baseline' to assess any compensation claims with landowners.

3.4.15 The Principal Contractor is responsible for delivering the Scheme environmental training programme, including toolbox talks, throughout the construction works, ensuring all staff are trained adequately and to the agreed level prior to starting work on site.

3.4.16 The environmental aspects of the works shall be inspected on a regular basis in accordance with the Principal Contractors processes outlined in documents including:

- How to Plan and Undertake Contract Targeted Risk Monitoring;
- Targeted Risk Monitoring Planner; and
- Risk Based Monitoring Check sheet.

Post-construction

3.4.17 The Principal Contractor is responsible for correcting defects (as defined under the main construction contract) for 12 months following contract completion. This is known as the 'defects period'. The defects period applies to relevant works following completion of the main construction works and completion of a subsequent 5 year period where the Principal Contractor has responsibility for aftercare and management of environmental works. Following this Highways England will continue to arrange the management and monitoring of the effectiveness of the establishment of the environmental works in line with the SPA Management and Monitoring Plan (application document

TR010030/APP/6.5), the REAC and Landscape and Ecology Management and Monitoring Plan (application document TR010030/APP/6.5).

3.4.18 The Principal Contractor will produce a HEMP for the Scheme. The HEMP is developed from the final CEMP and will contain environmental information needed by body responsible for the future maintenance and operation of the Scheme. This will be done prior to the end of the environmental aftercare and management period.

3.4.19 The contents of the HEMPs will be agreed with Highways England and will conform to the requirements set-out within the PCF and the Requirements of Schedule 2 of the DCO (TR010030/APP/1.2). The HEMP will cover the required elements as outlined in Annex C of IAN 183/14[3].

3.5 Communications

3.5.1 The Principal Contractor will direct all queries regarding the CEMP and actions within it through Highways England prior to initial contact with statutory consultees (e.g. the Environment Agency, Natural England). They will also typically then act as the primary contact with statutory consultees leading up to and during the construction phase.

3.5.2 The Principal Contractor will establish and maintain procedures for internal communications between the various levels and functions of the team during construction. Internal communications include:

- Advising of non-conformances to relevant managers;
- Communicating environmental commitments to the construction team;
- Communicating the environmental policy to the construction team;
- Raising awareness of environmental issues to the construction team; and
- Reporting incidents to relevant managers.

3.5.3 The Principal Contractor will document and respond to any relevant communications from external interested parties during construction. External communications may include, but will not necessarily be limited to:

- Dealing with complaints from members of the public; and
- Dealing with the media.

3.5.4 The Principal Contractor will maintain an ongoing liaison with the statutory/regulatory bodies during the construction phase.

3.5.5 Table 3.3 outlines the proposed communication framework and should be used as an example when defining the communication processes within the ECPs.

Table 3.3: Communication Framework

Stakeholder	Outline Communication Process
Highways England	• The Principal Contractor Site Manager will be responsible for involving Highways England in any safety and/or environmental meetings (as required); and • The minutes of the meetings will be issued to Highways England where appropriate and a copy will be retained on site.

Stakeholder	Outline Communication Process
Statutory and non-statutory bodies	• There will be regular consultation with the statutory and non-statutory bodies (where necessary). This will ensure that all the relevant parties have an opportunity to input to the operation of the site in order to minimise adverse environmental impacts; and • Where necessary, method statements will be submitted to the relevant statutory/non-statutory bodies for comment to ensure that no pertinent environmental issues are overlooked.
The public	• The public shall be kept informed of any operations and developments that may have an effect upon them, such as temporary loss of amenities, changes to pedestrian or vehicle access routes or vegetation clearance; • Any such notification will set out the nature of the operations and the times at which they are to be carried out; • Social media, letter drops, a regularly updated website and newsletters may be used to keep local residents informed of progress on construction and any new operations that are to be carried out; and • The information provided will also include details of contacts within the project team (should any issues arise).
Construction staff	• Construction staff shall be kept up to date on all operational matters that may have an impact on the safety and environmental factors on site; and • The site induction will form the basis for all relevant information provided to construction staff and will be supported at regular intervals by toolbox talks, especially where new or particularly sensitive operations are about to commence; • Regular briefings to construction staff will also provide an opportunity to update them on any changes in working methods and procedures; and • Audits and reviews of the effectiveness of the method statements will highlight any corrective measures and subsequent feedback to construction staff will serve as a means of regulating and ensuring best working practice.

3.5.6 Weekly construction team meetings will be held, or more frequently as required, where environmental issues will be discussed. Internal communications will be carried out using toolbox talks with the site workers and at site meetings.

3.6 Monthly reporting

3.6.1 It is expected that the following reports will be provided to Highways England on the agreed basis as part of the monthly contract Progress Report:

- Key Performance Indicators (KPIs)/Balanced scorecard measures;
- Monthly environmental reports of key issues;
- Waste streams, volumes and recycling figures;
- Carbon calculator submitted using the Highways England template; and
- Environmental incidents and near misses.

3.6.2 These would form part of the agenda at formal monthly contract Progress Meetings between Highways England and the Principal Contractor.

4. Training and briefing procedures

4.1 General

4.1.1 On commencement of site mobilisation, the Principal Contractor will be responsible for the site including the organisation of training and site inductions of all personnel on the site whether visitors, full time staff or subcontractors.

4.1.2 All individuals working or visiting the site will be required to attend the Principal Contractor's site-specific induction. Site inductions for full time staff and subcontractors will be tailored to their working conditions and activities. Site inductions for visitors will be tailored to those areas of the site they are visiting and what activities they are undertaking on site. Further details will be given in RAMS briefings prior to undertaking an activity. Those participating in or near to specific activities that have an environmental impact may be required to attend additional training or toolbox talks led by the Principal Contractor or environmental topic specialists.

4.1.3 All personnel on site will be made aware of the Principal Contractor's Environmental Policy, the Register of Environmental Legislation, the REAC and the relevant ECPs included in the CEMP.

4.1.4 A list of identified environmental training and a log of all site inductions and training will be maintained as part of the Principal Contractor's management systems prior to and during the construction stage. Additional training would be identified from the regular site environmental awareness and compliance environmental check reports, or site feedback on any noted non-compliance. A log of the environmental training and site inductions undertaken is included in Appendix E.

4.2 Environmental competencies, training and site induction

4.2.1 The Principal Contractor will ensure all personnel conducting environmental tasks are suitably qualified or experienced for the roles and responsibilities that they are employed to undertake.

4.2.2 The Principal Contractor will monitor and record that all personnel have attended the relevant environmental induction or training, including additional, new, or updated training, prior to undertaking any activities on site.

4.2.3 All site personnel and visitors are to receive SHE induction covering priority Safety, Health, and Environmental risks and mitigation from the Principal Contractor before commencing activities on site. The list in Table 4.1 below is not exhaustive and identifies topics which will be included in environmental training at induction.

Table 4.1: Environmental Training at Induction

Topic	
Principal Contractor's Environmental Policy	Environmental legislation requirements – high level
General environmental awareness and environmental site rules	Earthworks and excavation
Site environment	Define materials and storage areas
Site organisation	Fuel containment
Spill kit use and locations	Contamination risk management
Emergency Response Plans	Pollution protocol and measures
Site traffic protocols and routes	Energy management
Wheel wash	Cultural heritage/archaeology
Warning signs	Dust and emissions control
Waste management	Noise and vibration control
Ecology and European protected species	Working in or near watercourses

4.3 Toolbox talks

4.3.1 The Principal Contractor and their subcontractors will conduct toolbox talks such that every employee receives a health, safety and environmental briefing as appropriate. A target of a minimum of one toolbox talk on an environmental topic per month has been set. Requests for new/specific toolbox talks can be made to the Principal Contractor Environmental Manager.

4.3.2 Toolbox talks will be posted in common use areas such as welfare units and office reception areas. Key environmental issues linked to the construction programme will be targeted on the daily notice board to all staff on site e.g. bird nesting seasons. Records of toolbox talks carried out and who attended them will be kept. An indicative list of toolbox talks is provided below. More toolbox talks may be added to this list as the Scheme progresses and issues arise. Toolbox talks undertaken are included in Appendix D.

4.3.3 [Note: Principal Contractor to produce and include Toolbox talks in Appendix D.]

- Noise, Dust and Air Quality;
- Pollution Prevention Control;
- Materials Management/Storage and Segregation/Storage of Waste;
- Waste Management - Duty of Care;
- Spill Control;
- Cement and Concrete washout and discharge;
- Washing Down Plant and Machinery;
- Archaeology;
- Invasive/Injurious Species - Japanese Knotweed and Himalayan balsam; and
- Ecology and protected species.

4.4 Environmental Control Plans

4.4.1 Environmental Control Plans (ECPs) are documents which ensure that construction-related mitigation measures and actions set out in the REAC are successfully implemented on site. ECPs inform the works and the development of associated task-specific RAMS. ECPs will be developed for the final CEMP during the detailed design and construction planning phase.

4.4.2 ECPs relevant to the Scheme are included in Appendix F.

4.4.3 [Note: Principal Contractor to produce and include Environmental Control Plans in Appendix F]

4.4.4 It is expected that some or all of the following ECPs will be prepared, as appropriate, for the Scheme as part of the final CEMP:

- Pollution Prevention Plan;
- Dust, Noise and Nuisance Management Plan;
- General Ecology;
- Invasive Species;
- Surface Water Management Plan;
- Archaeological Control Plan (associated with a Written Scheme of Investigation);
- Landscape Management Plan;
- Contaminated Land Management Plan;
- Material Resources Management Plan;
- Site Waste Management Plan (SWMP);
- Material, Waste Storage and Refuelling Plan;
- Energy and Resource Use Management Plan; and
- Emergency Response Plan (including Environmental Incident Control Plan).

4.4.5 ECPs are live documents that are subject to updating and refinement as required in response to the changing needs of the works during construction.

5. Construction programme

5.1 Main features and phasing

5.1.1 The main features and proposed phasing of the construction works are described below with further detail provided in the Environmental Statement, Chapters 1-4 (application document TR010030/APP/6.3).

Mobilisation and Enabling Works

- Proposed to commence in winter 2020 (subject to DCO being made);
- Gas main and other utilities diversions;
- Pre-construction surveys and early environmental mitigation works including site clearance, establishment of replacement land, SPA compensation and enhancement areas and other environmental works; and
- Establish site compounds and storage areas and install site-wide fencing and temporary access routes.

Phase 1 - A3 Ockham area

A: Northbound and southbound widening (3 lanes to 4 lanes)

- Construct retaining walls and earthworks
- Utilities diversions including Period Notice, Outage, Switch Off and Removal Existing Ducts
- Construct remaining roadworks

B: Construct structures

- Stratford Brook culvert strength
- Stratford Brook underbridge
- A3/Wisley Lane overbridge
- Cockrow overbridge

C: Side roads

- Wisley Lane realignment
- Cockrow access

Phase 1 - A3 Painshill area

A: Redhill overbridge and road access east side

- Construction of Redhill overbridge and road access (retaining walls) in two phases because of Southern Gas Networks (SGN) existing line west side and new diversion east side (east side construction prior SGN diversion and west side construction after SGN switch off)

Phase 1 - M25 Junction 10

A: Construct temporary slip roads

Phase 2 - A3 Ockham area

A: Pavement reconstruction existing lanes

- Northbound Ch1300 to Ch1600 (raised island) and southbound Ch2200 to Ch2654

Phase 2 - A3 Painshill area

A: Northbound and southbound widening (3 lanes to 4 lanes)

- Construct retaining walls and earthworks
- Utilities diversions including Period Notice, Outage, Switch Off and Removal Existing Ducts
- Construct remaining roadworks

B: Construct structures

- Redhill overbridge (west side)

C: Side roads

- Redhill Road access
- A3 northbound Local Access Road
- A3 southbound Local Access Road
- A245

Phase 2 - M25 Junction 10

A: Construct permanent slip roads

- Two gangs in sequence after related temporary slip are done and traffic switch off

B: Construct elongated roundabout in 2 phases

- Inside and outside lanes (1 gang, only starts after all temporary slips and traffic switch off are done

C: Construct east and west bridges

- Starts at the same time as elongated roundabout

Phase 3 - A3 Ockham area

A: Central reserve works

Phase 3 - A3 Painshill area

A: Central reserve works

Phase 3 - M25 Junction 10

A: Start removal of temporary slip roads

- Start after switch of traffic to southeast and southwest slip roads and continues after conclusion of the other slip roads

B: Start NMU overbridge

- After beginning of southeast and southwest temporary slip roads removal

C: Continue to construct elongated roundabout

D: Continue to construct east and west bridges

Phase 4 - A3 Ockham area

A: Existing lanes re-surfacing

- 2 phases - northbound and southbound, with night closures

Phase 4 - A3 Painshill area

A: Existing lanes re-surfacing

- 2 phases - northbound and southbound, with night closures

Phase 4 - M25 Junction 10

A: Continue removal of temporary slip roads and landscaping

B: Continue NMU overbridge and NMU access

C: Elongated roundabout finishes

D: East and west bridges finishes

Phase 5 - M25 and A3

A: Landscaping and remaining environmental works

B: Commissioning

C: Demobilisation

5.2 Overall duration

5.2.1 The construction phase of the Scheme is likely to last 30 to 36 months.

5.2.2 The opening of the completed Scheme is expected in autumn 2023, with landscape aftercare provision (under the main construction contract) lasting a further 5 years and management and monitoring lasting up to a further 20 years (see SPA Management and Monitoring Plan (application document

TR010030/APP/6.5) and Landscape and Ecology Management and Monitoring Plan (application document TR010030/APP/6.5) with the exception of the ancient woodland soil translocation area, which will be monitored up to 25 years.

5.2.3 The outline construction programme is contained in Appendix C.

5.3 Working hours

5.3.1 The majority of construction works will take place between 07:00 - 19:00 Monday to Friday and 07:00 to 19:00 on Saturday. There will be exceptions to these hours for example for:

- night-time closures for bridge demolition and installation or other works requiring the full or partial closure of, or otherwise adversely affecting the operation of the M25 and A3 carriageways;
- any oversize deliveries or deliveries where daytime working would be excessively disruptive to normal traffic operation;
- the provision of services at compounds, including CCTV and vehicle recovery;
- works associated with the diversion of existing utilities;
- junction tie-in works;
- works associated with traffic management and signal changes;
- cases of emergency; and
- as otherwise agreed by the local authorities in advance.

6. Register of environmental actions and commitments

6.1.1 The REAC (application document TR010030/APP/7.3) identifies the environmental commitments made during the Preliminary Design (Highways England's PCF Stage 3) to address the potential environmental effects of the Scheme.

6.1.2 The REAC is a live document and will be updated as the Scheme progresses and will be finalised at the end of construction on completion of the Scheme, when it will be developed as the HEMP. The HEMP is the main vehicle for passing essential environmental information to the end users and crucially to the bodies responsible for the future maintenance and operation of the asset.

6.1.3 The REAC is made up of two parts. Part 1 sets out the schedule of mitigation commitments, and Part 2 is the Environmental Action Plan (EAP).

6.1.4 Although the REAC initially forms part of the ES, during the implementation of the Scheme it is appended to the CEMP for the construction period and will be appended to the HEMP. The REAC acts in part as a 'bridge' between the ES and the Environmental Management Plan (in all its forms - EMP, CEMP and HEMP) through the lifecycle of the Scheme. Part 2, the EAP, can be added to during the detailed design phase, and as each objective is achieved, the date of achievement entered, with the initials of the person signing it off.

7. Consents, commitments and permissions

7.1 Consent and Agreement Position Statement

7.1.1 The Consent and Agreement Position Statement provided as part of the DCO application (application document TR010030/APP/3.3) sets out Highway England's intended strategy for obtaining consents and associated agreements needed to implement the Scheme. It identifies at a high level what consents are expected to be needed for the Scheme, together with how those consents will be obtained.

7.1.2 This chapter will be updated for the final CEMP to cover developments through the detailed design and construction planning phase, and throughout the construction phase, to capture all relevant items.

7.2 DCO powers and consents

7.2.1 The principal consent for the Scheme is the DCO. The DCO will provide development consent for the works and enable land acquisition, in addition to other consents, such as diverting PRoWs.

7.2.2 At this point (i.e. the submission of the DCO application) the majority of consents and all of the powers, required have been included, or addressed, within the DCO as permitted by various provisions of the Planning Act 2008. Those consents relating to environmental aspects are:

- Authorisation of all permanent and temporary works (equivalent of planning permission) (assuming that some of the works relate to environmental aspects of the Scheme);
- Compulsory acquisition of land and of rights over land such as easements, restrictive covenants and the temporary possession of land (assuming that some of the land required relates to environmental aspects of the Scheme);
- Consent to carry out any restricted works on common land;
- Consent to carry out any of the operations requiring Natural England consent on the SPA and Sites of Special Scientific Interest (SSSIs);
- Consent to stop up and divert public and private rights of way; and
- Consent to carry out tree works (including works to trees subject to a Tree Preservation Order (TPO)).

7.2.3 In addition to above, the Consents and Agreements Position Statement (document application TR010030/APP/3.3) lists those consents that will be included within the DCO (including those which are disapplied under relevant legislation) and also stipulates those which will need to be applied for separately.

7.2.4 None of the following 'environmental' consents need to be obtained on this Scheme: scheduled monument consent and listed building consent.

7.3 Other environmental consents to be obtained

7.3.1 The Principal Contractor will be required to obtain, implement and comply with all permits, consents and licences during the construction phase. The Principal

Contractor will manage submissions and approval of all the required consents, permits and licences prior to commencement of the relevant site works.

7.3.2 Table 7.1 lists the anticipated consents and licences which will be reviewed and updated, as required, as the Scheme progresses. Appendix H contains the Section 61 consents as required by the relevant local authorities.

7.3.3 [Note: Principal Contractor to include Section 61 consents in Appendix H.]

Table 7.1: Permits, Consents and Licences

Type of Licence and Reference	Issuing Authority	Requirement	Comments/Actions
Notification under Construction (Design and Management) Regulations 2015	Health and Safety Executive	On commencement of construction.	N/A
Approvals under the Health & Safety at Work Act 1974	Health and Safety Executive	Site safety related matters.	N/A
Compliance with duties under the Regulatory Reform (Fire Safety) Order 2005 (as amended)	Health and Safety Executive/Local Authority/Fire and Rescue Authority/Fire Inspector	Compliance with fire safety duties.	N/A
Transport and highways consents/permissions under: Road Traffic Regulation Act 1984, Traffic Management Act 2004, New Roads and Street Works Act 1981, Highways Act 1980, Road Traffic Act 1988, The Road Vehicles (Authorised Weight) Regulations 1998 (as amended), the Road Vehicles (Construction and Use) Regulations 1986 (as amended) and the Road Vehicles (Authorisation of Special Types) (General) Order 2003.	Highways England/Local Authority	Temporary traffic regulation orders that may be required for temporary reductions in speed limits or other restrictions; permits related to booking time for works on the highway; works involving crane oversailing or site hoarding; and permits for transportation of abnormal/indivisible loads or for the use of certain classes of vehicle.	N/A
Section 61 for Control of Noise Control of Pollution Act 1974	Local authorities (Elmbridge Borough Council and Guildford Borough Council)	Obtaining consent is required prior to commencement of construction activities.	Works to be undertaken as stated in the Section 61 application. Mitigation measures to be used to minimise emissions. Compliance with any conditions stated by the local authorities.
Mobile plant permit (for crushing operations or site permits if not using	Local authorities or Environment Agency (Waste Operation)	Also known as a part B (Local Authority) or waste operation (Environment Agency).	Ensure that the equipment has been registered with the local authorities for use as mobile plant;

Type of Licence and Reference	Issuing Authority	Requirement	Comments/Actions
a subcontractor with their own mobile permit) Environmental Permitting (England and Wales) Regulations 2016 (as amended)			or either a standard rules waste operation mobile plant permit or bespoke waste operation permit is obtained (treatment of waste concrete etc). NB reuse of the material will require either a waste exemption, end-of-waste protocol, or permit.
Badger Licence	Natural England	Obtaining consent is mandatory prior to commencement of construction activities.	For works affecting the badger sett identified within the DCO boundary and its relocation.
Bat Licence	Natural England	Obtaining consent is mandatory prior to commencement of construction activities.	For loss of potential and identified bat roots and bat maternity roosts.
Notification to Environment Agency of Japanese knotweed and Himalayan balsam removal or burial Natural Environment and Rural Communities Act 2006; Waste (England and Wales) Regulations 2011; and/or Regulatory Position Statement 178 whichever is appropriate to the works	Environment Agency	Consent required for disposal to a waste facility (if needed)	Options for disposal and waste facilities to be agreed
Use of pesticides Control of Pesticides Regulations 1986, as amended	Natural England (use in protected area)/ Environment Agency (use near water)	For use and storage of pesticides	N/A
Flood Risk Activities: Environmental Permit (Land Drainage Consent/Flood Activity Permit)	Local authority (Surrey County Council)	This consent may be required as some direct physical impacts on watercourse crossings is anticipated during the implementation of the Scheme.	N/A
Environment Permit: Discharge to surface water or groundwater	Environment Agency	A water discharge activity includes discharging trade effluent, or anything which is poisonous, noxious or polluting.	Sewage may be covered under binding rules or may require an environmental permit to discharge,

Type of Licence and Reference	Issuing Authority	Requirement	Comments/Actions
		Discharge of water from excavations is trade effluent, and therefore requires a permit, although exemptions apply for temporary dewatering in certain circumstances.	though it is anticipated the contractor will utilise self-contained welfare facilities.
Environmental Permit: Abstraction (if needed to remove more than 20 m^3/day) Water Resources Act 1991 (as amended by the Water Act 2003); Environment Act 1995; The Water Resources (Abstraction and Impounding) Regulations 2006 and The Water Resources (Transitional Provisions) Regulations 2017	Environment Agency	Engineering works where water is required to be abstracted will require a full permit (unless the abstraction is for dewatering and meets the requirements of a relevant exemption). Rainwater abstraction has an exemption.	Liaison required with the relevant controlling body to assess requirement for permit or exempt activity.
Land Drainage Consent: Land Drainage Act 1991	Lead Local Flood Authority (Surrey County Council)	Required where works will affect the flow of an ordinary watercourse.	Liaison required with Surrey County Council to assess the requirement for consent.
Trade effluent consent (for welfare facilities) Water Industry Act 1991	Water/sewerage undertaker	Application for discharge of a trade effluent into water/sewerage undertakers network.	To facilitate discharge of welfare facilities to water/sewerage undertakers network (i.e. other than to a watercourse which would require Water Discharge Permit). Where trade effluent does not include sewage. Sewage treatment must be done under an Environmental Permit.
Heritage permit/consent/licence	Historic England and/or local authorities	No formal consent required, but the Written Schemes of Investigation for heritage work should be developed in consultation with the local planning authority's archaeologist and reviewed by Historic England where the Scheduled Monument, Grade I and II* listed assets are concerned	To ensure less than substantial harm to significant heritage assets and comply with legislation and policy related to the treatment of archaeological remains.

Type of Licence and Reference	Issuing Authority	Requirement	Comments/Actions
CL:AIRE Materials Management Plan (MMP)	Qualified Person	Produce and agree a MMP for the reuse of materials defined as non-waste or end-of-waste and greater than exemption limits.	For reuse of materials in line with the CL:AIRE code of practice and ensure that it meets end of waste criteria where relevant.
WRAP Quality Protocol	Voluntary Scheme	Management System to reuse, produce, and use aggregates from inert waste on site.	Produce and maintain a management system and meet the requirements of the Quality Protocol in order to comply with the requirements of waste legislation and achieve end-of-waste status for suitable inert waste to enable its reuse.
Waste Exemption Environmental Permitting (England and Wales) Regulation 2016 (as amended)	Environment Agency	Authorisation for activities that do not require a full permit for Treatment, Use, Storage, and Disposal.	Assessment of waste material/end-of-waste status to be covered under the SWMP.
Environmental Permit for waste operation Environmental Permitting (England and Wales) Regulation 2016 (as amended)	Environment Agency	Principal Contractor to ensure that the waste generated is recycled/reused/disposed of at authorised facilities (or obtain relevant waste operations permit/deployment of mobile plant permit if undertaking recovery/disposal activities on site).	Waste disposal, recycling, restoration, reuse sites to produce permit to prove that they are authorised to receive waste streams.
Waste Carrier Licence	Environment Agency	Principal Contractor to ensure their selected waste disposal contractor holds a Waste Carrier Licence.	Waste Carriers to supply completed Waste Transfer Notes for any collections and removals of waste from site.
Hazardous Waste	Environment Agency	Applicable in case of disposal of hazardous waste is required.	Completion of the Consignment Notes for the removal of hazardous waste.

Type of Licence and Reference	Issuing Authority	Requirement	Comments/Actions
PRoWs closures and diversions (to be managed by the Traffic Management Plan) Highways Act 1980; Town and Country Planning Act 1990	Local authorities	Permission to either close or divert PRoW other than those identified as deemed permitted under the DCO.	Allows the permanent or temporary closure, or diversion of a PRoW for the construction and operation period.

7.4 Agreements

7.4.1 Agreements with third parties are likely to be reached in parallel to the DCO process and may take a variety of forms. Some of these may be related to environmental aspects and will therefore be recorded in this section of the final CEMP.

7.4.2 An important part of the DCO process is the preparation and agreement of Statements of Common Ground with third parties to identify the matters on which parties are in agreement, in order to narrow the focus for examining the application concerned and to make the examination process more efficient. These will be progressed by Highways England where appropriate.

7.4.3 Other possible forms of agreement alongside Statements of Common Ground are legal agreements regulating land and works powers undertakings and memoranda of understanding and letters of comfort. Again, these will be progressed by Highways England where appropriate.

7.5 Recording

7.5.1 A register of environmental permits and a record of all consents, licences etc. relating to construction activities will be maintained by the Principal Contractor and made available for audit by Highways England and the Principal Contractor Environmental Manager.

7.5.2 An Environmental Consents Checklist template is included within this Outline CEMP in Appendix I. This will be completed for the final CEMP with the appropriate consent requirements added.

7.5.3 Any conditions related to each consent, permission or agreement will be added to the REAC, method statements (see Appendix D) and ECPs (see Appendix F) where appropriate.

8. Key environmental legislation

8.1 Legislative and policy drivers

8.1.1 The construction stage of the Scheme will be required to meet specific environmental legislation and regulations. A register of environmental legislation, policies, and strategies that will be followed are contained within Appendix J. This list is current at the date of drafting and is not exhaustive. The Principal Contractor Environment Manager is responsible for maintaining awareness of this list and undertaking a review for updates and changes prior to construction.

8.1.2 The Principal Contractor must comply with all relevant legislation that is current at the time of the contract which includes new or updates to legislation prior to or during the construction period.

8.1.3 Highways England and the Principal Contractor will be responsible for managing the site in keeping with the Requirements of the DCO. Schedule 2 of the DCO includes draft Requirements of relevance to this Outline CEMP. The programme for delivery must include discharging Requirements and Protective Provisions prior to the relevant phase of the Scheme and fulfilling any associated mitigation actions.

8.1.4 All site staff will be kept informed of the legal requirements that are relevant to their individual roles and activities. This will be achieved through the training and briefing procedures outlines in Chapter 4 of this Outline CEMP.

8.1.5 At site, the Principal Contractor's environmental policies will be posted on the Health, Safety and Environment notice boards within the site compounds, office and communal areas. All visitors will comply with the Principal Contractor's site management, health, safety and environmental rules.

8.1.6 Legislative requirements will override requirements in the CEMP in the unlikely event of there being a conflict between the two.

8.1.7 [Note: Principal Contractor to confirm Requirements and Protective Provisions once DCO is approved.]

9. Protection of sensitive areas

9.1 Identification of sensitive areas

9.1.1 Sensitive areas shall be highlighted as appropriate within the Scheme design documentation and/or ECPs.

9.1.2 Sensitive areas identified to date that could potentially be affected by the Scheme's construction are listed in Table 9.1 below.

Table 9.1: Sensitive areas

Topic	Sensitive area
Air quality Noise and vibration	• St Georges Nursing Home, Cobham; • Felton Fleet School; • Thames Basin Heaths SPA, Ockham and Wisley Commons SSSI and ancient woodlands ; • Ockham Bites Café; • Heyswood Guides Site; • Birchmmere Scout Site; • Painshill Park and the Gothic Tower; • Elm Corner; • Hut Hill Cottage; • Residential properties adjacent to the scheme and on construction vehicle routes; and • As otherwise noted on Construction Noise and Construction Dust Figures in the ES.
Biodiversity	• Ockham and Wisley Commons SSSI; • Thames Basin Heaths SPA; • Old Common Local Nature Reserve; • Ockham and Wisley Commons Local Nature Reserve; • Elm Corner Sites of Nature Conservation Importance (SNCI); • Wisley Airfield Sites of Nature Conservation Importance (SNCI); • Hunts Copse Sites of Nature Conservation Importance (SNCI); • Elm Corner, The Bogs, Queen Anne Hills East, Queen Anne Hills West, Brickfield Copse and Heyswood ancient woodlands; • Habitats of Principal Importance (HPIs): lowland heathland, lowland mixed deciduous woodland, wood pasture and parkland, ponds and rivers; • Veteran/Ancient Trees; • Badger setts, great crested newt ponds and bat roost (trees and buildings); and • Vegetation that has the potential to support breeding birds, reptiles and great crested newts.
Road drainage and the water environment	• River Wey and associated floodplain (Water Framework Directive (WFD) waterbody ID GB106039017630); • Stratford Brook and associated floodplain (WFD waterbody ID GB106039017890); • River Mole and associated floodplain (WFD waterbody ID GB106039017621);

Topic	Sensitive area
	• Bolder Mere (WFD waterbody ID GB30643218); • Drainage ditches; • Manor Pond and the pond immediately to the west; • Bedrock Secondary A Aquifer; • Superficial Secondary A Aquifer and Principal Aquifer; • Cobam Bagshot Bed WFD groundwater body (WFD ID GB GB40602G601400); • Thames Basin Heaths SPA; • Ockham and Wisley Commons SSSI; • Ockham and Wisley Local Nature Reserve; and • Old Common Local Nature Reserve.
Landscape	• Painshill Park, Cobham; • RHS Gardens Wisley, Wisley; and • TPO trees
Geology and soils	• Superficial Secondary A and Principal aquifers; • Bedrock Secondary A aquifer; • Surface waters, including Stratford Brook, River Mole, River Wey, Bolder Mere, Pond Farm Pond, the Lake, Manor Pond and several unnamed drains, ditches and ponds; • Thames Basin Heath SPA/Ockham Common and Wisley Common SSSI and BAP; and • Ockham and Wisley LNR.
Cultural heritage	• Bell barrow on Cockcrow Hill and Bowl barrow west of Cockcrow Hill Scheduled Monuments; • Chatley Semaphore Tower Grade II* Listed Building; • Hengi-form monument at Red Hill Scheduled Monument; • Lodge, 15 yards east of Feltonfleet School, Grade II Listed Building; • Westwood House (East) and West Lodge to Painshill House Grade II Listed Building; • Belfry House Stable Cottage Grade II Listed Building, Cobham; • Feltonfleet School Grade II Listed Building, Cobham; • Foxwarren Cottage Grade II Listed Building. Cobham; • The Gothic Tower Grade II* Listed Building, Cobham; • RHS Wisley and Painshill Park Registered Parks and Gardens • Ripley Conservation Area; and • Area of High Archaeological Potential at Chatley Wood and Bell barrow at Cockcrow Hill.
Materials and waste	• Surrey County Council Mineral Safeguarding Areas.
People and communities	• Bramley Hedge Farm, Cobham; • Bridge Lodge, Cobham; • Chatley Farm, Cobham; • Cobham Hilton, Cobham; • Court Close Farm, Cobham; • East Lodge, Cobham; • Heyswood Girl Guide Campsite, Cobham;

Topic	Sensitive area
	• Long Orchard, Cobham; • Long Orchard Farm and Firtree Cottage, Cobham; • Malandy, Cobham; • New Farm, Cobham; • Pains Hill Bungalow Cobham; • Park Barn Farm, Cobham; • Stables Cottage, Cobham; • The Coach House, Cobham; • The Clock House, Cobham; • Silvermere Equestrian Centre Riding School, Cobham; • Wardens Cottage, Cobham; • West Lodge, Cobham; • Ockham Bites Cafe, Ockham; • Ockham Village Green, Ockham; • Wilderness Cottage, Ockham; • Bridgefoot Farm, Ripley; • Nutberry Fruit Farm, Ripley; • Birchmere Scout Campsite, Wisley; • Hut Hill Cottage, Wisley; • Pond Farm, Wisley; • Elm Corner, Ockham; and • Foxwarren Park, Cobham.
Climate	• N/A

9.2 Protection measures

9.2.1 The above listed areas will generally be sensitive to or potentially affected by nuisance (i.e. dust, noise, vibration and visual effects) and pollution (e.g. sediment, spillages) during construction.

9.2.2 Protection measures will therefore include those set out in the following ECPs:

- Invasive Species;
- Dust, Noise and Nuisance Management Plan;
- Soil Handling Management Plan (SHMP);
- Contaminated Land Management Plan;
- Surface Water Management Plan;
- Control of Substances Hazardous to Health (COSHH) Material, Waste Storage and Refuelling Plan; and
- Pollution Prevention Plan.

9.2.3 The list of sensitive areas and associated control measures shall be updated as necessary through detailed design and construction planning, and community liaison prior to and during construction. There may be a requirement to develop specific, localised control measures or ECPs for individual areas or receptors.

10. Environmental asset data and As Built drawings

10.1.1 Environmental asset data, including species surveys will be made available to Highways England Environmental Information System (EnvIS) in line with the requirements of IAN 84/10. Detailed design drawings for construction preparation and as built drawings for operating and maintaining the network area will also be made available to EnvIS.

10.1.2 The asset data will cover the lifespan of the Environmental Management Plan, from planning and design, construction, handover and maintenance and operation. The asset data will consist of the following environmental topics, as necessary:

- Air quality;
- Noise and vibration;
- Biodiversity;
- Road drainage and the water environment;
- Landscape;
- Geology and soils;
- Cultural heritage;
- Materials and waste; and
- People and communities.

10.1.3 Environmental management information of each asset will also be made available to EnvIS, containing:

- Details of environmental commitments;
- Management actions;
- Status of each management action;
- Planned/actual date for completion of each management action; and
- Condition and/or performance rating of each asset.

11. Environmental risk assessments

11.1 Scheme risk register

11.1.1 Adverse environmental effects of the Scheme have been avoided and minimised where possible through the Scheme design carried out to date. This will continue through incorporating appropriate measures during the detailed design phase and the adoption of appropriate working practices during construction, operation and maintenance.

11.1.2 The Scheme will have a register of environmental risks and opportunities that will include specific environmental risks and will be maintained throughout the phases of the Scheme. The environmental risks associated with the construction phase are contained in Appendix K.

11.1.3 The Scheme register of environmental risks and opportunities is a live document and as such will be reviewed to confirm status and updated to manage environmental risks throughout the Scheme development.

11.1.4 The Principal Contractor will be responsible for maintaining the register and adding or closing out any environmental risks.

12. Environmental monitoring requirements and procedures to monitor compliance

12.1 Environmental monitoring requirements

12.1.1 This chapter lists systems of recording and inspections that will be required to maintain an audit trail of the environmental obligations of the Scheme. This will be managed through the Principal Contractor's Quality and Safety Management Systems (QMS and SMS) and the EMS, meeting ISO 14001 standards.

12.1.2 The EMS will include methods for monitoring, recording and implementing environmental management on site, and for responding to any noted areas of non-compliance.

12.1.3 A Record of environmental monitoring and records of management actions undertaken, and the outcomes will be provided in Appendix L and Appendix M when produced. A Scheme Completion Report will also be produced by the Principal Contractor when appropriate.

12.1.4 [Note: Principal Contractor to produce Appendix L and Appendix M]

12.1.5 Specific monitoring and reporting requirements are still to be developed, some in consultation with third party stakeholders. This will be done through the DCO process and detailed design and confirmed arrangements included in this chapter of the final CEMP.

12.1.6 Table 12.1 below summarises the monitoring requirements for the Scheme where identified to date. Further detail is provided in Appendix G to this Outline CEMP and in Appendices 7.19 and 7.20 to the ES - SPA Management and Monitoring Plan (application document TR010030/APP/6.5) and Landscape and Ecology Management and Monitoring Plan (application document TR010030/APP/6.5), respectively.

12.1.7 [Note: Principal Contractor to update Table 12.1 with further details of mitigation and monitoring requirements once the DCO is approved and determined during detailed design]

Table 12.1: Environmental Monitoring Requirements

ES Chapter	Impact/Potential Impact	Summary of Mitigation	Monitoring Requirements
Air quality	Dust and emissions to air from construction activities affecting sensitive locations.	Location specific measures to be developed in a Dust, Noise, and Nuisance Management Plan in line with good construction practices.	To be determined by Local Planning Authorities, Principal Contractor and Highways England as appropriate.
Noise and vibration	Construction noise and vibration affecting residential/sensitive locations.	Location specific measures to be developed in a Dust, Noise and Nuisance Management Plan in line with good construction practices.	Undertake baseline noise and vibration monitoring at residential and other locations to establish pre-Scheme levels and agree these with the local authorities. Undertake follow up monitoring during the works, with any mitigation measures in place.
	Construction traffic affecting residential/sensitive locations.	Construction traffic to be managed by Traffic Management Plan. Construction traffic routes to avoid residential areas where possible.	Contractor to record complaints regarding construction traffic and report each month and propose measures to remedy issues.
	Road traffic noise and vibration in the operation phase affecting residential/sensitive locations.	Environmental noise barriers and lower noise road surfacing incorporated into the design of the Scheme.	Routine maintenance of road surfaces to avoid noise and vibration from surface irregularities. Regular inspection of environmental noise barriers to identify and repair defects and sources of sound leakage. Noise monitoring measurements to be taken in first year after opening to inform Part 1 claims. Continued monitoring in SPA to inform ecological monitoring.
Biodiversity	Loss of SSSI and SPA habitat.	Provision of SPA compensation land and enhancement areas. Replacement land adjacent to the SSSI in the north-east and north-west quadrants and managing these to compliment the SSSI.	Post monitoring and post construction care required for a predetermined time frame. Details as set out in the SPA Management and Monitoring Plan (Application Ref: TR010030/APP/6.5).
	Operational impacts from habitat loss, disturbance and severance.	Replanting of temporary land take areas and ecology enhancements, e.g. bat/bird boxes.	Establishment of a post-construction ecological survey and monitoring programme to be agreed with Highways England specialist and

ES Chapter	Impact/Potential Impact	Summary of Mitigation	Monitoring Requirements
			third parties as appropriate and in accordance with the ES. Details as set out in the Landscape and Ecology Management and Monitoring Plan (Application Ref: TR010030/APP/6.5).
Road drainage and the water environment	Effect on Bolder Mere	Diversion of road drainage away from Bolder Mere.	Water quality sampling at appropriate intervals.
Landscape	Adverse impacts upon landscape character areas resulting from vegetation loss, changes to landform, introduction of construction compounds and the introduction of proposed road infrastructure components.	Earthworks have been designed to allow for mitigation planting to be incorporated to reduce the impacts from changes to landform. Vegetation loss will be mitigated by the provision of replacement planting that will assist in reintegrating the Scheme into the surrounding landscape.	The ECoW/Principal Contractor Environmental Manager will monitor construction activities that would cause likely significant effects including: • The effectiveness and suitability of root protection fencing ensuring no impacts to trees that are to be retained. The areas of most concern are Areas of Ancient Woodland, areas covered by TPO's and Veteran trees; • Working hours of operation of the main works and in site compounds which may produce visual, noise or lighting impacts in particular on adjacent residential receptors and users of Wisley and Painshill Registered Parks and Gardens; • The angle and direction of night time lighting, to ensure that it is not directly focussed on adjacent residential receptors; and • Monitoring of the establishment of new tree and shrub/scrub planting to confirm long term success, determine management operations and remedial measures if required. To be carried out in conjunction with Biodiversity monitoring to confirm ecological measures are also successful.

ES Chapter	Impact/Potential Impact	Summary of Mitigation	Monitoring Requirements
Geology and soils	Potential adverse risks to identified human health receptors associated with the presence of ground/groundwater contamination.	A ground investigation (GI) will be completed to identify necessary mitigation measures. Relevant reports include: • The Ground Investigation Report; • Generic Quantitative Risk Assessments (GQRA); • Detailed Quantitative Risk Assessments (GQRA); • Piling Risk Assessments (PRA); and • (and possibly) Site Specific Remediation Strategy, Monitoring Strategies and Verification Plan. The Scheme will be operated in accordance with relevant regulations and best practice guidance in applying Best Available Techniques and pollution prevention. Use of ventilated temporary structures during construction if risk assessments deem necessary.	Monitoring of groundwater regime at the site. Monitoring to be agreed with Environment Agency and local authorities prior to comment of construction.
	Potential adverse risks to identified receptors associated with the presence of ground or groundwater contamination or ground gas/vapours.	Mitigation measures in GI reports, the RAMS, and in the CEMP and operational EMP. Use of ventilated temporary structures during construction if risk assessments deem necessary.	Monitoring of ground gas/vapour concentration across the site.
	Potential adverse risks to construction workers associated with the presence of ground or groundwater contamination or the migration of ground gases or vapours.	Mitigation measures in GI reports, the RAMS, and in the CEMP and operational EMP.	Monitoring of groundwater and/or ground gas across the site.

ES Chapter	Impact/Potential Impact	Summary of Mitigation	Monitoring Requirements
	Permanent removal of soils during earthworks and foundation construction and reuse of excess materials.	Mitigation measures and environmental controls will be included within the CEMP, SWMP and SHMP and outlined in the Detailed Design.	Progress of actions laid out in the relevant documents will be monitored throughout the construction phase.
	Quality of stockpiled soils; potential erosion during earthworks activities.	Mitigation measures and environmental controls will be included within the SHMP, CEMP (including MPP where required) and outlined in the Detailed Design.	Progress of actions laid out in the relevant documents, will be monitored throughout the construction phase.
	Spread of possible contamination within site soils, surface waters or groundwater due to construction activities.	Environmental controls will be included within the CEMP, operational EMP and will be implemented through the construction phase.	Suitably qualified geo-environmental specialists should be on-site to supervise the ground works.
	Potential pollution of aquifers and/or surface waters.	Mitigation measures as included in the CEMP and GI reports (particularly piling risk assessment).	Suitably qualified geo-environmental specialists should be on-site to supervise the ground works.
	Potential exposure of human health receptors to contaminated dust or fibres.	Mitigation measures in GI reports, the RAMS, and in the Construction Phase Plan and operational EMP.	Progress of actions laid out in the relevant documents will be monitored throughout the construction phase.
	Potential adverse impacts to property receptors associated with the presence of aggressive constituents in soil or groundwater or the migration of ground gases or vapours along preferential pathways.	Scheme design and mitigation measures in GI reports, the RAMS, and in the Construction Phase Plan and operational EMP.	Monitoring of groundwater and/or ground gas across the site. Progress of actions laid out in the relevant documents will be monitored throughout the construction phase.
	Potential injury/death to human receptors and/or damage to property receptors associated with potential unplanned/ uncontrolled detonation of unexploded ordnances (UXOs).	Completion of UXO detailed desk study and UXO survey (if deemed necessary). Mitigation measures as included in the CEMP and in the site Health and Safety file, Construction Phase Plan and site Emergency Response Plan, following C681 guidelines.	N/A

ES Chapter	Impact/Potential Impact	Summary of Mitigation	Monitoring Requirements
Cultural heritage	Archaeological remains may be encountered during construction.	Identify archaeological remains and achieve preservation by record through trial trenching, mapping, archaeological sampling, targeted and/or area excavation, as determined in consultation with the local planning authority archaeologist.	Implement archaeological monitoring during construction, a watching brief or other means as appropriate, depending on the results of surveys conducted in accordance with the Written Scheme of Investigation.
	Impacts to the settings of high value heritage assets (Grade I and II* listed assets and Scheduled Monuments).	Sympathetic design of landscaping and noise barriers.	Consultation with Historic England on landscape and noise barrier design.
Materials and waste	Climate change	Adopt a material efficient design and procure materials from sustainable sources.	Design decisions that have reduced the materials required for the Scheme have been recorded in the Environmental Statement. Confirmation from the construction team that the Scheme 'As Constructed' is in accordance with the design.
		Consider methods to reduce the impact of energy use in construction, including consideration of using materials with lower embodied energy such as re-used and recycled materials and locally sourced materials. This will be managed through the CEMP, SWMP and MMP in accordance with CL:AIRE Definition of Waste: Development Industry Code of Practice or equivalent.	Appropriate programme of environmental auditing and reporting. The SWMP and MMP will act as a record of waste management and material re-use on the Scheme.
	Depletion of primary materials	Use land temporarily reserved for material storage to significantly increase the amounts of materials that can be re-used within the Scheme and therefore reduce consumption of primary materials.	Appropriate programme of environmental auditing and reporting.

ES Chapter	Impact/Potential Impact	Summary of Mitigation	Monitoring Requirements
		Develop and implement a SWMP and MMP to consider and manage the re-use of materials on-site, off-site secondary/recycled materials, locally sourced materials and other responsibly sourced materials.	
	Generation of waste	Prevent waste by only ordering the required quantity of material and by re-using, recycling or recovering suitable materials either on-site or off-site. The above should be considered in preference to disposal, as outlined in the waste hierarchy. Where waste is transferred off-site the waste carrier's licence and the receiving waste management facility's authorisation will be sought to ensure that waste is transferred to authorised persons.	As part of the Scheme's Duty of Care, waste transfer documents will be kept on record. These documents record the quantity of waste transferred off-site and the quantity of waste sent for disposal.
People and communities	Effects on People and Communities	Ensure monitoring of key design aspects as mentioned in as identified in other health relevant chapters of the ES, air quality, noise and vibration, landscape, geology and soils, road drainage and water environment, and materials and waste. This should include monitoring for the need for additional noise barriers and effectiveness of designed in/existing noise barriers, numbers of road traffic incidents to ensure that road safety has been improved, traffic flows to ensure that congestion is reduced and use of PRoW, footpaths and cycleways to ensure that there is no reduction in usage.	Monitoring suggested in other chapters may be relevant to receptors in the People and Communities chapters, particularly around human health and amenity.

ES Chapter	Impact/Potential Impact	Summary of Mitigation	Monitoring Requirements
	Land Take	Where land take is required for the Scheme, it is assumed land owners will be compensated financially for the loss in accordance with the District Valuer's assessment. Land acquired temporarily for construction compounds and working areas will be restored to a condition equivalent to its original before being returned to its owner.	Monitor effects of temporary land take on receptors to reduce potential adverse effects.
	Agricultural Land and Holdings	Disturbed land restored to grazing or farming will be subject to an agreed aftercare period, during which time any problems with settlement, drainage and noxious weeds will be rectified.	This process will be overseen by a qualified soil scientist.
	NMU Routes and PRoW	Consider adverse temporary construction effects on NMUs of PRoWs and NMU routes to minimise disruption and severance.	Consultation with PRoW officer and affected users. Communication of the improvements to accessibility, connectivity and journey times delivered to local communities. Maintain communication with the general public pre-construction, during construction in line with the Community Relations Strategy. Post construction user surveys to be undertaken.
Climate	Emission of greenhouse gases leading to global warming.	Reduce greenhouse gas emissions from material production and transport, waste transport and disposal, onsite construction processes, and worker transport.	Monthly/quarterly reporting via the Carbon Calculator Toolkit, as agreed with Highways England.
	Damage to materials from elevated temperatures.	Design to will include materials that are sufficiently robust to endure a range of possible future climate extremes.	Asset condition monitoring to ensure acceptable levels of deterioration following hot summers.

Environmental Records Inspections

12.1.8 Records of compliance with the requirements of the CEMP, derived from audits and other inspections, will be held at the Principal Contractor's site office. These will be available for inspection by representatives of any audit team and relevant statutory body such as local authorities or the Environment Agency, in their statutory role. The Principal Contractor's Quality Administrator will ensure there is a central filing system in place for any checklists, reports and monitoring consistent with the QMS, SMS and EMS.

Daily Inspection Checklist

12.1.9 The Principal Contractor will make key staff aware of their responsibilities for undertaking routine checks of the site and equipment. The Principal Contractor will have processes and protocols in place for environmental aspects to be checked. On completion of relevant inspection and daily checks, details will be logged and corrective actions implemented by the responsible person, in discussion with the Principal Contractor. Highways England will review the log as part of their checking and audit role.

12.2 Procedures to monitor compliance

12.2.1 A Scheme Record will be maintained for formal records associated with the implementation of the CEMP, which will be managed and controlled within Highways England's records management systems.

Administration

12.2.2 The Principal Contractor is responsible for maintaining site based environmental records. The CEMP is a live document and the Appendices will be updated as required by the Principal Contractor. If there is any overlap with the Health, Safety, Environment and Quality files, these will be cross referenced within the updated CEMP, held by the Principal Contractor for any formal auditors to track and monitor compliance.

Environmental audit

12.2.3 As part of the Quality, Environmental and Safety management systems it will be necessary for an audit to record environmental compliance. The Highways England Project Manager will instigate regular audits which will include the review of the monitoring, recording and reporting procedures being maintained by the Principal Contractor.

Environmental Management System

12.2.4 Environmental Management System (EMS) requirements will be maintained throughout the phases of the Scheme. Contractors are required to be accredited to, or seeking to be accredited under, ISO 14001.

12.2.5 The level of environmental management will be monitored to assess compliance with the Contract and environmental standards through inspections and audits.

Control documents

12.2.6 All the Principal Contractor's RAMS and COSHH forms must consider environmental impacts for storage, use, and disposal of materials and waste.

13. Monitoring to ensure compliance with the CEMP

13.1 Regular inspections and monitoring

13.1.1 The Principal Contractor will carry out formal environmental inspections of all work areas at least weekly. Inspections shall detail realistic timescales for actions and these will be monitored by the site team. Data from inspections shall be used for trend analysis purposes to allow identification of recurring issues.

13.1.2 As a minimum, the following inspections will be completed:

- Weekly environmental inspections by a nominated Principal Contractor employee;
- Weekly environmental inspections carried out by each subcontractor;
- Appointed Environmental Advisors Site Set Up Audit by Sector Environmental Advisor; and
- Monthly environmental scored inspection by internal independent inspector.
- Targeted inspections of high risk activities.

13.1.3 The Principal Contractor will ensure that competent persons undertake all other statutory inspections at required intervals.

13.1.4 In addition to the above, the Principal Contractor shall monitor health, safety and environmental standards and performance as follows:

- Principal Contractor Supervisors will monitor their work areas environmental conditions and performance daily/routinely;
- Spot checks of subcontractors' inspections and documentation (including registers) verifying compliance;
- Sample checks of subcontractors/Principal Contractor briefing of own team on method statements through the use of stop shift audits;
- Sample checks on the training of staff by subcontractors/Principal Contractor;
- Periodic audits, checks and inspections by the Environmental Team (this includes the monthly scored inspection);
- Monthly reviews of risk assessments/method statements; and
- Sample checks of compliance with method statements and Permits to Work.

13.1.5 Each subcontractor must ensure that their line managers, Supervisors or Health, Safety and Environmental Advisors monitor the health, safety and environmental standards of their activities as a normal part of their duties. In addition, each subcontractor should ensure that a formal and recorded safety and environmental inspection is carried out every week. Inspection records should include confirmation that previous remedial actions have been carried out. These reports shall be copied to the Document Controller and will be reviewed at the monthly safety meeting.

13.2 Audits

13.2.1 The appointed Principal Contractor Environmental Advisor, accompanied where possible by the appointed Principal Contractor Environmental Manager, will conduct an audit to examine Health, Safety and Environmental systems and performance standards at the earliest opportunity. The audits will typically be undertaken approximately 4 to 6 weeks after commencement of the contract works on site.

13.3 Additional Inspection/Monitoring

13.3.1 Any consent/licence/permit monitoring inspection requirements shall be added into this section and the appropriate ECPs within Appendix F.

13.4 Procedures in the Event of Failure to Comply with the CEMP

13.4.1 Anyone who disregards the safety, health or environmental rules and arrangements detailed in this Outline CEMP will in the first instance receive a written warning from the Principal Contractor Site Manager or nominated person; subsequent misdemeanours will provoke the removal of the person from site. The Principal Contractor Site Manager reserves the right to remove from site instantly any person whose acts or omissions in his opinion constitute serious danger to people, environment and property.

13.4.2 The Principal Contractor may give reasonable directions to any subcontractor sharing the site for the purposes of construction (regardless of contractual arrangements) for him to comply with duties under the Construction (Design and Management) Regulations 2015 (CDM 2015).

13.4.3 The Principal Contractor is given the authority under Regulation 22(1)(e) of CDM 2015 to issue reasonable directions to contractors. Such directions must:

- Relate to compliance with the Principal Contractor's duties; and
- Be reasonable given the specific circumstances applicable at the time.

13.5 Review and Close Out Reports

CEMP Review

13.5.1 The CEMP can be reviewed as often as is necessary to include the significant changes in equipment, risk, and scope of works, circumstances, people or other organisational change.

13.5.2 The review shall be conducted using the Principal Contractor's EMS checklist and be recorded.

13.5.3 The suitability of and performance against the CEMP will be reviewed to ensure that it remains valid and reflects the arrangements for managing current activities on site.

Environmental Performance Reviews

13.5.4 Environmental performance will be reviewed throughout the contract and discussed as appropriate at the following meetings:

- Project Board meetings;
- Project Senior Management Team meetings;
- Environmental Co-ordination meetings; and
- Environmental Committee meetings.

13.5.5 Performance reviews shall identify trends in incidents giving areas that will be targeted for improvement. This will include a review of the activities scored low during the monthly environmental scored inspections.

13.5.6 Environmental performance will be reviewed and recorded for the monthly progress reports.

Subcontractor Performance Reviews

13.5.7 The Principal Contractor team will complete subcontractor's performance reviews at least every 3 months. Relevant members of the construction team should be consulted during each review.

Contract Review and Close Out

13.5.8 Close out reports will be prepared in accordance with EMS and contract requirements. The key points of this being:

- The Project Manager/Director will ensure that a formal contract review and report will be conducted within 8 weeks of practical completion to focus on environmental performance and systems. The Project Manager/Director will organise a contract close out meeting in accordance with ISO14001; and
- Prior to that meeting, the Principal Contractor Site Manager shall ensure that a Contract Close Down Report is circulated to all those attending, at least 10 working days before the meeting date.

Archiving

13.5.9 All archiving will be carried out in accordance with legislative compliance and Highways England's archiving requirements.

14. Summary of emergency procedures

14.1 Emergency response plan principles

14.1.1 Highways England must approve any site incident management protocols to meet and be coordinated to the systems that exist for the day to day management of the highway network. In the event of an incident, provisions for maintaining effective access for emergency services and highways activities will be necessary for the highway network and for the works.

14.1.2 The Principal Contractor will develop and implement a set of standardised emergency response procedures and will ensure that site operatives are familiar with all emergency arrangements including training and test exercises. The procedures will include an Emergency Response Plan and a record of Environmental Incidents.

14.1.3 The emergency procedures will contain emergency phone numbers and a method for notifying local authorities and statutory consultees. The Plans will also include detailed response plans for potential environmental incidents. A summary of general control measures for different potential environmental emergency situations is provided below in section 14.3.

14.1.4 Each subcontractor is responsible for ensuring that environmental incidents are reported to the Principal Contractor. All incidents will be investigated by the subcontractor or responsible person with full participation and co-operation of any other subcontractors involved. Where the incident is investigated by a subcontractor, the Principal Contractor will be provided a copy of the investigation report detailing any remedial action.

14.1.5 With regards to environmental incidents, a full report must be compiled with any witness statements and photographs to assist in the final conclusions and recommendations.

14.1.6 Records of Environmental Incidents should they occur will be contained within the site records folder system. A template of this document is included in Appendix N.

14.1.7 [Note: Principal Contractor to produce record of Environmental Incidents template for Appendix N.]

14.2 Emergency contacts and response plans

14.2.1 Emergency contact numbers, which will be updated and maintained throughout the construction of the Scheme by the Principal Contractor, are included in Table 3.1: . The information will be located at strategic places e.g. site offices and will be highlighted to the site team during inductions, toolbox talks and safety and awareness training.

14.3 Basic emergency principles

14.3.1 If an incident (e.g. large fuel spillage) occurred on site, the following principles should be followed:

- Identify the cause of the emergency or incident and act immediately to prevent it from getting worse;

- Make sure that the appropriate personal protective equipment (PPE) is available to use wherever necessary;
- Report any emergency or incidents to the environmental department immediately, detailing the nature, cause and location so that appropriate action can be taken; and
- The Principal Contractor will inform the local authorities, Environment Agency and/or Natural England, as relevant, of the incident.

14.3.2 Do not:

- Ignore the incident, as this could lead to serious disciplinary consequences and/or legal action.

14.3.3 After an incident:

- Ensure that any lessons from the incident are communicated to all relevant staff and appropriate action taken elsewhere on site if necessary; and
- Update all relevant method statements, chapters of the CEMP; toolbox talks etc. and ensure new information is communicated to all staff.

14.4 Dealing with objectors

14.4.1 In the event of objectors to the Scheme being present on site, the Principal Contractor will incorporate and develop the following instructions in their Emergency Response Plan for the site:

- Do not confront any objectors if encountered onsite;
- Stop all operations if necessary;
- Contact the site management team immediately;
- Always respect landowners and residents and try to understand their concerns; and
- Do not try to deal with objectors by yourself; ask for help from the site management team.

14.5 Accidental fires

14.5.1 The Principal Contractor will incorporate and develop the following instructions in the Emergency Response Plan for the site to reduce the damage caused to surrounding habitats from fire:

- If safe to do so use firebeaters immediately to prevent fire spreading;
- Report emergency to the relevant site management team immediately;
- Call the fire brigade if the fire cannot be easily contained; and
- Inform the landowner/occupier and Highways England.

14.6 Emergency spills and pollution incidents

General

14.6.1 Spill of fuel/oil etc. can cause damage to surrounding habitats and watercourses. The Principal Contractor will incorporate and develop the following instructions in their Emergency Response Plan for the site:

- Make sure you have the appropriate PPE before acting;
- Contain a pollution incident immediately using absorbent materials and booms, or by digging containment facilities or bunds;
- Report the incident to the environmental department; they will contact the Environment Agency if necessary; and
- Contact designated spill clean-up company for appropriate assistance.

Do not:

- Dig ditches to drain polluted matter to watercourses;
- Remove booms and bales used to hold or contain polluting materials; and
- Ignore an incident because you are afraid of the consequences.

After an incident

- All waste generated by clean-up activities should be disposed of in accordance with current legislative requirements and the SWMP and copies of all transfer notes retained.

Unexpected sediment problems

14.6.2 Sediment/silt problems occur in times of heavy rain and can cause damage to surrounding habitats and watercourses. The Principal Contractor will incorporate and develop the following instructions in their Emergency Response Plan for the site:

- Check (monitor where required) watercourses during periods of high rainfall or construction activities with potential for significant run-off;
- Take immediate action if you identify any high sediment which is causing pollution. If unsure if it is significant, consult with the environmental department;
- Implement mitigation actions immediately. Control pollution at source whenever possible. Consider whether the site activity should be halted. Consult the environmental representatives if in doubt;
- Place straw bales, silt fencing, etc. to help control sediment immediately and/or check measures already in place for efficacy;
- Monitor the effectiveness of protection measures daily and re-plan as necessary;
- Remove silted bales/screens, etc. regularly so they do not make problems worse;

- The Principal Contractor Environmental Manager and relevant site management representative should talk to the Environment Agency regularly and check plans for emergency procedures; and
- Reconsider working practices which may be causing pollution in poor weather conditions and re-plan/programme.

Accidental release of cement to watercourses

14.6.3 The Principal Contractor will incorporate and develop the following instructions in their Emergency Response Plan to reduce the likelihood of damage to surrounding habitats and watercourses from cement releases:

- Stop the action which is causing pollution immediately;
- Inform the environmental representative to identify whether more detailed actions are required;
- Inform the Environment Agency and landowners/occupiers as relevant;
- Monitor effects of spill; and
- Learn from the experience and plan site works to avoid pollution happening again.

Do not:

- Think that a concrete spill is not important;
- Ignore a concrete spill; and
- Cover up the incident.

Oil spills

14.6.4 Oil causes damage to surrounding habitats and watercourses. The Principal Contractor will incorporate and develop the following instructions in their Emergency Response Plan for the site:

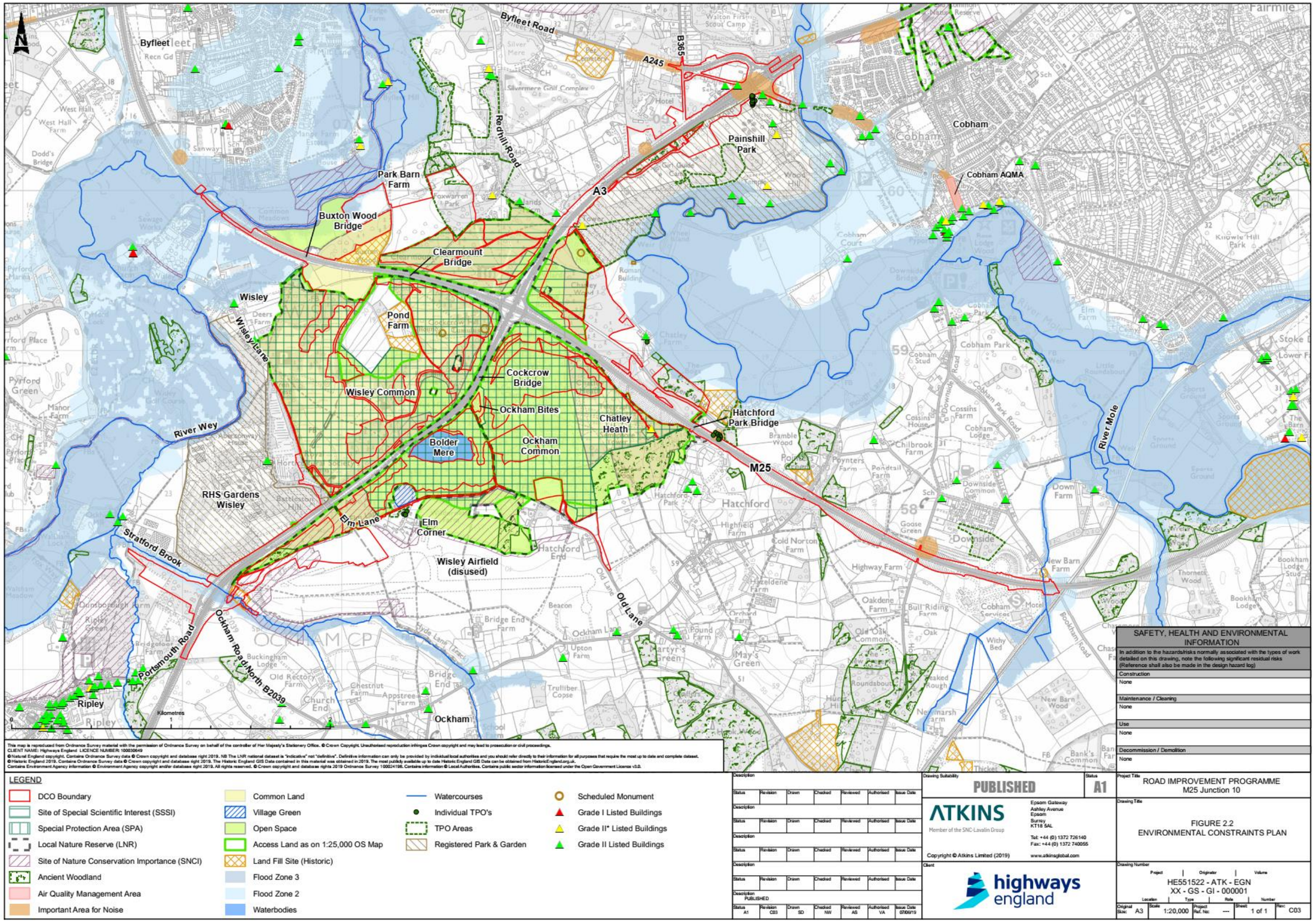
- Stop the action/event which is causing pollution immediately;
- Take immediate remedial actions;
- Inform the environmental representative to identify more detailed required actions;
- Inform the Environment Agency and landowners/occupiers if the spill has not been contained and dealt with;
- Monitor effects of the spill;
- Remove oil spill response materials and dispose of in accordance with the appropriate method statement;
- Deal with any contaminated soils in accordance with the MMP; and
- Do not think that a fuel spill is not important.

Appendices

Appendix A. Location plan


M40
Rickmansworth
M25
A406
Finchley
Ilford
Harrow
A12
LONDON
A40
Beaconsfield
Maidenhead
Slough
A10
Dagenh
M4
A4
Windsor
Dartford
A316
A205
A329
M4
A330
A308
Heathrow
Richmond
A20
Bracknell
Staines-upon-Thames
A24
A23
Orpington
A322
M3
A319
Esher
Sutton
A232
M25
Croydon
Biggin Hill
Woking
A245
A3
A30
A327
A321
Leatherhead
Caterham
M25
Farnborough
SURREY
Aldershot
Dorking
Redhill
A287
Guildford
A25
A24
Reigate
A225
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
PUBLISHED
A1
ROAD IMPROVEMENT PROGRAMME
M25 Junction 10
FIGURE 1.1
LOCATION PLAN
ATKINS
highways england
HE551522 - ATK - EGN
XX - GS - GI - 000002
1:200,000
1 of 1
P03

Appendix B. Environmental Constraints Plan


Byfleet
Byfleet Road
A245
B365
Redhill Road
Painshill Park
Cobham
Cobham AQMA
Park Barn Farm
A3
Buxton Wood Bridge
Clearmount Bridge
Wisley
Pond Farm
Wisley Lane
Cockcrow Bridge
Wisley Common
Ockham Bites
Chatley Heath
Hatchford Park Bridge
River Wey
Bolder Mere
Ockham Common
M25
River Mole
RHS Gardens Wisley
Elm Lane
Elm Corner
Stratford Brook
Wisley Airfield (disused)
Old Lane
Portsmouth Road
Ockham Road North B2039
Ripley
Ockham
Hatchford
Cobham Park
Kilometres
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made in the design hazard log)
Construction
None
Maintenance / Cleaning
None
Use
None
Decommission / Demolition
None
LEGEND
DCO Boundary
Site of Special Scientific Interest (SSSI)
Special Protection Area (SPA)
Local Nature Reserve (LNR)
Site of Nature Conservation Importance (SNCI)
Ancient Woodland
Air Quality Management Area
Important Area for Noise
Common Land
Village Green
Open Space
Access Land as on 1:25,000 OS Map
Land Fill Site (Historic)
Flood Zone 3
Flood Zone 2
Waterbodies
Watercourses
Individual TPO's
TPO Areas
Registered Park & Garden
Scheduled Monument
Grade I Listed Buildings
Grade II* Listed Buildings
Grade II Listed Buildings
PUBLISHED
A1
ROAD IMPROVEMENT PROGRAMME
M25 Junction 10
FIGURE 2.2
ENVIRONMENTAL CONSTRAINTS PLAN
ATKINS
Epsom Gateway
Ashley Avenue
Epsom
Surrey
KT18 5AL
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highways england
HE551522 - ATK - EGN
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A3
1:20,000
1 of 1
C03

Appendix C. Construction programme

C.1.1 [Note: Principal Contractor to update proposed Construction Programme]

Appendix D. Toolbox talks and method statements

D.1.1 [Note: Principal Contractor to produce and include Toolbox talks and Method Statements]

Appendix E. Environmental training, site induction and toolbox talk log

E.1.1 [Note: Principal Contractor to produce and include environmental training, site induction and toolbox talk log]

Appendix F. Environmental control plans

F.1.1 [Note: Principal Contractor to produce and include Environmental Control Plans]

Appendix G. Register of environmental actions and commitments

G.1 Introduction

G.1.1 This Register of Environmental Actions and Commitments (REAC) is made up of two parts. Part 1 sets out the schedule of mitigation commitments, and Part 2 is the Environmental Action Plan (EAP).

G.1.2 Although the REAC initially forms part of the Environmental Statement (ES), during the implementation of the Scheme it is appended to the Construction Environmental Management Plan (CEMP) and viewed as a 'live' document. The REAC therefore acts in part as a 'bridge' between the ES and the CEMP. Part 2 can be added to during the detailed design phase, and as each objective is achieved, the date of achievement entered, with the initials of the person signing it off.

G.1.3 [Note: Principal Contractor to update Part 1 and Part 2 of the REAC once the DCO is approved and during detailed design.]

G.2 Part 1: Schedule of environmental mitigation commitments

G.2.1 The schedule set out in Part 1 (Table G.1) summarises the mitigation measures that have been committed to within the various chapters of the ES, with a cross-reference to the relevant 'Requirements' that secure those commitments in the DCO.

G.2.2 [Note: Principal Contractor to update Table G.1 once the DCO is approved and during detailed design.]

G.3 Part 2: Environmental Action Plan

G.3.1 The schedules set out in Tables G.2, G.3 and G.4 comprises the EAP before the start of construction, during construction, and post construction. The EAP sets out the actions required to implement the Scheme in accordance with the ES. It sets out environmental objectives that are derived from environmental mitigation measures identified within Table 1.1 and Volume 1 of the ES, together with the actions required to achieve those objectives and the targets (or achievement criteria) that would be used to determine whether the objective has been met.

G.3.2 The environmental objectives identified in the EAP may be related to one or more of the mitigation measures identified in Volume 1 of the ES. Relevant mitigation measures are identified by cross-reference to the relevant Chapter of the ES. An individual objective may require a single action to achieve the relevant target, or may require a series of actions carried out in order, or several separate actions carried out in parallel. Each action required has been identified separately.

G.3.3 The responsibility for undertaking the action has been allocated as clearly as possible - as a minimum to the relevant corporate body (Highways England, Principal Contractor or the Designer).

G.3.4 If the action requires consultation, agreement or approval from one or more third parties, they are identified in the Action/Commitment Implementation methods column.

G.3.5 An individual environmental objective may require actions in more than one phase of the Scheme, i.e. pre-construction, construction or operation. If so, this is identified in the Scheme Stage column.

G.3.6 [Note: Principal Contractor to update Tables G.2, G.3 and G.4 once the DCO is approved and during detailed design.]

G.4 Actions required before the start of construction

G.4.1 Actions required at this stage fall into the following main categories:

- Designing/planning for other actions required before construction and for actions required during construction;
- Consultation with and/or seeking agreement where required, from third parties;
- Applications for European Protected Species Licences and any other consents or legal procedures still required in advance of construction; and
- Construction of mitigation measures required in advance of the main works.

G.5 Actions required during the construction period

G.5.1 Actions required at this stage fall into the following main categories:

- Continued designing/planning for actions required during construction and after construction; and
- Construction or other implementation of the majority of ES mitigation measures and of most EAP actions.

G.6 Actions required after the end of construction

G.6.1 Actions required at this stage fall into the following main categories:

- Implementation of actions required during the first few years after construction, to ensure the successful establishment of mitigation measures;
- Implementation of long-term maintenance/management measures; and
- If applicable, any post-construction monitoring and evaluation measures to determine the success or otherwise of mitigation measures.

Table G.1: REAC Part 1: Schedule of environmental mitigation commitments

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
Air Quality					
Dust and emissions to air caused by the construction works of the Scheme	Ch 5, section 5.9	~~TR0100/APP/~~TR010030/APP/6.3	Mitigation and control measures for construction activities will be included in the CEMP and implemented during the construction phase. The CEMP will be consulted with the local authorities.	Not expected to be significant with appropriate mitigation measures in place.	CEMP
Noise and Vibration					
Construction noise and vibration	Ch 6, section 6.9	~~TR0100/APP/~~TR010030/APP/6.3 TR010030/EXAM/10.12	Apply mitigation measures in alignment with the guidance detailed in BS 5228: 2009+A1:2014 - Part 1: Noise 'Code of Practice for noise and vibration control on construction and open sites', Part 1: Noise and Part 2: Vibration. (See paragraph 12.8.1) and best practicable means (BPM) in accordance with the Control of Pollution Act 1974. Carry out good stakeholder communications with local residents to ensure that they are well informed of the progress of the works and are given notice of any activities that are likely to generate high levels of noise or vibration in advance of the works being undertaken. The construction compound near the Wisley Lane diversion will be laid out so that the materials processing plant will be located as far from residential properties at Elm Corner as practicable. In addition, topsoil mounds and bunds will be placed within the compound to reduce noise effects. Materials processing activities will be kept to the minimum need to supply materials for the construction of the scheme.	No significant effects are expected, although adverse effects are likely for those properties and other sensitive receptors close to the construction of the Scheme. Perceptible vibration due to piling for retaining wall construction works and vibratory rolling for road surfacing works is a possibility on occasion at those properties closest to the Scheme.	CEMP, Stakeholder Liaison Plan
Construction traffic	Ch 6, section 6.9	~~TR0100/APP/~~TR010030/APP/6.3	Prepare and implement a Traffic Management Plan to manage construction traffic flows and routing to avoid residential areas as far as possible.	Not expected to be significant.	Traffic Management Plan
Operational noise and vibration	Ch 6, section 6.9	~~TR0100/APP/~~TR010030/APP/6.3	Provide lower noise road surfacing on all carriageways of the A3 and environmental noise barriers, where required in the design of the Scheme to minimise impacts during the operation phase and to improve existing noise levels.	No significant effects that are attributable to the Scheme.	Scheme Layout Plans (application document TR010030/APP/2.8)
Biodiversity					
Designated sites – SPA	Ch 7, section 7.13	~~TR0100/APP/~~TR010030/APP/6.3	Designated sites: a compensation package will be provided that will include 1:1 compensation land for all permanent land take from the SPA, and 3:1 enhancement areas for all permanent and temporary land take from the SPA.	Short term – temporary very large adverse effect Long term – permanent large positive effect	Scheme Layout Plans (application document TR010030/APP/2.8)
Designated sites – SSSI	Ch 7, section 7.13	~~TR0100/APP/~~TR010030/APP/6.3	The SPA compensation package will also benefit the SSSI. Common land replacement land parcels located immediately adjacent to the SSSI will be managed to compliment the SSSI. For details of mitigation for Bolder Mere see Road Drainage and the Water Environment section below.	Short term – temporary very large adverse effect Long term – permanent neutral effect	Scheme Layout Plans (application document TR010030/APP/2.8)
Designated sites – LNR	Ch 7, section 7.13	~~TR0100/APP/~~TR010030/APP/6.3	The measures described for the SPA and SSSI will also benefit the LNR.	Short term – temporary moderate adverse effect Long term – permanent neutral effect	Scheme Layout Plans (application document TR010030/APP/2.8)
Elm Corner SNCI	Ch 7, section 7.13	~~TR0100/APP/~~TR010030/APP/6.3	Woodland enhancement measures within Elm Corner SNCI (including ancient woodland area).	Short term – temporary moderate adverse effect Long term – permanent neutral effect	Scheme Layout Plans (application document TR010030/APP/2.8)
Wisley Airfield SNCI	Ch 7, section 7.13	~~TR0100/APP/~~TR010030/APP/6.3	Temporary land take areas will be replanted with shrubs and trees. Will still be a permanent loss of 2.6 ha of land	Short term – temporary moderate adverse effect Long term – permanent moderate adverse effect	Scheme Layout Plans (application document TR010030/APP/2.8)

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
Ancient woodland and veteran trees	Ch 7, section 7.13	~~TR0100/APP/~~TR010030/APP/6.3	43 ha of woodland planting and improved woodland linkages, soil translocation from ancient woodlands lost to provide seed bank for ancient woodland ground flora to establish in newly created areas. Enhancement of ancient woodland at Chatley Farm. Due to irreplaceable nature of ancient woodland, despite the increases in woodland area and enhancement of retained ancient woodland, there still remains a permanent loss of 0.24 ha and temporary possession of 0.07ha of ancient woodland at Elm Corner and Heyswood.	Permanent adverse moderate effect	Scheme Layout Plans (application document TR010030/APP/2.8)
Habitats	Ch 7, section 7.9	~~TR0100/APP/~~TR010030/APP/6.3	Habitat Creation/Planting as follows: • Old Lane SPA compensation land – this field will be planted with a low density of trees to create wood pasture with a 20% canopy cover. This will continue to be grazed as wood pasture, providing an enhanced invertebrate resource and potential foraging habitat for SPA qualifying species; • Wisley SPA compensation land – this field will be planted with a low density of trees to create wood pasture with a 20% canopy cover. This will continue to be grazed as wood pasture, providing an enhanced invertebrate resource and potential foraging habitat for SPA qualifying species; • SPA enhancement areas – these areas will undergo a mixture of full clearance (with only certain mature trees being retained) to allow heathland regeneration and thinning to create open areas such as rides, and to enable a more diverse woodland to establish; • Temporary land take – this will be replanted with trees and/or shrubs to create a visual screen, but will also contain areas of grassland, sandy banks and open soil areas to restore biodiversity; • Replacement land at Park Barn Farm will be planted with woodland areas, and the open grass habitat will be managed to reduce nutrient levels and encourage acid grassland and, in time, heathland species to become established; • Replacement land at Chatley Farm will involve the management of existing woodland areas to allow a more diverse woodland habitat to establish, with additional woodland planting; and • Replacement land at Hatchford End will undergo some woodland planting. • Woodland management in Elm Corner SNCI	Short term – temporary very large adverse effect Long term – permanent neutral effect	Scheme Layout Plans (Application Ref: TR010030/APP/2.10)
Amphibians (including great crested newts)	Ch 7, section 7.9	~~TR0100/APP/~~TR010030/APP/6.3	• Site compounds and storage areas to be located away from aquatic habitats that may support breeding populations of great crested newts; • Ecological Clerk of Works to be present during site clearance operations. Site clearance operations in connected habitats within 250 m of great crested newt breeding ponds and adjacent to Bolder Mere Conservation Verge (CV005) along Old Lane (with regards to toads specifically) will be undertaken under a Precautionary Method of Working in respect of great crested newts and common toads; • Where possible material from site clearance works will be used to create additional refugia and/or hibernacula to improve the suitability of terrestrial habitats; • Creation of 23 ha of heathland habitat, 33 ha of woodland and 37 ha of enhanced woodland areas; and	Short term – Temporary adverse effect Long term – Permanent positive effect	Protected Species Constraints Plan

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
			• Construction of two toad underpasses and associated permanent wildlife fencing along Old Lane.		
Common reptiles	Ch 7, section 7.9	~~TR0100/APP/~~TR010030/APP/6.3	• Ecological Clerk of Works to be present during site clearance operations. Site clearance operations will be undertaken under a Precautionary Method of Working in respect of common reptiles; • Where possible material from site clearance works will be used to create additional refugia and/or hibernacula to improve the suitability of terrestrial habitats; and • Creation of 23 ha of heathland habitat and open glades within wooded areas suitable for common reptiles.	Short term – Temporary adverse effect Long term – Permanent positive effect	Protected Species Constraints Plan
Sand lizards	Ch 7, section 7.9	~~TR0100/APP/~~TR010030/APP/6.3	• Ecological Clerk of Works to be present during site clearance operations. Site clearance operations in Ockham Common will be undertaken under a Precautionary Method of Working in respect of sand lizards; • Where possible material from site clearance works will be used to create additional features, such as sandy banks, to improve the suitability of terrestrial habitats; and • Creation of 23 ha of heathland habitat suitable for sand lizards.	Short term – Temporary neutral effect Long term – Permanent positive effect	Protected Species Constraints Plan
Breeding birds	Ch 7, section 7.9	~~TR0100/APP/~~TR010030/APP/6.3	• Vegetation to be retained/lost (including trees and scrub) will be clearly demarcated with an agreed marking system with the Principal Contractor to avoid encroachment into areas of high value bird habitat; • Vegetation removal as part of the site clearance must consider the potential for nesting birds through programming vegetation removal, to take place outside the bird breeding season. Therefore, vegetation removal would occur from September through to February inclusive; • If vegetation removal during the bird nesting season cannot be avoided, then works will be undertaken under a Precautionary Method of Working in respect of breeding birds, and pre-clearance checks for nesting birds will be required for all potentially suitable nesting habitats. If nesting birds are identified, then protective buffer zones around each nest would be required and vegetation removal within that buffer may have to be postponed until all the young have fledged or the nest is abandoned; • The proposed landscape restoration planting would include native species of local provenance that provide suitable nesting areas or a source of food at different times of year; • Subject to 3rd party agreement nest boxes would be provided in suitable locations (in woodland and on mature trees) as part of the enhancements for the Scheme. This will include open fronted nest boxes for spotted flycatchers; • Where possible night time working would be kept to a minimum during the construction period. In addition, operational lighting would aim to avoid illuminating habitats adjacent to the Scheme; and • Creation and enhancement of habitats provided as part of the Scheme will provide long term nesting habitats for breeding birds (i.e. SPA compensation land, SPA enhancement areas, replacement land and reinstatement of temporary land take).	Short term – Temporary slight adverse effect Long term – Permanent neutral effect	Protected Species Constraints Plan

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
Hobby	Ch 7, section 7.9	~~TR0100/APP/~~TR010030/APP/6.3	• During the breeding season, surveys to determine if hobbies are nesting within the wooded area by Hut Hill. If found to be nesting, a buffer will be put in place to ensure that the hobbies are not disturbed at the nest; and There will be no operational impacts.	Neutral effect	Protected Species Constraints Plan
Dartford warbler, nightjar and woodlark	Ch 7, section 7.9	~~TR0100/APP/~~TR010030/APP/6.3	• Disturbance of open heathland areas will be avoided during the nesting bird season (typically 1st March to 31st August, but this is extended to include all of February to avoid the risk of disturbing woodlarks on nesting territory); • The only works required within or adjacent to open heathland areas are enhancement works. The enhancement works will increase the amount of available open heathland habitat for these species. The enhancement work will be staged to enable a range of habitat regrowth ages, and to avoid attracting sensitive heathland species into areas immediately adjacent to the Scheme footprint during the construction work; and • Creation of 23 ha of heathland habitat and enhancement of 25 ha of SPA woodland habitat.	Short term – neutral effect Long term – permanent large positive effect	Protected Species Constraints Plan
Bats	Ch 7, section 7.9	~~TR0100/APP/~~TR010030/APP/6.3	• Planting for the Scheme will take into account general habitat requirements for bats; • Any removal of trees that support a bat roost, or works on buildings that support roosting bats, will be carried out under a licence as issued by Natural England; • Additional lighting should only be installed in accordance with the Lighting Engineers Guidance for the Reduction of Light Pollution (Bat Conservation Trust and The Institution of Lighting Engineers, 2009). In brief the effect on bats and disturbance to adjacent habitats can be minimised by the use of suitable lamps with low light spillage, such as LEDs, instead of mercury or metal halide lamps. The brightness would be kept as low as possible by directing the beam downwards using hoods and limiting the height of lighting columns; • Night working should be avoided where possible. If it cannot be avoided, it should be restricted in the vicinity of known bat commuting routes and valuable areas of foraging habitat (i.e. commuting routes should not be illuminated nor have generators placed next to them); • Subject to 3rd party agreement bat boxes will be provided in suitable locations (in woodland and on mature trees) as part of the enhancements for the Scheme; and • Enhancement of habitats as a result of compensation measures, leading to increased food resource.	Short term – Temporary adverse effect Long Term – Permanent positive effect	Protected Species Constraints Plan
Invertebrates	Ch 7, section 7.9	~~TR0100/APP/~~TR010030/APP/6.3	Planting for the Scheme and enhancement works will take in to account general habitat requirements for invertebrates as well as providing key features such as sandy banks and open scrapes where possible.	Short term – Temporary adverse Long term – Permanent positive	Protected Species Constraints Plan
Badgers	Ch 7, section 7.9	~~TR0100/APP/~~TR010030/APP/6.3	• An artificial badger sett will be created to compensate for the temporary closure of partial loss of a main sett within the footprint of the highway proposals. A 30 m buffer zone implemented around the entrances to retained badger setts within the EZoI of the Scheme to avoid risk of harm and disturbance to badgers in the area; • A badger survey will be conducted prior to construction works to determine the level of activity at badger stets which have the potential to be affected by construction;	Short term – Temporary slight adverse effect Long term – Permanent slight adverse effect	Protected Species Constraints Plan

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
			• All excavations will be covered or closed overnight to prevent any animals (i.e. badgers) becoming trapped. Alternatively, a 'ramp' or graded edge will be provided as a means of escape; • Felling activities, be it woodland clearance or thinning, will avoid active badger setts; • Fencing will be established immediately adjacent to the Scheme to deter badgers from crossing the road at unsafe locations where surveys to inform detailed design indicate this is necessary and practicable; • Inactive badger setts will be destroyed under a precautionary method.		
Road Drainage and the Water Environment					
Deterioration in surface water and groundwater quality resulting from construction activities.	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	• All works to be undertaken in accordance with the Pollution Prevention Guidelines (PPGs[4]); • Temporary works sites, haul roads and other associated works should be designed and maintained to minimise impact; • Areas which may generate contaminated water, such as oil storage areas, will be bunded and have water discharged to self-contained units with treatment facilities; • Tests will be undertaken to ensure contaminated material is identified isolated and reworked or removed to special landfill to avoid any leachate problems; • Temporary land-take required for construction will include adequate areas of land set aside for robust control measures, for example sustainable drainage control; • A Pollution Prevention Plan, including spillage response measures, will be prepared prior to construction; • Appropriate method statements for working with and storing oils and chemicals in line with the requirements of the Control of Pollution (Oil Storage) Regulations 2001 will be prepared; • An Environmental Incident Control Plan to ensure protective measures are implemented to deal with both normal and emergency situations will be prepared; • Contractors will undertake construction work to best practice standards; • A permanent drainage system will be developed and approved by relevant parties before the construction phase commences; • A construction phase Surface Water Management Plan will be prepared; • A piling risk assessment will be carried out to ensure the selected piling method does not introduce contamination pathways into the aquifer; and • Where sheet piling is replacing existing retaining walls, the design will not exceed the existing extent and depth of the retaining wall.	Not expected to be significant with appropriate mitigation measures in place.	N/A
	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3		Not expected to be significant with appropriate mitigation measures in place.	N/A

[4] Pollution Prevention Guidelines (PPGs) with particular reference to PPG1 (general guide to the prevention of water pollution), PPG3 (use and design of oil separators in surface water drainage systems), PPG5 (works near or liable to affect watercourses) and PPG6 (working at construction and demolition sites). The PPGs contain a mix of regulatory requirements and good practice advice. They have been withdrawn by the Environment Agency but are still considered good practice advice to avoid pollution of watercourses. All of the PPGs are available from http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/business/topics/pollution/39083.aspx

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
Increased risk of flooding (fluvial, surface water and groundwater) resulting from construction activities.	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	• No materials or plant will be stored within the floodplain; • The Environment Agency Flood Warning system will be signed up to and a procedure will be put in place to ensure timely evacuation of personnel (and plant if safe to do) from the floodplain; • For any works in ordinary watercourses, such as obstructions to flow, Ordinary Watercourse Consent will be obtained from Surrey County Council. Similar works to any main rivers, or any works within eight metres of a main river, will require an Environmental Permit from the Environment Agency; • A construction phase Surface Water Management Plan will be prepared; • If ground compaction has occurred it will be reinstated as existing; and • The Environment Agency Flood Warning system will be signed up to and a procedure will be put in place to ensure timely evacuation of personnel (and plant if safe to do) from the floodplain.	Not expected to be significant with appropriate mitigation measures in place.	N/A
Depletion of water resources	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	A material efficient design will be adopted and implemented by the Design Team. Measurement will be via a brief statement from the design team estimating the overall quantity of material required through the application of an efficient design. Monitoring will be through confirmation from the Construction Team that the Scheme 'As Constructed' is in accordance with the design. The CEMP will be developed and implemented to consider methods to manage and reduce water use in construction. Monitoring will be through an appropriate programme of Environmental Auditing and Reporting.	Not expected to be significant with appropriate mitigation measures in place.	N/A
Damage to riparian and channel features and disruption of natural hydraulic and sediment process resulting from construction/modification of watercourse crossings and construction of highway drainage outfalls.	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	• River and habitat enhancement measures to be implemented on the Stratford Brook upstream of the A3 crossing; • A feasibility study will be undertaken into river habitat and fish and mammal passage improvement along the Stratford Brook and recommendations from this study implemented, and • Adherence to the following generic guidance for detailed design of single span bridges, culverts, bank protection: 1) Chapter 8 of Fluvial Design Guide (Environment Agency, 2010), 2) Chapter 4 of Culvert design and operation guide (C689) (Ciria, 2010), 3) Water Framework Directive Mitigation Measures Manual (Environment Agency, 2013), 4) Advice on minimising impact on fish passage in the Fish Pass Manual (Environment Agency, 2010), 5) SEPA's advice on river crossings and position statement on culverting (SEPA 201, 2015).	Not expected to be significant with appropriate mitigation measures in place.	Scheme Layout Plans (application document TR010030/APP/2.8)
Damage to Bolder Mere margins as a result of construction activities.	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	• Reinstatement of habitat along northwest shore of Bolder Mere (adjacent to the A3) which will involve the lake margin being reprofiled into the water (to replicate the current slope) and the reedbed re-established (through translocation of the existing reedbed and/or new reedbed planting; • Habitat improvements, particularly along the southern edge of Bolder Mere to improve lake margins for designated species; • Groundwater Investigations will be undertaken to assess the groundwater flow direction and groundwater contribution into Bolder Mere which may result in alterations being made to the design of the sheet pile element of the retaining wall, to ensure it does not form more of a barrier to groundwater flow into Bolder Mere than the existing retaining wall;	Not expected to be significant with appropriate mitigation measures in place.	Scheme Layout Plans (application document TR010030/APP/2.8)

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
			• A management programme to reduce/remove the existing carp population in Bolder Mere will be prepared and implemented; and • A feasibility assessment of the likely effectiveness of implementing a management plan for the following invasive non-native species known to be present in Bolder Mere (narrow-clawed crayfish, New Zealand pigmyweed and Nuttall's waterweed) will be undertaken. The assessments will also look into improving conditions for macrophytes within the lake.		
Loss of ephemeral ditches as a result of construction activities.	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	• Enhancement of water features on Replacement Land and in SPA Enhancement areas at: – Chatley Wood pond; – Ditch downstream of Bolder Mere; – Wisley ditches north. • Relevant guidance on modification of a river channel including the River Restoration Centre website (RRC, 2014) will be adhered to.	Not expected to be significant with appropriate mitigation measures in place.	Scheme Layout Plans (application document TR010030/APP/2.8)
Alterations to groundwater flow paths as a result of construction activities.	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	• Intrusive ground investigation will be carried out to determine the groundwater flow direction and the depth to groundwater. On the basis of these investigations, alterations will be made to the design of the piles or retaining walls, to ensure they do not form a barrier to groundwater flow; • Deep foundations will be designed in accordance with industry standards – taking into account the site-specific water level and flow monitoring data obtained from instructive ground investigation for the Scheme; and • A piling risk assessment will be carried out to ensure the selected piling method does not introduce contamination pathways into the aquifer.	Not expected to be significant with appropriate mitigation measures in place.	N/A
Deterioration in surface water and groundwater quality resulting from the operation of the Scheme.	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	• The design of the Highway drainage system for the Scheme will comply with all current standards and sustainable drainage system (SuDS) best practice techniques to ensure that sustainability is a key drainage design criterion; • Highway run-off from Catchments 1 to 3, 5, 9, 11, 13, 16, 18, 19, 20 to 23 and 27 will pass through an attenuation pond and/or ditch before being discharged into the natural environment. By discharging the highway runoff slowly and by allowing suspended solids to settle out they the attenuation ponds and/or ditches also provide water quality treatment to the highway runoff; • A risk assessment will be undertaken using data obtained from the Ground Investigation for the Scheme to determine the need for and type of mitigation on soakaways receiving highway run-off; • Outfalls will be located at less sensitive areas (i.e. not on active, eroding meanders); and • Outfall structures will be set flush to the existing bank line to minimise potential erosion around the structure and minimise section of channel bed impacted.	Not expected to be significant with appropriate mitigation measures in place.	Scheme Layout Plans (application document TR010030/APP/2.8)
Increased risk of fluvial, surface water and groundwater flooding as a result of the operation of the Scheme.	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	• Run-off from the Scheme will be attenuated before reaching a watercourse for the 1 in 100 annual probability event (1%) taking into account a 20% allowance for climate change and hence there will be no increase in runoff from the site and no increase in flood risk;	Not expected to be significant with appropriate mitigation measures in place.	Scheme Layout Plans (application document TR010030/APP/2.8)

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
			• Highways drainage discharge will be attenuated prior to outfall, by passage through attenuation ponds/ditches/pipes; • The highway drainage system will be designed in line with the current standards of HD 45/09 (Highways Agency, 2009) to ensure that run-off from the site; • Outfall structures will be set flush to the existing bank line to minimise potential erosion around the structure and minimise section of channel bed impacted; • Deep foundations extending below the groundwater table will be designated in accordance with industry standards considering the site-specific water level and flow monitoring data obtained from the intrusive ground investigation for the Scheme; and • Substantial clear spacing between piles and appropriate piling installation methods should be adopted.		
Barrier to mammal passage along the river corridor of Stratford Brook.	Ch 8, section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	A mammal shelf will be incorporated on Stratford Brook underbridge, (set above flood level and if possible 100-year climate change level).	Not expected to be significant with appropriate mitigation measures in place.	N/A
Drainage of road run off directly to Bolder Mere	Ch 8, Section 8.9	~~TR0100/APP/~~TR010030/APP/6.3	The Scheme intends to close this pathway by redirecting runoff via mechanical treatment to a nearby Ordinary Watercourse. The reduced pollutant load to Bolder Mere is expected to improve lake water quality. Agreement of the details of this element of the Scheme design with the Environment Agency is included as a requirement of the Development Control Order for the Scheme.	Not expected to be significant with appropriate mitigation measures in place.	N/A
Landscape					
Visual and landscape impacts on surrounding area	Ch 9, section 9.9	~~TR0100/APP/~~TR010030/APP/6.3	Further develop and implement the landscape proposals as set out in the Proposed Scheme Layout Plans in accordance with guidance in the Design Manual for Roads and Bridgeworks and associated documents.	Slight adverse in Year 15	Scheme Layout Plans (application document TR010030/APP/2.8)
Visual and landscape impacts on surrounding area	Ch 9, section 9.9	~~TR0100/APP/~~TR010030/APP/6.3	Maintain and manage landscape works to ensure successful establishment of all elements of the Scheme.	Slight adverse in Year 15	Scheme Layout Plans (application document TR010030/APP/2.8)
Impact on vegetation to be retained	Ch 9, section 9.9	~~TR0100/APP/~~TR010030/APP/6.3	Ensure the protection of all trees and other vegetation to be retained in accordance with BS5837:2012.~~BS 55~~ and other best practice guidance.	Slight adverse in Year 15	Scheme Layout Plans (application document TR010030/APP/2.8)
Impact on soils	Ch 9, section 9.9	~~TR0100/APP/~~TR010030/APP/6.3	Ensure the stripping, storage and maintenance of soils necessary for the scheme in accordance with best practice guidance and develop a Soil Handling and Management Plan (SHMP).	Slight adverse in Year 15	Scheme Layout Plans (application document TR010030/APP/2.8)
Stakeholders	Ch 9, section 9.9	~~TR0100/APP/~~TR010030/APP/6.3	Continue liaison with Surrey Wildlife Trust, Forestry Commission and the Woodland Trust to ensure that these bodies are content as far as possible with the proposed Scheme.	N/A	N/A
Landowners	Ch 9, section 9.9	~~TR0100/APP/~~TR010030/APP/6.3	Maintain liaison with affected landowners to develop landscape proposals that take account of their views where possible.	N/A	N/A
Geology and Soils					
Contamination - release and spread of known contamination. For example, disturbance of landfill sites during construction.	Ch 10, section 10.9	~~TR0100/APP/~~TR010030/APP/6.3	Detailed liaison with the appropriate statutory authority and the landfill operator (if applicable) and other stakeholders to ensure that any disturbance of landfill area does not result in an unacceptable risk to either human health or environmental receptors by incorporating appropriate mitigation measures into the design and construction phases. Further investigation and assessment shall be carried out as necessary.	Minor adverse	N/A

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
Contamination - release and spread of unknown contamination. Possible disturbance of unknown localised contamination during construction such as in filled pits, spillages and that associated with existing and disused drainage systems.	Ch 10, section 10.9	~~TR0100/APP/~~TR010030/APP/6.3	Should contamination be encountered during ground investigation or the construction phase, additional investigations and risk assessments will be undertaken to identify any remediation required.	Minor adverse	N/A
Contamination - release and spread of potentially contaminated dust during construction.	Ch 10, section 10.9	~~TR0100/APP/~~TR010030/APP/6.3	Dust suppression measures will be used during periods of dry weather to prevent dust blow.	Minor adverse	CEMP
Contamination - potentially contaminated run-off from the construction site during construction phase.	Ch 10, section 10.9	~~TR0100/APP/~~TR010030/APP/6.3	Appropriate mitigation measures during construction to collect any contaminated water as set out in the CEMP.	Negligible	CEMP
Contamination - accidental spillages on the highway during the operational phase.	Ch 10, section 10.9	~~TR0100/APP/~~TR010030/APP/6.3	Appropriate pollution prevention measures would be implemented during any clean up activity. Site would be covered by hardstanding which would limit migration of contamination.	See Road Drainage section above	CEMP
Contamination - Potentially contaminated run-off from the highway during operation.	Ch 10, section 10.9	~~TR0100/APP/~~TR010030/APP/6.3	Design measures to collect any contaminated water in attenuation ponds where silt and contaminants can settle out.	See Road Drainage section above	CEMP
Soil deterioration and consolidation - compaction of near surface deposits during the construction phase is likely to occur. Increase in vertical load experienced by the underlying soil due to the construction of the embankments.	Ch 10, section 10.9	~~TR0100/APP/~~TR010030/APP/6.3	Soil management operations to be in accordance with Defra's Construction Code of Practice for the sustainable use of soils on Construction Sites, with mitigation methods adopted to alleviate the effects on topsoil in line with an approved Soil Handling and Management Plan (SHMP) to be outlined in the CEMP.	Minor beneficial	CEMP and SHMP
Earthworks balance - reuse of material to be considered as the main source of fill for the Scheme. An assessment of the suitability of the material from a geotechnical point of view and a review of contamination results is required to confirm whether it will be acceptable for reuse.	Ch 10, section 10.9	~~TR0100/APP/~~TR010030/APP/6.3	Full assessment of the information available to determine the acceptability/suitability for reuse within the Scheme earthworks. Surplus topsoil from all areas would be sustainably managed and re-used. This would be in line with the requirements of a SHMP to be outlined in the CEMP.	See Materials section below	CEMP and SHMP
Agricultural land - permanent loss of agricultural land.	Ch 10, section 10.9	~~TR0100/APP/~~TR010030/APP/6.3	Permanent loss of agricultural land cannot be mitigated.	Significant adverse effect on Park Bark Farm	Environmental Statement, Figure 13.4

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
Agricultural land - temporary loss of agricultural land.	Ch 10, section 10.9	~~TR0100/APP/~~TR010030/APP/6.3	Agricultural land would be returned to landowners on completion of the construction works.	Neutral	Environmental Statement, Figure 13.4
Cultural Heritage					
Removal of archaeological remains	Ch 11, section 11.9	~~TR0100/APP/~~TR010030/APP/6.3	Preservation of archaeological significance through evaluation, recording, and publication of information contributing to regional research objectives.	Slight adverse, not significant	N/A
Impact of construction on setting of historic buildings	Ch 11, section 11.9	~~TR0100/APP/~~TR010030/APP/6.3	Construction works could temporarily impact the setting of the Grade II* RHS Wisley Registered Park and Garden, the Grade I Registered Park and Garden at Painshill Park, and the Bowl Barrow on Cockcrow Hill Scheduled Monument. Mitigation measures include protective fencing around the Scheduled Bowl Barrow on Cockcrow Hill. No mitigation measures are proposed for impacts to the settings of the Registered Parks and Gardens (RPGs) beyond those to limit overall noise and to allow access.	Slight adverse, not significant	Environmental Statement
Effects on setting during operation of the Scheme	Ch 11, section 11.9	~~TR0100/APP/~~TR010030/APP/6.3	Landscape planting to minimise the anticipated impacts on the settings of RHS Wisley, Painshill Park and the listed buildings within Painshill Park. Designs for noise barriers near the Scheduled Bowl Barrow on Cockcrow Hill will be developed in consultation with Historic England to identify potential for improving the setting of the monument.	Slight adverse, not significant	Scheme Layout Plans (application document TR010030/APP/2.8)
Materials and Waste					
Depletion of primary materials or other resources	Ch 12, section 12.9	~~TR0100/APP/~~TR010030/APP/6.3	Adopt a material efficient design, to be implemented by the Design Team as the Scheme's design develops. Measurement will be via a brief statement from the design team estimating the overall quantity of material required through the application of an efficient design. Monitoring will be through confirmation from the Construction Team that the Scheme 'As Constructed' is in accordance with the design. Use land temporarily reserved for material storage to significantly increase the amounts of materials that can be re-used within the Scheme and therefore reduce the import of primary or recycled materials. Develop and implement the CEMP to consider and manage the re-use of materials on-site, off-site secondary/recycled materials, locally sourced materials, and other responsibly sourced materials. The CEMP will include a Site Waste Management Plan and Materials Management Plan, or equivalent, where required.	Neutral	N/A
Depletion of local or national waste management capacity	Ch 12, section 12.9	~~TR0100/APP/~~TR010030/APP/6.3	Design out waste where possible (e.g. through specification of standard lengths, use of offsite manufactured and modular elements etc.). Use land temporarily reserved for material storage to significantly increase the quantity of material that can be re-used within the Scheme and therefore reduce the import of primary or recycled materials. Develop a Site Waste Management Plan as part of the CEMP early in design to explore methods to manage waste arising from the construction, demolition and excavation in accordance with the waste hierarchy. Leave hazardous materials (e.g. tar bound planings) *in situ* where safe and feasible to do so to avoid unnecessary generation of hazardous waste arisings. All wastes will be managed in accordance with the waste hierarchy.	Construction, demolition and excavation waste - Neutral Hazardous waste - Neutral	N/A
People and Communities					

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
Access, Community Severance and Engagement	Ch 13, section 13.9	~~TR0100/APP/~~TR010030/APP/6.3	Ensure a clear stakeholder plan is established to provide consistent and regular communication with a range of stakeholders. The plan must acknowledge the differing perspectives and issues of each stakeholder. Maintain communication with the general public pre-construction, during construction in line with the Community Relations Strategy. The contractor will develop the traffic management plan to set out access arrangements for all parties affected by the works during the construction phase. This will set out alternative access arrangements to ensure that access can be maintained at all times during the works. The alternative access arrangements will be communicated to all affected parties in good time so that they are aware of and can comment on the arrangements. To ensure public transport routes and bus stops along the A3 are maintained and disruption is managed. Potential disruption should be discussed with local authorities, public bus companies and providers well in advance. Potential for temporary delays due to construction and temporary relocation of bus stops to be mitigated with appropriate traffic management. ~~Ensure the 715 and C1/C2 bus routes are maintained and disruption is managed.~~ The contractor will liaise closely with the local authorities and the bus operators to ensure where practicable that the 715 and C1/C2 bus routes are maintained and any disruption to services is minimised Prepare for the removal and relocation of existing bus stops at Wisley Lane and Painshill Junction. Potential disruption should be discussed with local public bus companies, RHS Wisley and Painshill Park in advance.	Significant adverse	Figure 13.5 NMU Diversions Scheme Layout Plans (application document TR010030/APP/2.8)
NMU Routes and PRoWs	Ch 13, section 13.9	~~TR0100/APP/~~TR010030/APP/6.3	Construction works should be programmed so that affected PRoW, footpaths or cycleways remain open for part, or duration, of the construction period, and so that other routes can act as a diversion route for those affected. Including along the A3 shared pedestrian and cycle NMU route and PRoWs and BW12 and FP12 at J10 so temporary severance is mitigated. Replacement overbridges at Cockrow, Claremont and Wisley Lane are provided before existing routes close to minimise severance to NMUs across the A3 and M25. Provide a temporary footbridge at Wisley Lane while the Wisley Lane overbridge is constructed. A clear and consistent signage strategy will be designed and implemented, to direct users during construction and support access to community and recreational facilities using footpaths and cycleways. Users of affected PRoW, footpaths and cycleways should be notified of planned diversions, with signs along sections to be closed during construction, at least one month prior to the works. Deliver a 25m wide green bridge at Cockrowthrough the Designated Funds programme if funds are available. Existing crossings and routes only to be diverted or closed once alternative routes are in place.	Significant adverse	Scheme Layout Plans (application document TR010030/APP/2.8)
Drivers and Driver Stress	Ch 13, section 13.9	~~TR0100/APP/~~TR010030/APP/6.3	Clear signage and provision of access information for all users during construction and before operation. During the construction phase, a traffic management plan and site traffic management plan would be implemented to reduce any increase in stress caused by the roadworks. This would include temporary signage which would be put in place to reduce uncertainty and frustration.	Neutral	Traffic Management Plan

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
Land Take	Ch 13, section 13.9	~~TR0100/APP/~~TR010030/APP/6.3	Identification and delivery of replacement land for Common Land and Public Open Space of an equivalent quality and appropriate location to support ongoing use by existing users/groups. Land acquired temporarily for construction compounds and working areas will be restored to a condition equivalent to its original before being returned to its owner. Land within the DCO boundary that is not required for the Scheme permanently will be restored to its original use in agreement with landowners. Restoration of land occupied or disturbed during the construction process that is not permanently acquired for engineering and landscaping to a condition equivalent to its original. It will be subject to an aftercare period, of a duration to be agreed, during which time problems with settlement, drainage and weed infestation will be rectified.	Significant adverse	Scheme Layout Plans (application document TR010030/APP/2.8)
Amenity	Ch 13, section 13.9	~~TR0100/APP/~~TR010030/APP/6.3	Less intensive piling processes to be used close to sensitive receptors as part of a BPM approach.	Significant adverse	Scheme Layout Plans (application document TR010030/APP/2.8)
Residential Receptors	Ch 13, section 13.9	~~TR0100/APP/~~TR010030/APP/6.3	Liaison to be managed with Wilderness Cottage to ensure they can access and egress their property at all times during the improvements to Old Lane.	Moderate adverse	Scheme Layout Plans (application document TR010030/APP/2.8)
Community Receptors	Ch 13, section 13.9	~~TR0100/APP/~~TR010030/APP/6.3	Construction activities to be preferably undertaken outside of school hours at school locations, including Feltonfleet School, and to be mindful of exam seasons to avoid amenity impacts.	Significant adverse	Scheme Layout Plans (application document TR010030/APP/2.8)
Business Receptors	Ch 13, section 13.9	~~TR0100/APP/~~TR010030/APP/6.3	The construction phase may be a source of employment for local people. This should be supported through local job centres and supply chain. Ensure a clear and easy to access complaints and advice helpline and ensure that complaints are responded to, investigated and addressed promptly. Ensure recruitment for construction jobs and procurement of goods and services starts at district and regional levels to ensure that the employment and economic benefits of the construction phase benefits the district and the region.	Moderate adverse	Traffic Management Plan
Agricultural Land and Holdings	Ch 13, section 13.9	~~TR0100/APP/~~TR010030/APP/6.3	Maintain Surrey Wildlife Trust's Pond Farm access across the M25 and A3, connected by the Cockcrow and Clearmount overbridges until the new bridges are in place. Engineered and other mitigation measures to minimise construction impacts on farming interests will be agreed with land owners and tenants before and during the construction process. Essential measures are: Demarcation of the construction working corridor once defined, in order to prevent disturbance to adjacent areas; Provision of temporary access to fields, as required; Erection of livestock fencing along the working corridor, where required; Provision of drinking water for livestock, as necessary; and Diversion or restoration of land drainage systems affected by the Scheme. The quality and quantity of soil on site will be maintained by implementing appropriate techniques for stripping, stockpiling and reinstatement, in accordance with Defra's 2009 Code of Practice for the Sustainable Use of Soils on Construction Sites. This approach will be adopted in a SHMP, which will in due course form part of the CEMP. A qualified soil scientist will supervise all aspects of this work.	Large adverse for Park Barn Farm	Scheme Layout Plans (application document TR010030/APP/2.8)
Climate					

Impact	ES reference	DCO reference	Mitigation commitments (location):	Residual effect [not significant, neutral, slight/moderate/large adverse, slight/moderate/large beneficial]	Proposed plan reference (e.g. Proposed Scheme Layout Plans, etc)
Global warming	Ch 15, section 15.11	~~TR0100/APP/~~TR010030/APP/6.3	a. Reduce material consumption and waste generation; b. Reduce transport distances for materials and waste; c. Select low-carbon, recycled and site-won materials where practicable; d. Reduce transport distances of site workers; e. Minimise energy consumption onsite as far as possible by using low-emission and high-efficiency construction plant; f. Minimise water consumption onsite as far as possible by using efficient plant and processes; and g. Employ the Carbon Calculator Tool to monitor greenhouse gas emissions against Key Performance Indicators (KPIs).	Not significant	N/A

Table G.2: REAC Part 2: Environmental Action Plan – Actions required before start of construction (i.e. during detailed design stage or before construction)

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
Air Quality									
AQ1.1	Ch 5, section 5.9	Plan the construction works to limit and control emissions to air.	Develop a plan to ensure the works shall be carried out in accordance with the BPM, as described in Section 79 (9) of the Environmental Protection Act 1990, to reduce fumes or emissions which may affect air quality.	Local authorities to be consulted on mitigation measures outlined in the CEMP, and the methodology and locations for monitoring surveys.	Set up pre-construction monitoring of dust deposition three months before construction	Principal Contractor	An agreed plan to carry out the works in accordance with the agreement with the local authority. No justified complaints of dust nuisance from receptors in the vicinity of the Scheme. Daily site audits.	Initial: Date:	N/A
Noise and Vibration									
NV1.1	Ch 6, section 6.9	Agree construction phase noise and vibration levels with local authorities.	Consult with local authorities regarding construction noise and vibration limit levels and Section 61 applications. Undertake any further baseline noise and vibration monitoring at residential locations requested by the local authorities.	Agreement with Surrey County Council, Elmbridge Borough Council and Guildford Borough Council on the methodology for surveys and monitoring.	N/A	Designer/Principal Contractor	Agree with the local authorities.	Initial: Date:	To be completed before any site work undertaken. Local authorities normally require noise and vibration monitoring immediately before construction.
NV1.2	Ch 6, section 6.9	Mitigate construction phase noise and vibration if required.	Identify in the CEMP activities that could result in significant noise and vibration levels.	Consult on activities and locations with Surrey County Council, Elmbridge Borough Council, Guildford Borough Council, local residents and Natural England.	N/A	Highways England/ Designer/Principal Contractor	Agreement on locations and activities with the local authorities and Highways England.	Initial: Date:	To occur after Detailed Design - before start of construction. The requirement for mitigation measures is expected. This would be reconsidered after detailed construction programme and plant details.
Biodiversity									
BD1.1	Ch 7, section 7.9	To avoid the spread of invasive species such as Japanese Knotweed and Himalayan balsam.	Conduct invasive species surveys, identify all invasive species and their locations within the Scheme boundaries. Prepare an invasive species control method statement. Implement any pre-construction requirements as detailed in the invasive species control method statement.	Method to be advised by Principal Contractor and agreed with the Designer/Client.	To be advised by Principal Contractor	Competent subcontractor to be appointed by the Principal Contractor to manage invasive plant species.	Produce a detailed map indicating the locations of invasive species within the Scheme boundary. Invasive species control method statement to conform to best practice guidelines and relevant legislation. Effectively remove the risk of spreading the invasive species within and outside of the Scheme. Produce a suitable	Initial: Date:	Further actions may be required during construction to prevent the spread of invasive species.

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
							method to comply with during construction to prevent spread.		
BD1.2	Ch 7, section 7.9	Continue to monitor fauna within the Scheme boundary.	Update species surveys to ensure that on commencing construction the data is less than 12 months old (to include: breeding birds (particularly hobby, Dartford warbler, woodlark and nightjar), badger, and bats).	Undertake surveys in accordance with approved methodology in agreement with the Designer/Client during survey season following method used to establish baseline.	N/A	Principal Contractor appointed Ecologist	Complete record of species to enable works to be carried out without contravening legislation/guidance.	Initial: Date:	Continue to observe the habitat for any change in species distribution during the construction phase as required.
			React to a change in locations and population size of notable species by re-evaluating mitigation recommendations to ensure they continue to be sufficient.					Initial: Date:	
BD1.3	Ch 7, section 7.9	Displacement of protected species.	Create a method statement that follows legislation and best practice guidelines for the displacement of common reptiles, sand lizards and great crested newts from the Scheme footprint.	Agree Method Statement with Natural England.	N/A	Principal Contractor appointed Ecologist	The successful displacement of species that will be affected. The affected area is clear of protected species so work can commence without committing legal offenses.	Initial: Date:	N/A
BD1.4	Ch 7, section 7.9	Displacement of common toads within and adjacent to Bolder Mere Conservation Verge (CV005) along Old Lane.	Create a method statement that follows best practice guidelines for the displacement of common toads.	N/A	N/A	Principal Contractor appointed Ecologist	The successful displacement of common toads. The affected area is clear of common toads so work can commence.	Initial: Date:	N/A
BD1.5	Ch 7, section 7.9	Removal of bat roost features.	Undertake works in accordance with a bat licence as issued by Natural England. Appropriate mitigation in the form of artificial roost boxes and bat mitigation structure and sensitive lighting will be required.	Works in accordance with licence as agreed with Natural England.	To be advised by Natural England	Principal Contractor appointed Ecologist (licence holder)	The successful closure of bat roosts that will be affected, and the provision of mitigation measures, so work can commence without committing legal offenses.	Initial: Date:	N/A
BD1.6	Ch 7, section 7.9	Closure of badger sett.	Undertake works in accordance with a badger licence as issued by Natural England. Appropriate mitigation in the form of an artificial sett will be required.	In accordance with licence as agreed with Natural England.	To be advised by Natural England	Principal Contractor appointed Ecologist (licence holder)	The successful closure of the badgers sett that will be affected, and the provision of mitigation measures, so work can commence without committing legal offenses.	Initial: Date:	N/A
Road Drainage and the Water Environment									
RD1.1	Ch 8, section 8.9	To comply with the Design Manual for Roads and Bridges (DMRB) guidance, ensure discharges from the road do not lead to a deterioration in the classification status of receiving waterbodies.	Develop a detailed drainage design in agreement with the Environment Agency in relation to the treatment of road runoff pollutants.	N/A	N/A	Designer	Agreed detailed design.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
RD1.2	Ch 8, section 8.9		Undertake appropriate levels of assessment in line with the DMRB to assess the effects of routine runoff on surface waters, groundwaters and the likelihood and effects of spillage assessed.	Develop drainage design during detailed design phase to ensure DMRB standards are still met.	Agreement to design with Environment Agency.	Designer	Agreed detailed design, compliance with standards or agreed derogation with Environment Agency.	Initial: Date:	N/A
RD1.3	Ch 8, section 8.9		Develop Pollution Prevention Plan, including spillage response measures and incorporate in the CEMP.	Agreement of Pollution Prevention Plan with Environment Agency.	N/A	Principal Contractor	Pollution Prevention Plan in place prior to construction.	Initial: Date:	N/A
RD1.4	Ch 8, section 8.9		Prepare appropriate method statements for working with and storing oils and chemicals in line with the requirements of the Control of Pollution (Oil Storage) Regulations 2001.	Agreement of method statement with Environment Agency.			Appropriate method statements in place prior to construction.	Initial: Date:	N/A
RD1.5	Ch 8, section 8.9		Design an Environmental Incident Control Plan for the construction period on site to ensure protective measures are implemented to deal with both normal and emergency situations.	Agreement of Incident Control Plan with Environment Agency.			Environmental Incident Control Plan in place prior to construction.	Initial: Date:	N/A
RD1.6	Ch 8, section 8.9		Agree a Drainage Strategy for the construction site.	Agreement of Drainage Strategy with Environment Agency.			Agreement of drainage strategy with Environment Agency.	Initial: Date:	N/A
RD1.7	Ch 8, section 8.9		~~Secure an Environmental Permit from the Environment Agency for the works over or adjacent to Bolder Mere.~~DCO will disapply the requirement to obtain a permit for these activities over or adjacent to Bolder Mere	Discuss and agree with Environment Agency.			Consent for works granted prior to construction.	Initial: Date:	Allow six weeks for consent.
RD1.8	Ch 8, section 8.9		Complete a groundwater risk assessment will be completed to determine the impact of the Scheme on groundwater quality and whether any mitigation measures are required.	Agreement with Environment Agency.	N/A	Designer	Approval of groundwater risk assessment with Environment Agency.	Initial: Date:	N/A
RD1.9	Ch 8, section 8.9	To avoid impacts on surface water and provide mitigation and betterment in the form of SuDS during operation.	The drainage design will provide mitigation in the form of SuDS. The choice of the system is dependent on the physical environment of the Scheme and needs to consider the availability of land, climate and rainfall characteristics, soil permeability, topography and spillage risk.	Agreement on drainage design with Environment Agency.	N/A	Designer	Approval from Environment Agency.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
RD1.10	Ch 8, section 8.9	Prevent adverse effects on flood risk.	Prepare a construction phase Surface Water Management Plan.	Discuss and agree with Environment Agency.	N/A	Principal Contractor	Approved Surface Water Management Plan in place prior to construction.	Initial: Date:	N/A
RD1.11	Ch 8, section 8.9		Develop detailed drainage design that provides adequate capacity and green field run-off rate.	Discuss and agree with Environment Agency.	N/A	Designer/Principal Contractor	Agreement of detailed drainage design with Environment Agency.	Initial: Date:	N/A
RD1.12	Ch 8, section 8.9		~~Secure an Environmental Permit from the Environment Agency for the works on Stratford Brook associated with the construction of the Stratford Brook bridge.~~DCO will disapply the requirement to obtain a permit for these activities on Stratford Brook associated with the construction of the Stratford Brook bridge	Discuss and agree with Environment Agency.	N/A	Designer/Principal Contractor	Issue of Environmental Permit from EA before construction phase.	Initial: Date:	N/A
RD1.13	Ch 8, section 8.9		Sign up to the Environment Agency flood warning system put in place a procedure to ensure timely evacuation of personnel (and plant if safe to do) from the floodplain.	N/A	N/A	Designer/Principal Contractor	Flood Warning system signed up to	Initial: Date:	N/A
RD1.14	Ch 8, section 8.9		An appropriate method statement for potential water ingress into excavations will be prepared.	N/A	N/A	Designer/Principal Contractor	N/A	Initial: Date:	N/A
RD1.15	Ch 8, section 8.9		Prepare method statement for working near/within Bolder Mere to ensure no impact on the structural integrity of the retaining structure.	Gain approval for method statement from Reservoir Engineer.	N/A	Designer/Principal Contractor	Approval for method statement from Reservoir Engineer.	Initial: Date:	N/A
RD1.16	Ch 8, section 8.9	Prevent adverse effects on groundwater flow	Ensure an intrusive ground investigation is undertaken to determine the groundwater flow direction and the depth to groundwater. On the basis of these investigations, alterations will be made to the detailed design of the piles or retaining walls, to ensure they do not form a barrier to groundwater flow.	Assessment of impact within Piling Risk Assessment followed by agreement with Environment Agency.	All actions agreed with the Environment Agency will be carried out.	Designer/Principal Contractor	The Piling Risk Assessment will be submitted to the Environment Agency for approval and agreement prior to commencement of the construction phase.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
RD1.17	Ch 8, section 8.9	Comply with Water Framework Directive.	~~To review and update the WFD compliance assessment when any changes to the design likely to have an impact at a waterbody scale are made to ensure that the Scheme is WFD compliant.~~ The elements of the Scheme with the potential to affect WFD water bodies will be designed in detail to ensure compliance with the requirements of the WFD and any mitigation measures to be included as part of the design will accord substantially with the measures identified in the WFD assessment submitted with the DCO application. Details of the mitigation measures to be provided at Bolder Mere and Stratford Brook will be subject to the approval of the Secretary of State following consultation with, among others, the Environment Agency under requirements 10 and 12 of the DCO.	Discussion with and input from Environment Agency.	N/A	Designer	Inclusion of mitigation measures stated in the Water Framework Directive assessment in the design.	Initial: Date:	N/A
RD1.18	Ch 8, section 8.9		Ensure Environment Agency agree with the Water Framework Directive assessment.	Agreement with Environment Agency.				Initial: Date:	N/A
RD1.19	Ch 8, section 8.9	Prevent pollution of aquifers and prevent pollution of surface waters.	Drainage design will consider the risks from any residual contamination.	Environmental controls will be included within the CEMP and implemented through the construction phase.	N/A	Designer	Agreed detailed design.	Initial: Date:	N/A
Landscape									
LV1.1	Ch 9, section 9.9	Mitigation planting to replace lost vegetation.	Prepare detailed landscape and ecological design including planting schedules and specification documentation.	Share design proposals with Natural England and Surrey Wildlife Trust.	N/A	Designer/Principal Contractor	Approval of documents by Highways England after consultation with third parties statutory bodies as appropriate.	Initial: Date:	N/A
LV1.2	Ch 9, section 9.9	Mitigation planting to integrate the Scheme design.						Initial: Date:	N/A
LV1.3	Ch 9, section 9.9	Mitigation planting to provide screening functions.						Initial: Date:	N/A
LV1.4	Ch 9, section 9.9	Mitigation planting to provide habitat replacement and/or enhancement.						Initial: Date:	N/A
LV1.5	Ch 9, section 9.9	Mitigation grass seeding to replace and integrate lost verge grass and						Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
		incorporate new species rich grassland areas.							
LV1.6	Ch 9, section 9.9	Mitigation planting to balancing ponds.						Initial: Date:	N/A
LV1.7	Ch 9, section 9.9	Mitigation planting to replace lost woodland and trees associated with the construction of the Scheme.						Initial: Date:	N/A
LV1.8	Ch 9, section 9.9	Mitigation planting to screen the Scheme from sensitive receptors.						Initial: Date:	N/A
LV1.9	Ch 9, section 9.9	Ensure protection of trees covered by TPO's and Ancient Woodland is undertaken prior to construction.	Landscape input into the fencing design and Principal Contractor's implementation programme to ensure a suitable security fence is proposed around the sensitive locations.	Consultation with Forestry Commission Woodland Trust and local authorities on methods.	N/A.	Designer/Principal Contractor	Confirmation of method with consultees.	Initial: Date:	N/A
LV1.10	Ch 9, section 9.9	Ensure earthworks design suitable for planting and seeding and to determine requirement for soil retention.	Landscape input into detailed design of all slope gradients/earthworks. Landscape to consider requirement for soil retention on any slopes steeper than 1:2.5.	Approval of earthworks design by environmental designer.	N/A	Designer/Principal Contractor	Approval of documents by Highways England.	Initial: Date:	N/A
Geology and Soils									
GS1.1	Ch 10, section 10.9	Prevent adverse risks to identified on-site and off-site human health and environmental receptors associated with the presence of ground or groundwater contamination (refer to ES).	Complete a ground investigation (GI) and Ground Investigation Report to characterise ground conditions and inform the Scheme final design and required mitigation measures. Fully assess the risk to receptors identified in the ES from contamination following completion of the GI. The assessment of risk will consist of the following where appropriate and as required: • GQRA • DQRA • PRA Where contamination risks are identified and mitigation is required, the following reports will be produced where appropriate and as required: • Site Specific Remediation Strategy	All appropriate assessments will be completed and/or required mitigation measures and recommendations will be implemented prior to the start of construction. Where any consent, approval or agreement is required to be given by the appropriate authorities it shall not be unreasonably withheld or delayed. Any approvals from the appropriate authorities will be deemed to have been given if it is neither given nor refused in writing and with a statement of the grounds for refusal within two months of the submission of any documents for approval. The Scheme will be operated in accordance with the relevant regulations and best practice guidance in applying	N/A	Client/Designer/ Principal Contractor	Reports following the GI will be submitted to the Environment Agency and local authorities for approval and agreement prior to commencement of the construction phase.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			• Monitoring Strategies • Verification Plan	Best Available Techniques and pollution prevention.					
GS1.2	Ch 10, section 10.9	Prevent adverse risks to identified on-site and off-site human health and environmental receptors associated with the presence of ground or groundwater contamination or ground gas/vapours (refer to ES).	Where required and as informed by appropriate assessments following the GI construction phase and operation phase monitoring (soil, groundwater, gas and vapour) will be carried out.	All appropriate assessments will be completed and/or required mitigation measures and recommendations will be implemented prior to the start of construction. Where any consent, approval or agreement is required to be given by the appropriate authorities it shall not be unreasonably withheld or delayed. Any approvals from the appropriate authorities will be deemed to have been given if it is neither given nor refused in writing and with a statement of the grounds for refusal within two months of the submission of any documents for approval. The Scheme will be operated in accordance with the relevant regulations and best practice guidance in applying Best Available Techniques and pollution prevention.	Monitoring will be undertaken to obtain a better understanding of the ground gas at the site.	Client/Designer/ Principal Contractor	Results of construction and operation monitoring will be reported as per requirements outlined in monitoring strategies developed as part of GS1.1 and agreed with the Environment Agency and local authorities.	Initial: Date:	N/A
GS1.3	Ch 10, section 10.9	Prevent adverse risks to identified on-site and off-site human health and environmental receptors associated with the presence of ground or groundwater contamination or the migration of ground gases or vapours (refer to ES).	Completion and submission of verification report(s) as outlined within the verification plan (GS1.1) where appropriate and as required. The Scheme will be operated in accordance with the relevant regulations and best practice guidance in applying Best Available Techniques and pollution prevention.	Monitoring requirements presented in monitoring strategies will be agreed with Environment Agency prior to comment of construction.	All actions agreed with the Environment Agency will be carried out.	Client/Designer/ Principal Contractor	Verification report(s) will be submitted to the Environment Agency and local authorities as per GS1 and outlined in the verification plan.	Initial: Date:	N/A
GS1.4	Ch 10, section 10.9	Prevent adverse risks to on-site human health receptors (construction workers) associated with the presence of ground or groundwater contamination or the migration of ground gases or vapours.	The works will be carried out in accordance with the Construction Design Management (CDM) Regulations 2015 and in accordance with appropriate guidelines and best practices. Health and safety Risk Assessment Method Statements (RAMS) and appropriate Personal Protective Equipment (PPE) for the protection of construction	Principal Contractor to plan and organise the job, and work together with others involved to make sure that the work is carried out without risks to health and safety.	Monitoring will be undertaken to obtain a better understanding of the groundwater regime at the site and, as appropriate, ground gas/vapour concentrations.	Principal Contractor	Principal Contractor to prepare a Construction Phase Plan and RAMS.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			workers in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations 2002. Mitigation measure will be designed and implemented accordingly.						
GS1.5	Ch 10, section 10.9	Limit permanent removal of soils during earthworks and foundation construction and reuse of excess materials.	A Site Waste Management Plan (SWMP) and Soil Handling Management Plan (SHMP) will be outlined for reducing the volume of materials permanently removed from the site, and the handling and management of waste soil.	Mitigation measures and environmental controls will be included within the CEMP, SWMP and SHMP, and implemented through the construction phase.	Mitigation measures as set out in the CEMP, SRMP and SWMP and the SHMP will be monitored during the construction phase.	Principal Contractor/ Designer	SHMP, SRMP, SWMP and CEMP (including a MMP where required).	Initial: Date:	N/A
GS1.6	Ch 10, section 10.9	Maintenance of quality of stockpiled soils, prevention of erosion and protection of soil structures during earthworks activities.	All temporarily acquired land occupied or disturbed during the construction process shall be restored/reinstated to a condition equivalent to its original.(In agreement with the landowners) The construction working corridor will be demarcated once defined in order to prevent disturbance to adjacent land. If spoil is to be placed on land intended for farming, addition of topsoil will be undertaken and the land will need an aftercare period (duration to be agreed) to rectify settlement and compaction. The area of earthworks at any one time will be limited to reduce temporary effects on topography, soil compaction and erosion. The duration of soil exposure will be limited and timely reinstatement of vegetation or hardstanding will be implemented to prevent soil erosion. The quality and quantity of soil on site will be maintained by implementing appropriate techniques for stripping, stockpiling and reinstatement, in accordance with Defra's 2009 Code of Practice for the Sustainable Use of Soils on Construction Sites.	Mitigation measures and environmental controls will be included within the SHMP, CEMP (including MPP where required) and outlined in the Detailed Design.	Mitigation measures and environmental controls within the SHMP, CEMP (including MPP where required) and outlined in the Detailed Design will be monitored during construction.	Principal Contractor/ECoW	SHMP, CEMP (including a MMP where required) and Detailed Design	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			Over stockpiling will be avoided to reduce compaction of soil and loss of integrity. Disturbed soils should be reinstated to their original quality using a SHMP. Restored soils will be inspected and treated, if necessary, for the presence of noxious weeds. Damage to field drains will be rectified by diversion or replacement. Work will be undertaken in accordance with appropriate guidelines and best practices (e.g. Defra's 2009 Code of Practice for Sustainable Use of Soils on Construction Sites, BS 3882:2015 Specification for topsoil). If required, a CL:AIRE MMP will be included within the CEMP to reduce the amount of material permanently removed from the area of the Scheme.						
GS1.7	Ch 10, section 10.9	Prevention of spread of possible contamination within site soils, surface waters or groundwater due to construction activities and prevention of spills and leaks of hazardous substances.	Work will be undertaken in accordance with appropriate guidelines and best practices. Hazardous substances, including contaminated soil, fuels, chemicals, waste and construction material will be stored, handled, transported and disposed of, according to relevant legislation and best practice guidance to mitigate spillages, leaks or accidental release of their contents. Valves and trigger guns will be protected from vandalism and kept locked when not in use. Implementation of working method statements during construction to manage groundwater and surface water appropriately to ensure that there is no run-off from the works, any material/waste stockpiles and storage containers into adjacent/nearby surface watercourses. Implementation of appropriate pollution incident control e.g.	Environmental controls will be included within the CEMP and implemented through the construction phase.	Mitigation measures and environmental controls within the SHMP, CEMP (including MPP where required) and outlined in the Detailed Design will be monitored during construction.	Principal Designer Principal Contractor	CEMP	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			plant drip trays and spill kits; and safe storage of fuel, oils and equipment during construction. Possible spreading of contamination within site soils, spillage and leakages of hazardous substances shall be prevented/reduced through proper storage, handling, transportation and disposal of hazardous substances including contaminated soil, fuel, chemicals, hazardous wastes, contaminated construction materials in accordance with relevant legislation and best practice guidelines. Procedure to manage and remediate any contaminated land encountered during the construction shall be in place. This will be approved by a suitably qualified person. If unexpected contamination is encountered during earthworks, further assessment will be required. The assessment will define the need any further mitigation measures, including remediation or removal of contamination as appropriate.						
GS1.8	Ch 10, section 10.9	Prevent pollution of aquifers and prevent pollution of surface waters.	Work will be undertaken in accordance with appropriate guidelines and best practices. Open trench construction will be adopted. Piling risk assessments will be undertaken in line with relevant Environment Agency guidance to assess the risk from piling and to determine appropriate piling methods as appropriate. Hazardous substances, including contaminated land, fuels, chemicals, waste and construction material, will be stored, handled, transported and disposed of according to relevant legislation and best practice guidance to mitigate spillages and leaks.	Piling risk assessments will be subject to agreement with the Environment Agency. Environmental controls will be included within the CEMP and implemented through the construction phase.	Mitigation measures and environmental controls within the SHMP, CEMP (including MPP where required) and outlined in the Detailed Design will be monitored during construction.	Principal Designer Principal Contractor	Mitigation measures as included in the CEMP and piling risk assessments.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			Drainage design will consider the risks from any residual contamination.						
GS1.9	Ch 10, section 10.9	Protection of identified on-site and off-site human health receptors from exposure to contaminated dust or fibres through ingestion/inhalation/dermal contact.	Work will be undertaken in accordance with appropriate guidelines and best practices. Dust will be suppressed using best practice methods, good stockpile management and timely removal of stockpiled material to prevent spread of potentially contaminated windblown material. Dust suppression measures shall include water spraying, wheel washing for vehicles leaving the site and re-vegetation of earthworks. Health and Safety Risk Assessments and Environmental Risk Assessments within method statements will be formed. Appropriate Personal Protective Equipment for the protection of construction workers will be used.	Environmental controls will be included within the CEMP and implemented through the construction phase.	Mitigation measures and environmental controls laid out within the CEMP will be monitored during construction.	Principal Contractor	Mitigation measures as included in the CEMP	Initial: Date:	N/A
GS1.10	Ch 10, section 10.9	Prevent adverse impacts to on-site or off-site property receptors associated with the presence of aggressive constituents in soil or groundwater or the migration of ground gases or vapours along preferential pathways.	A Ground Investigation Report will be completed to characterise ground conditions and determine aggressivity of the ground towards buried concrete and inform the Scheme final design. An assessment of the aggressivity of the ground and groundwater conditions will be undertaken in accordance with BRE Special Digest 1 (2005).		Monitoring will be undertaken to obtain a better understanding of the groundwater regime at the site and, as appropriate, ground gas/vapour concentrations.	Principal Designer	Ground Investigation Report and other risk assessment reports listed in GS1.1.	Initial: Date:	N/A
GS1.11	Ch 10, section 10.9	Prevent injury/death to human receptors and/or damage to property receptors associated with the potential discovery and unplanned/uncontrolled detonation of UXOs.	The assessment of UXO risks is being undertaken in a phased approach. To further assess the UXO hazard level within the Scheme, a detailed UXO desk study and a UXO survey will be completed prior to undertaking any ground investigation. Mitigation measures identified through the above assessments to reduce the risk, including the need for any additional assessments/surveys, will be	Completion of UXO detailed desk study and UXO survey to determine further actions and required mitigation measures.	N/A	Client Principal Designer Principal Contractor	Mitigation measures laid out within the CEMP and in the site Health and Safety file, Construction Phase Plan and site Emergency Response Plan as required.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			implemented in the CEMP accordingly. Future work relating to UXO risks will follow CIRIA C681 guidelines, including the need to include and control UXO risks through the site Health and Safety File, Construction Phase Plan and site Emergency Response Plan.						
Cultural Heritage									
CH1.1	Ch 11, section 11.9	Identify archaeological remains that may be encountered during construction and achieve preservation by record.	The Scheme shall seek to avoid direct impacts on known heritage assets during enabling and construction works. This can be achieved through careful design, including well designed screening, to site works away from heritage assets. Prepare a Written Scheme of Investigation to cover the geophysical survey, evaluation trenching, and excavation of areas subject to soil stripping and ground disturbing activities, and mitigate through recording in advance of and during construction (or other means as appropriate) following agreement with the Surrey County Archaeologist and Historic England~~Archaeological Officers of the Greater London Archaeology Advisory Service and Elmbridge and Guildford Borough Councils~~.	Agreement with Surrey County Archaeologist and Historic England~~Archaeological Officers of the Greater London Archaeology Advisory Service and Elmbridge and Guildford Borough Councils~~.	As determined necessary by methodologies outlined in the Written Scheme of Investigation. Archaeological monitoring required in all areas identified by local planning policy as areas of high archaeological potential.	Designer/Principal Contractor	Agreement with the Surrey County Archaeologist and Historic England ~~Archaeological Officers of the Greater London Archaeology Advisory Service and Elmbridge and Guildford Borough Councils~~ on content of the Written Scheme of Investigation.	Initial: Date:	Written Scheme of Investigation to be prepared by an appropriate archaeological specialist or specialists.
Materials and Waste									
MW1.1	Ch 12, section 12.9	Reduce import of primary materials or other resources and maximise re-use of materials through design and planning.	Adopt material efficient design.	Design decisions that have reduced the materials required for the Scheme have been recorded in the Environmental Statement. Any further revisions to the Scheme's design should consider using materials efficiently.	N/A	Designer	Statement from Design Team estimating the overall quantity of material required through the application of an efficient design.	Initial: Date:	N/A
			Implement good materials management and good practice construction methods, including use of temporary materials storage areas.	Development of a Site Waste Management Plan as part of the CEMP.	N/A	Principal Contractor	Approval of a CEMP and Site Waste Management Plan by Highways England.	Initial: Date:	

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			Use sustainable materials and re-use site-won materials within the Scheme to reduce use impact on primary materials or other resources where feasible to do so.	Development of Materials Management Plan, WRAP Quality Protocol (aggregates from inert waste) or other means of demonstrating end-of-waste status to enable re-use of soil and aggregates within the Scheme. The Materials Management Plan will identify temporary land available for storage of materials. Supply the Materials Management Plan to the Environment Agency ahead of a formal application.	N/A	Principal Contractor	Confirmation that a Materials Management Plan has been produced during the pre-construction phase. Consult with the Environment Agency on the Materials Management Plan prior to implementation.	Initial: Date:	N/A
MW1.2	Ch 12, section 12.9	Minimise waste generation and off-site waste management through design and planning.	Design out waste from the Scheme, where possible.	Review and revise the Scheme in next stages to reduce waste.	N/A	Designer	Updated statement in Site Waste Management Plan from Design Team estimating the overall quantity of waste reduced through the application of designing out waste measures.	Initial: Date:	N/A
			Consider good materials management and good practice construction methods, including use of temporary materials storage areas.	Develop a Site Waste Management Plan in the pre-construction phase to explore methods to manage waste arising from the construction in accordance with the waste hierarchy.	N/A	Principal Contractor	Approval of Site Waste Management Plan by Highways England.	Initial: Date:	N/A
MW1.3	Ch 12, section 12.9	Reduce impacts associated with importing materials and exporting waste through design and planning.	Identify nearby sources of materials and suitable local or regional waste management facilities. Consider good practice construction methods and reduce haulage distances and/or need to travel.	Develop a Materials Management Plan and Site Waste Management Plan considering the proximity principle and the social or environmental impacts of transporting waste and materials.	N/A	Principal Contractor	Confirmation that a CEMP, Site Waste Management Plan and Materials Management Plan have been produced and approved by Highways England during the pre-construction phase.	Initial: Date:	N/A
People and Communities									
PC1.1	Ch 13, section 13.9	To mitigate the impacts of construction on communities and people.	Ensure a clear and easy to access complaints and advice helpline and ensure that complaints are responded to, investigated and addressed promptly. Establish a clear stakeholder plan to provide consistent and regular communication with a range of stakeholders. The plan must acknowledge the differing perspectives and issues of each stakeholder.	Community Liaison Plan.	Community Liaison Plan to be reviewed every six months.	Principal Contractor	Good community relations. Downward trend in complaints over the course of the Scheme. Annual report to Highways England and the local authorities.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			Limit the extent of direct, permanent land take and severance affecting identified individual receptors.						
PC1.2	Ch 13, section 13.9	To mitigate the impacts of construction on Private Residential receptors.	Review the Traffic Management Plan and Buildability Report to ensure that access to all properties is maintained during the course of the works.	Update the Traffic Management Plan after discussions	Access to be reviewed as required.	Principal Contractor	No objections to access arrangement from residents and emergency services.	Initial: Date:	N/A
PC1.3	Ch 13, section 13.9	To mitigate the impacts of construction on Community Assets.	~~Ensure the 715 and C1/C2 bus routes are maintained and disruption is managed.~~ The contractor will liaise closely with the local authorities and the bus operators to ensure where practicable that the 715 and C1/C2 bus routes are maintained and any disruption to services is minimised. Prepare for the removal and relocation of existing bus stops at Wisley Lane and Painshill Junction. Discuss potential disruption with local public bus companies, RHS Wisley and Painshill Park in advance. Confirmation of delivery of replacement land for Common Land of an equivalent quality and appropriate location to support ongoing use by existing users/groups.	Agreement with Surrey County Council, Stagecoach, RHS Wisley and Painshill Park. Replacement land included in the Scheme.	Operation of bus routes reviewed quarterly during construction. Annual user surveys to be conducted for the replacement land.	Principal Contractor	No reduction of bus services during construction. Highways England kept informed of discussions.	Initial: Date:	N/A
PC1.4	Ch 13, section 13.9	To mitigate the impacts of construction on Local Business.	Ensure recruitment for construction jobs and procurement of goods and services starts at district and regional levels to ensure that the employment and economic benefits of the construction phase benefits the district and the region.	Promotion of job opportunities and recruitment with local authorities and local Job Centre.	Survey of workforce.	Principal Contractor	The construction of the Scheme benefits the district and region. Regular reporting to Highways England.	Initial: Date:	N/A
PC1.5	Ch 13, section 13.9	To mitigate the impacts of construction on Agricultural Land.	Engineered and other mitigation measures to minimise construction impacts on farming interests will be agreed with land owners and tenants before the construction process starts. Essential measures are: • Demarcation of the construction working corridor once defined, in order to prevent disturbance to adjacent areas;	Agreement of proposals with affected land owners.	N/A	Principal Contractor	Written confirmation from land owners that they are satisfied with the proposals.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			• Provision of temporary access to fields, as required; • Erection of livestock fencing along the working corridor, where required; • Provision of drinking water for livestock, as necessary; and • Diversion or restoration of land drainage systems affected by the Scheme						
PC1.6	Ch 13, section 13.9	To mitigate the impacts of construction on NMU.	Construction works will be programmed so that affected PRoW, footpaths or cycleways remain open or suitable alternative diversions are planned for duration, of the construction period, and so that other routes can act as a diversion route for those affected. A clear and consistent signage strategy will be designed, to direct users during construction and support access to community and recreational facilities using footpaths and cycleways. Users of affected PRoW, footpaths and cycleways should be notified of planned diversions, with signs along sections to be closed during construction, at least one month prior to the works.	Establish an NMU Forum and include PRoW measures in the Community Liaison Plan.	N/A	Principal Contractor	Acceptance of measures in the Community Liaison Plan by NMU Forum	Initial: Date:	N/A
PC1.7	Ch 13, section 13.9	To mitigate the impacts of construction on Vehicle Travellers.	A Traffic Management Plan, produced by the contractor, will be prepared and updated as necessary to mitigate a number of negative effects for road users during construction and to ensure the businesses that require customer, supply chain and delivery access are not impacted significantly. Review the design to minimise effects upon vehicular travellers during construction through traffic management measures. All diversion routes and any temporary or permanent closures of roads would need	Agreement of Traffic Management Plan with local authorities and emergency services and CPS.	To be reviewed in line with the customer care plan.	Principal Contractor	Traffic Management Plan agreed with local authorities and emergency services.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			suitable signage to minimise adverse effects on driver stress.						
Climate									
C1.1	Ch 15, section 15.11	Reduce greenhouse gas emissions from material production and transport to site.	• Design out materials, where possible; • Specify low-carbon alternative materials, where practicable; • Specify materials that can be sourced locally; • Specify materials in standard quantities, to prevent over-supply and wastage; • Incorporate site-won materials where possible; • Employ the Carbon Calculator Tool to monitor carbon emissions against KPIs.	Design review to identify ways of reducing material usage.	N/A	Designer	Carbon Calculator Tool to assess carbon emissions against KPIs.	Initial: Date:	N/A
C1.2		Reduce greenhouse gas emissions from waste generation and transport from site.	• Review design to specify materials in standard quantities, to prevent over-supply and wastage; • Incorporate site-won materials where possible; • Employ the Carbon Calculator Tool to monitor carbon emissions against KPIs.	Design review to identify ways of reducing material usage.	N/A	Designer	Carbon Calculator Tool to assess carbon emissions against KPIs.	Initial: Date:	N/A
C1.3	Ch 15, section 15.11	Reduce greenhouse gas emissions from construction processes.	Review design with energy and water efficiency construction processes in mind.	N/A	N/A	Designer	Carbon Calculator Tool to assess carbon emissions against KPIs.	Initial: Date:	N/A
C1.4	Ch 15, section 15.2.10	To prevent: Hotter summers damaging materials and reducing asset lives; Heavier rain and wetter winters from weakening soil beneath the carriageway causing damage to assets.	Review the detailed design to ensure that the: • Materials selected are robust enough to endure a range of extreme climate futures; • Structures are designed to adapt to the expected variations in temperature.	Design review	N/A	Designer	Statement from Design Team confirming the design is appropriate given the projected future changes to climate.	Initial: Date:	N/A
C1.5	Ch 15, section 15.2.10	To prevent increased sedimentation during hotter drier summers from reducing the design capacity of drainage infrastructure.	Review the detailed design to ensure that the: • Landscape design is appropriate; • Drainage design is appropriate.	Design review	N/A	Designer	Statement from Design Team confirming the design is appropriate given the projected future changes to climate.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
C1.6	Ch 15, section 15.2.10	To ensure embankment stability during hotter drier summers.	Review the detailed embankment design to ensure it accounts for hotter drier summers and check the associated proposed geology and soils mitigation has been implemented.	Design review	N/A	Designer	Statement from Design Team confirming the design is appropriate given the projected future changes to climate.	Initial: Date:	N/A
C1.7	Ch 15, section 15.2.10	To prevent assets being damaged by more frequent storms in the future (in particular lighting and electronic display equipment).	Review the detailed designs level of protection against transient overvoltage (lightning strikes).	Design review	N/A	Designer	Statement from Design Team confirming the design is appropriate given the projected future changes to climate.	Initial: Date:	N/A
C1.8	Ch 15, section 15.2.10	To prevent flood risk increasing beyond acceptable limits in the future as a result of climate change (wetter winters and heavier rain).	Review the climate change allowance incorporated into the detailed drainage design.	Design review	N/A	Designer	Statement from Design Team confirming the design is appropriate given the projected future changes to climate.	Initial: Date:	N/A
C1.9	Ch 15, section 15.2.10	To protect the water environment from impacts associated with climate change.	Review the detailed drainage design to ensure any connections to the water environment include sufficient pre-treatment to protect receptors against more intense first flush impacts in the future. Also check the design accounts for the fact that river flows could reduce in the future.	Design review	N/A	Designer	Statement from Design Team confirming the design is appropriate given the projected future changes to climate.	Initial: Date:	N/A

Table G.3: REAC Part 2: Environmental Action Plan – Actions required during construction

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
Air Quality									
AQ2.1	Ch 5, section 5.9	Limit and control emissions to air during construction.	Develop a management plan that shall take into account the principles of prevention and mitigation and Elmbridge and Guildford Borough Councils' Best Practice Guidance to prevent dust and pollutants emissions as far as reasonably and practically possible. To limit and control emissions to air during construction, works shall be carried out in accordance with the Best Practicable Means, as described in Section 79 (9) of the Environmental Protection Act 1990, to reduce fumes or emissions which may impact upon air quality. The Principal Contractor will undertake mitigation measures to address construction dust from the site, taking into account the impact of site preparation and construction works on residential and business uses. These measures include: • Regular water-spraying and sweeping of unpaved and paved roads to minimise dust and remove mud and debris; • Spraying water during cutting/grinding operations (i.e. cutting curb slabs); • Removing mud and other debris from wheels and chassis of vehicles leaving the site where appropriate to minimise the amount of mud and debris deposited on the roads using wheel washes, shaker bars or rotating bristles; • Ensuring that all vehicles with open loads of potential dusty materials are securely sheeted or enclosed; • Enforcing and maintaining a low speed limit on site i.e. unmade surfaces to minimise dust entrainment and dispersion; • Ensuring any temporary site roads are no wider than necessary to minimise their surface area; • Damping down of surfaces prior to their being worked particularly in dry conditions; • Storing dusty materials away from site boundaries and in appropriate containment (e.g. sheeting, sacks, barrels etc.); • Minimising the height of stockpiles and profiling to minimise wind-blown dust emissions and risk of pile collapse; • Locating stockpiles out of the wind (or cover, seed or fence) to minimise the potential for dust generation; and All vehicle engines and plant motors shall be switched off when not in use.	Prepare Dust, Noise and Nuisance Management Plan and consult with local authorities.	Daily observations by ECoW	Principal Contractor	Daily Site Audits. No justified complaints of emissions to air, such as dust, from receptors in the vicinity of the Scheme. Dust issues to be included in monthly project environmental reports.	Initial: Date:	N/A

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Noise and Vibration									
NV2.1	Ch 6, section 6.9	Limit noise emissions during construction.	• Consult with the Environmental Health Departments at the local authorities to obtain guidance on their requirements for managing and controlling noise and vibration from construction works; • Monitor construction noise and vibration levels as required by the local authority. If noise/vibration levels are elevated locally mitigate, change method of working, temporary re-house, insulate property, etc; • Submit a Section 61 application under the Control of Pollution Act 1974 for some construction works, especially if night-time working is proposed; • Keep local residents and other affected parties informed of the progress of the works, including when and where the noisiest activities will be taking place and how long they are expected to last; • Use good working practices namely use of exhaust silencers in all vehicles and plant, engineering controls (e.g. acoustic covers, mufflers or suppressors) for plant and equipment like generators, compressors, pneumatic percussive tools etc., to reduce noise where relevant to their activities to prevent nuisance. Other good practices include intermittent shutdown of equipment when not in use, avoiding operation of noise generating plant and equipment close to noise-sensitive buildings as far as practicable, avoiding cleaning of concrete mixers by hammering the drums, installing temporary noise barriers and careful handling of materials to prevent generation of noise shall be adopted during the construction phase; • In addition to the above good working practices, where piling is required, the piling method should be selected carefully to minimise noise and vibration impacts at receptors by generating low levels of vibration, methodologies such as rotary bored piling should be considered first; • Selection of routes and programs for the transportation of construction materials, spoil and personnel to minimise noise and vibration at sensitive receptors; • Avoiding vehicles waiting or queuing on the Public Highway with engines running; and • Designing and construction of temporary infrastructure to minimise noise and vibration.	Prepare Dust, Noise and Nuisance Management Plan and consult with local authorities. Agree measures with Highways England, local authorities and local residents.	Maintain noise and vibration monitoring locations throughout construction and report on a monthly basis. Works to be stopped where agreed levels are exceeded until alternative methods to reduce to acceptable levels are developed.	Principal Contractor	Daily site audits, Section 61 consent, letter drop, community liaison. Provide monitored data to local authorities. If necessary, agree updated mitigation strategy.	Initial: Date:	Any assessment based on agreed noise and vibration limits with local authorities.
Biodiversity									

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BD2.1	Ch 7, section 7.9	Preservation of woodland, scrub, grassland and notable habitats.	• Application and management of licence/consent/assent relevant to protected/notable habitat; • Clearly mark vegetation which is to be lost or retained with a pre-agreed marking system; • Loss of ancient woodland habitat and veteran trees shall be avoided, and the Principal Contractor will seek guidance from the Designer/Client if it is thought ancient woodland and veteran trees might be affected.	Works to be carried out in accordance with the Landscape and Ecology Management and Monitoring Plan (Application Ref: TR010030/APP/6.5) and with the Series 3000 specification for the works.	In accordance with the Landscape and Ecology Management and Monitoring Plan (Application Ref: TR010030/APP/6.5).	Principal Contractor with guidance from the suitably qualified ECoW.	Minimise and prevent unnecessary loss of vegetation to be retained. Increase the quality of the habitat thus increasing the area's biodiversity. Mitigation measures as included in the CEMP, assents/consents and outlined in the Detailed Design.	Initial: Date:	Post monitoring and post construction care required for the predetermined time frame. Subject to Statement of Common Ground with Natural England and Surrey County Council. ~~Management Plans for the proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~ Management Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO, which will set out management and monitoring arrangements.
BD2.2	Ch 7, section 7.9	Creation of SPA compensation land	• Source tree stock from certified providers; • Prepare ground for tree planting and plant small groupings of 5-7 feathered trees; • Translocate an agreed amount of dead wood from works area.	SPA Management and Monitoring Plan (Application Ref: TR010030/APP/6.5)	Monitoring plan	Principal Contractor with guidance from the suitably qualified ECoW.	Plant trees as per the specification, ensuring that the SPA compensation land meets the proposals described in the SPA management and monitoring plan	Initial: Date:	Post monitoring and post construction care required for the predetermined time frame. Subject to Statement of Common Ground with Natural England and Surrey County Council. ~~Management Plans for the~~

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									~~proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~M anagement Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO, which will set out management and monitoring arrangements.
BD2.3	Ch 7, section 7.9	Creation of SPA enhancement areas	• Survey SPA enhancement areas and identify trees with bat roost potential (BRP), veteran features, or significant value for saprophytic invertebrates (e.g. standing dead wood) and mark trees for retention; • Fell trees using a forestry harvester, collect all cut material with a timber forwarder and remove; • Selective planting of trees within some of the woodland thinning areas to increase diversity. • Grind 80% of tree stumps, leaving those which have potential value for saprophytic invertebrates (e.g. a large diameter and/or existing rot); • Within Ockham Common section, treat rhododendron, sycamore or birch stumps with herbicide to discourage re-growth (Wisley Common has grazing to control this); • 'Scrape' the top 15-20cm layer which will contain the needle 'leaf litter' and the 'humus layer' to expose the mineral soil layer; • Install fire breaks as necessary.	SPA Management and Monitoring Plan (Application Ref: TR010030/APP/6.5)	Monitoring plan	Principal Contractor with guidance from the suitably qualified ECoW.	Remove trees and undertake selective planting as per the specification, ensuring that the SPA enhancement areas meet the proposals described in the SPA management and monitoring plan	Initial: Date:	Post monitoring and post construction care required for the predetermined time frame. Subject to Statement of Common Ground with Natural England and Surrey County Council. ~~Management Plans for the proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~M anagement Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO,

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									which will set out management and monitoring arrangements.
BD2.4	Ch 7, section 7.9	Minimise disturbance to protected species.	• Application and management of licence/consent/assent relevant to protected species; • When construction is occurring in close proximity to known protected species sites the ECoW will be present as much as possible.	Construction team to adhere to method statements with support of ECoW.	Regular reporting on progress as specified in the method statement – details to be advised.	Principal Contractor appointed ECoW	No fatalities or impact on normal behaviour patterns of protected species.	Initial: Date:	Additional action maybe required if the distribution of protected species was to change. An ecologist's advice should be sort if during construction a protected species is located. ~~Management Plans for the proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~Management Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO, which will set out management and monitoring arrangements.
BD2.5	Ch 7, section 7.9	Mitigation of impact on great crested newt.	• Application and management of Precautionary Working Method Statement.	Construction team to adhere to method statements with support of ECoW.	Regular reporting on progress as specified in the method statement – details to be advised.	Principal Contractor appointed ECoW	No fatalities and impacting or impact on normal behaviour patterns of protected species.	Initial: Date:	~~Management Plans for the proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~Management Plans for the proposals in the

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									SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO, which will set out management and monitoring arrangements.
BD2.6	Ch 7, section 7.9	Mitigation of impact on common toads within and adjacent to Bolder Mere Conservation Verge (CV005) along Old Lane.	• Application and management of Precautionary Working Method Statement; • Inspection and maintenance of amphibian fencing associated with toad tunnels during the construction phase; • No construction trenches to be left open over night without battered sides, covered or use of ramps.	Construction team to adhere to method statements with support of ECoW.	Regular reporting on progress as specified in the method statement – details to be advised.	Principal Contractor	No fatalities and impacting or impact on normal behaviour patterns of toads.	Initial: Date:	Management Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO, which will set out management and monitoring arrangements.~~Management Plans for the proposals in the SPA will be produced which will set out management and monitoring arrangements.~~
BD2.7	Ch 7, section 7.9	Mitigation of impact on common reptiles and sand lizards.	• Application and management of Precautionary Working Method Statement; • Inspection and maintenance of reptile fencing during the construction phase; • No holes or trenches to be left open over night without battered sides, covered or use of ramps; • Maintenance and wherever possible, enhancement of habitat connectivity and commuting routes for species, including underpasses and culverts.	Construction team to adhere to method statements with support of ECoW.	Regular reporting on progress as specified in the method statement – details to be advised.	Principal Contractor	No fatalities and impacting or impact on normal behaviour patterns of protected species.	Initial: Date:	~~Management Plans for the proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~Management Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO, which will set out

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									management and monitoring arrangements.
BD2.8	Ch 7, section 7.9	Mitigation of impact on badgers.	• Application and management of Badger Licence or Precautionary Working Method Statement; • Conduct walkover surveys and monitoring of badger sett on site prior to commencement of and during construction phase; • Cover the open excavation or provide ramps during construction phase; • Installation of badger fencing to prevent access to roads during construction phase; and • Maintenance and wherever possible, enhancement of habitat connectivity and commuting routes for species, including underpasses and culverts.	Construction team to adhere to method statement in licence with support of licence holder.	Regular reporting on progress as specified in the method statement – details to be advised.	Principal Contractor and licence holder.	No fatalities and impacting or impact on normal behaviour patterns of protected species.	Initial: Date:	~~Management Plans for the proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~M anagement Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO, which will set out management and monitoring arrangements.
BD2.9	Ch 7, section 7.9	Mitigation of impact on bats.	• Application and management of Bat Licence or Precautionary Working Method Statement; • Aerial inspection and soft felling under ecologist supervision for all trees with bat roost potential within the Scheme footprint needing to be cleared during construction phase; • Inspection of built structures to be checked to determine any ad hoc presence of roosting bats during construction phase; • RAMS from subcontractors will be reviewed and authorised by the Principal Contractor's environment team before work commences to ensure the requirements above are understood, incorporated into working methods and adhered to; • High noise level and high impact machinery and operations, particularly during hibernation period during the construction phase shall be avoided wherever possible; • Retention of features with potential to provide bat roosting sites where possible (i.e. mature trees and suitable structures); • Provision of a sensitive lighting design during construction that takes bats and other wildlife into account;	Construction team to adhere to method statement in licence with support of licence holder.	Regular reporting on progress as specified in the method statement – details to be advised.	Principal Contractor and licence holder.	No fatalities and impacting or impact on normal behaviour patterns of protected species.	Initial: Date:	~~Management Plans for the proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~M anagement Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO, which will set out management and monitoring arrangements.

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			• Installation of bat hop overs during construction (material covered heras fencing and potted plants) to encourage flight over working areas where they intersect with commuter routes; and • Any night lighting (relating to site compound security or for night time working) to be directed and avoid illumination of key foraging areas during construction, should not produce UV light, has a narrow wavelength, and avoids blue-white colour of light. Warm white lighting should be used if possible.						
BD2.10	Ch 7, section 7.9	Mitigation of impact on breeding birds.	• Vegetation to be retained/lost (including trees and scrubs) would be clearly demarcated with an agreed marking system with the Principal Contractor to avoid encroachment into areas of high value bird habitat; • Avoid nesting season for vegetation clearance (pre-construction phase), where possible. Where this is not possible, works to occur under the supervision of an ecologist who will conduct nesting bird checks and set up protective areas around nest until the nest has been abandoned or the chicks have fledged; • All birds, their nests and eggs are protected by Wildlife and Countryside Act 1981 under which it is an offence to intentionally kill, injure, disturb or take any wild bird. This legislation and its requirements should be highlighted in staff inductions, toolbox talks and signed by all contractors, operators and subcontractors during pre- construction and construction phase; and • If nesting birds are encountered during construction, contractors are to stop work immediately and contact the Principal Contractor's ecologists for advice and the production of a suitable revised method statement.	Construction team to adhere to method statements with support of ECoW.	Regular reporting on progress as specified in the method statement – details to be advised.	Principal Contractor	No fatalities and impacting or impact on normal behaviour patterns of protected species.	Initial: Date:	~~Management Plans for the proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~Management Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO, which will set out management and monitoring arrangements.
BD2.11	Ch 7, section 7.9	Hobby	During the breeding season, surveys to determine if hobbies are nesting within the wooded area are to be carried out. If found to be nesting, a buffer will be put in place to ensure that the hobbies are not disturbed at the nest.	Surveys to be undertaken for presence of Hobby and construction team to adhere to method statements with support of ECoW.	Regular reporting on progress as specified in the method statement – details to be advised.	Principal Contractor	Determining presence or absence and determining active nest sites. Annual reports to be prepared during monitoring period.	Initial: Date:	~~Management Plans for the proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~Management Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6

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									and 8 of dDCO, which will set out management and monitoring arrangements.
BD2.12	Ch 7, section 7.9	Dartford warbler, nightjar and woodlark	• Disturbance of open heathland areas will be avoided during the nesting bird season (typically 1st March to 31st August, but this is extended to include all of February to avoid the risk of disturbing woodlarks on nesting territory); and • SPA enhancement works will increase the amount of available open heathland habitat for these species. The enhancement work will be staged to enable a range of habitat regrowth ages, and to avoid attracting sensitive heathland species into areas immediately adjacent to the Scheme footprint during the construction work.	Works to be carried out in accordance with SPA Management and Monitoring Plan (Application Ref: TR010030/APP/6.5) and with the Series 3000 specification for the works.	In accordance with SPA Management and Monitoring Plan (Application Ref: TR010030/APP/6.5).	Principal Contractor	As baseline numbers or better. Annual reports to be prepared during monitoring period.	Initial: Date:	~~Management Plans for the proposals in the SPA and other areas will be produced which will set out management and monitoring arrangements.~~M anagement Plans for the proposals in the SPA and other areas will be produced, in accordance with requirement 6 and 8 of dDCO, which will set out management and monitoring arrangements.
BD2.13	Ch 7, section 7.9	Prevent spread of invasive species.	• Construction methods to follow agreed method statement; and • Invasive species management plan and control measures acted upon prioritising avoidance.	Construction team to adhere to method statements with support of ECoW.	Regular reporting on progress as specified in the method statement - details to be advised.	Competent subcontractor to be appointed by Principal Contractor to manage invasive plant species.	No additional spread of invasive species on site as a result of the Scheme	Initial: Date:	An appropriate management plan should be produced by a suitably competent subcontractor to ensure the proposed works can be undertaken within the provisions of appropriate legislation and Codes of Practice. The management plan would detail methods of control and disposal. The implementation of any management

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									plan would be addressed through measures detailed in the CEMP.
Road Drainage and the Water Environment									
RD2.1	Ch 8, section 8.9	Prevent adverse impacts on water quality.	• Adopt good working practices and follow the relevant Environment Agency Pollution Guidance as noted in the ES; • Establish the permanent drainage system for the Scheme early in the construction process to reduce the temporary risks of pollution to the water environment during construction; • Make spill kits available at appropriate locations and that site personnel have been trained in their use; • Comply with the Environmental Incident Control Plan on site during the works; • Where possible, ensure storage of construction materials or temporary stockpiling of excavated soils away from surface waterbodies and drains; • Materials, chemicals, and fuels shall be stored in suitable areas as per the COSHH requirements and Control of Pollution (Oil Storage) Regulations 2001. to prevent harm to Human Health and Environment.; and • Construction plant must be refuelled in designated areas on an impermeable surface, away from drains and watercourses.	Contractor to conform to good working practices and ECoW to review at regular intervals.	Compliance with agreed Pollution Prevention Guidance notes.	Principal Contractor	No detrimental effect on water quality during the construction phase. No environmental incidents arising from the construction works. Monthly reporting.	Initial: Date:	N/A
RD2.2	Ch 8, section 8.9	Comply with Water Framework Directive.	Ensure appropriate mitigation as stated in the Environmental Statement is implemented during construction.	Sign off by ECoW.	Mitigation measures to be signed off by Designer on completion.	Principal Contractor	No environmental incidents arising from the construction works.	Initial: Date:	N/A
RD2.3	Ch 8, section 8.9	To limit the impact on the water environment as a result of works over or adjacent to water bodies.	• The placing of any wet concrete in or close to any watercourse would be controlled in order to minimise the risk of leakage of wet cement into the watercourse; • The washing of any concrete mixing plant or ready-mix lorries would be carried out in a way that prevents cleaning effluent to flow into any watercourse or drain; • Haul roads on the site and the approaches to the watercourse would be cleaned regularly in order to prevent the build-up of mud; • Before any discharge of water were to be made from the site, adequate provisions for preventing pollution would be made, such as by incorporating silt settlement techniques. The techniques employed would be chosen as appropriate for each specific	Contractor to conform to good working practices and ECoW to review at regular intervals.	Reviewed at regular intervals during construction.	Principal Contractor	No detrimental effect on water quality during the construction phase. No environmental incidents arising from the construction works. Monthly reporting.	Initial: Date:	N/A

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			site. Techniques may include settlement lagoons, use of straw bales for silt trapping and use of flocculants; • pH, chemical, and sediment to be managed and monitored in line with relevant permits or Memorandums of Understanding for all works near watercourses and suitable treatment implemented if necessary; • Areas of bare soil would be kept to a minimum to reduce silty runoff; • Areas which may generate contaminated water would need to be bunded and have water discharged to self-contained units with treatment facilities. There would be no discharge to groundwater; and • Tests would be undertaken to ensure contaminated material is identified, isolated and reworked or removed to special landfill to avoid any leachate problems.						
RD2.4	Ch 8, section 8.9	To limit impacts arising from disturbance of silt.	• All pumped drainage from the construction works, including areas used for temporary storage of construction materials or excavated soils, would be passed through silt settlement treatment prior to discharge to surface watercourses or drains; • All roads and hardstandings would be kept clean and tidy in order to prevent the build-up of oil and dirt that may be washed into a watercourse or drain during heavy rainfall; • Where appropriate, watercourses would be shielded by bunds and/or silt fencing in order to prevent contamination from surface water runoff; and • The use of water sprays for reducing dust or washing construction areas would be carefully regulated in order to avoid washing substantial quantities of silt (etc.) into surface water drains. Where large quantities of gravel, mud or other such material required clearing, the area would be swept clean prior to any subsequent hosing down.	Contractor to conform to good working practices and ECoW to review at regular intervals.	Reviewed at regular intervals during construction.	Principal Contractor	No detrimental effect on water quality during the construction phase. No environmental incidents arising from the construction works. Monthly reporting.	Initial: Date:	N/A
RD2.5	Ch 8, section 8.9	To limit impacts arising from contamination of water bodies by wet cement or concrete, oil or other liquids as a result of accidental spillage or discharge.	• Manholes and catch pits would be covered to prevent concrete/cement ingress; • Concreting at watercourse culvert sites would be closely supervised to prevent concrete contamination of the watercourses; • The washing of any concrete mixing plant or ready-mix lorries would be carried out so as to prevent the resulting effluent from being allowed to discharge/flow into any watercourse or drain; • Materials to be stored in line with the Resources Management Plan, and in line with the Control of Pollution (Oil Storage) Regulations 2001 and COSHH 2002;	Contractor to conform to good working practices and ECoW to review at regular intervals.	Reviewed at regular intervals during construction.	Principal Contractor	No detrimental effect on water quality during the construction phase. No environmental incidents arising from the construction works. Monthly reporting.	Initial: Date:	N/A

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			• Small plants such as pumps, concrete mixers, air compressors shall be provided with drip trays; • All drums and barrels containing fuel, chemical, oil shall be stored on paved and bund-shield (impermeable bunds with a capacity of 110%) surfaces with sheds and shall be properly labelled with flow control taps; • An emergency response plan shall be incorporated in the CEMP/EMS prior to the construction phase to handle any spillage or leakage of potentially contaminating substances; and • Spill kits shall be provided at all locations where hazardous substances are stored with special focus to the areas close to drains and waterbodies.						
RD2.6	Ch 8, section 8.9	To avoid potentially contaminated runoff from the highway during construction and operation.	Appropriate drainage to collect, treat or contain runoff during construction and operation to be provided.	Principal Contractor to carry out all works as set out in the SWMP. ECoW to review.	Reviewed at regular intervals during construction.	Principal Contractor	Appropriate mitigation measures set out in CEMP to collect any contaminated water.	Initial: Date:	N/A
RD2.7	Ch 8, section 8.9	To limit impacts arising upon groundwater during earthwork.	• Operations to be carried out under the Environmental Permitting Regulations (Abstraction and Discharge Permits) and other relevant legislation such as Groundwater Investigation Consent; • Groundwater would be pumped from excavations into lagoons/settlement tanks in order to enable sediment to drop out, and if necessary, sediment removal would be aided by the addition of flocculants, subject to the agreement of the Environment Agency. After sediment removal, water would be discharged to a watercourse subject to agreement/permit with the Environment Agency; • Subsoil would be exposed for a minimum length of time after topsoil strip. Cut-off trenches, where necessary, would be excavated in order to prevent massive surface water runoff into watercourses. Cut-off trenches would discharge into sediment lagoons, with discharge to watercourses subject to prior consent of the Environment Agency; • Topsoil/vegetation along watercourses would be retained in order to aid attenuation and sediment infiltration; • Construction phase operations would be carried out in accordance with the guidance contained within the Environment Agency Pollution Prevention Guidelines, and with due regard to the Environment Agency Policy and Practice for the Protection of Groundwater; and • Consideration would be given to Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention. Piling operations would be subject to	ECoW to review.	Reviewed at regular intervals during construction.	Principal Contractor	Mitigation measures as included in the CEMP.	Initial: Date:	N/A

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			Risk Assessment and any measures to prevent pollution to the aquifer would be covered by piling method statements.						
RD2.8	Ch 8, section 8.9	To prevent adverse effects on flood risk.	Implement construction phase Surface Water Management Plan. During culvert works monitor water levels within the watercourse, put in procedures to evacuate personnel (and plant, if safe to do so) to areas of higher ground if water levels are almost at bank full/start to overtop.	ECoW to review.	Reviewed at regular intervals during construction.	Principal Contractor	No increase in flood risk during the construction phase.	Initial: Date:	N/A
Landscape									
LV2.1	Ch 9, section 9.9	To limit visual intrusion and impacts upon landscape character during construction and to limit impacts upon existing trees and vegetation.	• Ensure any loss of vegetation is kept to a minimum by careful siting of site compounds, haulage routes and stockpiles/storage areas; • Prepare method statement for earth movements and soil storage; • Limit stockpiles of materials and deliveries to an as and when needed basis wherever possible; • Welfare units and temporary site offices in a colour that would aid integration with the surrounding landscape where possible; • Use limited and/or directional lighting wherever possible to restrict night time impacts.	Adhering to guidance outlined in respective project documents. Principal Contractor to set out methods and gain approval from Client/Designer	Daily site audits.	Principal Contractor	Principal Contractor's method statement approved by Highways England. No transgressions of agreed working arrangements.	Initial: Date:	N/A
LV2.2	Ch 9, section 9.9	Minimise impacts of site clearance to prevent damage to trees, significant vegetation and habitat.	• ECoW to oversee all site clearance and environmental implementation works; • Ensure suitable habitat protection fencing is erected prior to site clearance and commencement of construction; • Arborist/Ecologist input on requirement for tree works and tree protection of important/mature trees to BS 5837:2012 Trees in relation to construction; and • Prevent damage to roots, stem and branches of existing trees to be retained.	Method Statement for tree protection works to be prepared. Consult on tree protection methods with Woodland Trust, Surrey Wildlife Trust and local authorities in accordance with industry standards.	Maintenance of tree protection during construction to form part of ECoW weekly reporting	Principal Contractor	Identification of all vegetation for protection and protection fencing in accordance with BS 5837:2012. Confirmed within Principal Contractor's method statement.	Initial: Date:	N/A

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LV2.3	Ch 9, section 9.9	Soil handling and mitigation planting in accordance with detailed landscape and ecology design contract documents.	• Soils to be handled in accordance with an approved Soil Handling and Management Strategy prepared by a specialist in soil management. • ECoW to ensure subsoil and topsoil profiles are of appropriate depths and soils meet specification (soil analysis) prior to commencement of planting and seeding works; • Ensure all gradients and final levels are correct and in line with the Scheme design. Make sure there are no areas susceptible to waterlogging through poor drainage; • Ensure soil is prepared in line with the landscape and ecology specification (ground preparation, cultivation); • Supply and sow seeds at the correct time of year for each specified seed mix (Mar-May) and in accordance with the specification; and • Supply and plant trees/shrubs in accordance with the specification during the next available planting season after completion of earthworks (Oct-March).	Prepare project Soil Handling and Management Strategy and consult with Natural England and Surrey Wildlife Trust on contents Adhering to guidance outlined in respective project documents and the Proposed Scheme Layout Plans.	Weekly inspection and reporting by ECoW	Principal Contractor	Soil management operations to be approved by designer's soil specialist Obtain adequate subsoil and topsoil analysis prior to spreading. ECoW to confirm soil and planting methods during planting works and carry out inspection on completion. Planting to be in accordance with BS 4428:1989, BS8545:2014, BS3882:2015 where relevant.	Initial: Date:	Proposed Scheme Layout Plans (Application Ref: TR010030/APP/2.10)
Geology and Soils									
GS2.1	Ch 10, section 10.9	Limit permanent removal of soils during earthworks and foundation construction and reuse of excess materials.	A Construction Resources Management Plan (CRMP) will be outlined to reduce the volume of materials permanently removed from the site. A SWMP and SHMP will also be outlined for handling and management of waste soil.	Environmental controls will be included within the CEMP.	Monitoring measures shall be detailed within the CEMP.	Principal Contractor	Adequate earthworks balance achieved. Disposal off site reduced as much as possible.	Initial: Date:	N/A
GS2.2	Ch 10, section 10.9	To avoid waste generation and soil disposal offsite.	Where practicable, treatment of 'unacceptable' material (i.e. material not suitable for use in engineering works) onsite to render it acceptable for use in the works (for example, by treatment with lime or cement).	Environmental controls will be included within the CEMP, SWMP and SHMP.	Monitoring measures shall be detailed within the CEMP, SWMP and SHMP.	Principal Contractor	Adequate earthworks balance achieved. Disposal off site reduced as much as possible.	Initial: Date:	N/A
GS2.3	Ch 10, section 10.9	Maintenance of quality of stockpiled soils and protection of soil structure.	• Highways England will provide the Principal Contractor with all relevant land quality data to inform reinstatement specification, including chemical and geotechnical information; • All temporarily acquired land occupied or disturbed during the construction process, shall be restored/reinstated to a condition equivalent to its original state as agreed pre-construction by Highways England;	Environmental controls will be included within the CEMP and SHMP.	Monitoring measures shall be detailed within the CEMP and SHMP.	Principal Contractor	Approval and acceptance of soil areas by ECoW and land owners.	Initial: Date:	This action is continued in those to be undertaken after the end of construction.

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			• If spoil is to be spread on land intended for farming, addition of topsoil will be undertaken and the land will need an aftercare period of at least five years to rectify settlement and compaction. Use appropriate machinery to minimise soil compaction; • The quality and quantity of soil on site should be maintained by implementing appropriate techniques for stripping, stockpiling and reinstatement. Disturbed soils should be reinstated to their original quality using a SHMP; • Strip topsoil and subsoil when weather and soil conditions are suitable. Separate storage and management of topsoil and subsoil storage heaps. Return topsoil and subsoil to the original plots where possible. If the stockpile has remained for more than 6 months then it shall be remediated in accordance with agreed reinstatement parameters by Highways England; • Work will be undertaken in accordance with appropriate guidelines and best practices (e.g. Defra's 2009 Code of Practice for Sustainable Use of Soils on Construction Sites, BS 3882:2015 Specification for topsoil); • A Resources Management Plan shall be included as part of the EMS to reduce the amount of material permanently removed from the area of the Scheme; • Define access routes to all working areas and restrict access to only these areas; and • Include drainage at the toe of embankment slopes.						
GS2.4	Ch 10, section 10.9	Prevention of spread of possible contamination within site soils. Prevention of spills and leaks of hazardous substances.	• Implementation of CL:AIRE MMP, including an Inspection and Discovery Strategy; • Hazardous substances, including contaminated soil, fuels, chemicals, waste and construction material, will be stored, handled, transported and disposed of, according to relevant legislation and best practice guidance to mitigate spillages and leaks; • Develop Water Management Plan to manage groundwater and surface water appropriately and ensure that there is no run-off from the works, any material/waste stockpiles and storage containers into adjacent/nearby surface watercourses; • Implementation of appropriate pollution incident control e.g. plant drip trays and spill kits; and safe storage of fuel, oils and equipment during construction; • Possible spreading of contamination within site soils, spillage and leakages of hazardous substances shall be reduced through proper storage, handling, transportation and disposal of hazardous substances including contaminated soil, fuel, chemicals, hazardous wastes, contaminated	Environmental controls will be included within the CEMP and SHMP.	Monitoring measures shall be detailed within the CEMP and SHMP.	Principal Contractor	No significant pollution incidents during the works. Matters to be reported each month.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			construction materials in accordance with relevant legislation and best practice guidelines; and • Procedure to manage and remediate any contaminated land encountered during the construction shall be in place. This will be approved by a suitably qualified person.						
GS2.5	Ch 10, section 10.9	Prevent pollution of Principal Aquifers and Secondary Aquifers. Prevent pollution of surface water features.	• Open trench construction; • Where piling or penetrative ground improvement is required through contaminated ground, especially in the vicinity of source protection zones and aquifers, works will be carried out in accordance with the Environment Agency's "Piling into contaminated sites" guidance and "Piling and Penetrative Ground Improvement Method on Land Affected by Contamination: Guidance on Pollution Prevention" and a Foundation Work Risk Assessment may be required to be undertaken; • Liaison with the EA Hydrogeology specialist should be undertaken and suitable permits applied for e.g. Groundwater Investigation Consent, should pumping tests be required; and • Hazardous substances, including contaminated land, fuels, chemicals, waste and construction material, will be stored, handled, transported and disposed of, according to relevant legislation and best practice guidance to mitigate spillages and leaks.	Environmental controls will be included within the CEMP and as per discussions with the Environment Agency.	Monitoring measures shall be detailed within the CEMP and as per discussions with the Environment Agency.	Principal Contractor	No significant pollution incidents during the works. Matters to be reported each month.	Initial: Date:	N/A
GS2.6	Ch 10, section 10.9	Protection of future site users from the short-term risk of exposure to contaminated dust through ingestion/ inhalation/dermal contact.	• Dust will be suppressed using best practice methods to prevent spread of potentially contaminated windblown material. Dust suppression measures shall include wheel washing for vehicles leaving the site and re-vegetation of earthworks and exposed areas; • Use dust suppression system in the area of any mobile screening and crushing plant; and • Health and Safety Risk Assessments and Environmental Risk Assessments within method statements.	Methods as specified in best practice guidance.	As required and in consultation with local authorities.	Principal Contractor	No reported incidents. Monthly reporting to Client.	Initial: Date:	N/A
Cultural Heritage									
CH2.1	Ch 11, section 11.9	Preservation by record of archaeological remains.	Highways England will develop a program of archaeological investigation (i.e. Written Scheme of Investigation) to be undertaken in areas affected by the Scheme, including construction compounds and access routes, where there is a potential for significant archaeological remains to survive. The scope and extent of such investigations should be developed in consultation with the Surrey County Archaeologist and Historic England~~Archaeological Officers of the Greater London Archaeology Advisory Service and Elmbridge and Guildford Borough Councils~~, and subject to a Written Scheme of Investigation for their approval. This	Agreement with Surrey County Archaeologist and Historic England~~Archaeological Officers of the Greater London Archaeology Advisory Service and Elmbridge and Guildford Borough Councils~~.	As determined necessary by methodologies outlined in the Written Scheme of Investigation. Archaeological monitoring required in all areas identified by local planning policy as areas of high	Principal Contractor Heritage Specialist	Consultation with the local authority Archaeological Advisor. Production of a Written Scheme of Investigation. Appointment of an archaeological subcontractor to undertake the agreed works. Completion of the works in accordance with the relevant Written Scheme of Investigation and to the	Initial: Date:	Archaeological works to be monitored by a specialist archaeological consultant. Opportunity to be given to the Surrey County Archaeologist and Historic England

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			work will comprise a geophysical survey in the first instance, with an archaeological watching brief on all geotechnical investigations to ascertain the palaeo-environmental potential of the study area. Implement archaeological monitoring during construction (i.e. watching brief), (or other means as appropriate, depending on the results of the geophysical survey conducted under action CH1.1) in accordance with the Written Scheme of Investigation prepared under action CH1.1.		archaeological potential.		satisfaction of the Surrey County Archaeologist and Historic England~~Archaeological Officers of the Greater London Archaeology Advisory Service and Elmbridge and Guildford Borough Councils~~.		~~Archaeological Officers of the Greater London Archaeology Advisory Service and Elmbridge and Guildford Borough Councils~~ to visit site.
Materials and Waste									
MW2.1	Ch 12, section 12.9	Minimise material use and impact of material use from the Scheme.	Procurement of materials shall ensure optimal quantity of material delivery on-time to prevent over supply and waste generation on site. Where practicable, standardisation of materials and building elements will be incorporated into the Scheme design to minimise required material resources and the production of waste, e.g. the use of prefabricated components. In addition, where practicable, the materials required for the Scheme shall be sourced from local suppliers with responsible sourcing certifications. Ensure all timber products are sourced from sustainable sources. Where possible timber procured for the Scheme will be obtained from recycled, reclaimed sources or be accredited to meet sustainable forestry standard, such as the Forestry Stewardship Council. Any remaining timber not sourced through the above will target a known temperate source using the Defra central point of expertise in timber as a guideline. Consider re-use of materials within the Scheme at all stages of construction. Soil and aggregate will be generated during construction, demolition and excavation works. This should be re-used within the Scheme where it is suitable and practical to store it. The possibility of using the material on other local Schemes should also be explored.	A Scheme-wide Materials Management Plan will be developed to ensure that materials imported to site and site-won materials are managed effectively. This document will be updated during the construction phase.	Under the CL:AIRE Definition of Waste: Development Industry Code Practice, a Materials Management Plan must be reviewed by a Qualified Person and a declaration signed. The Materials Management Plan will be regularly reviewed and updated during the construction phase.	Principal Contractor	Confirmation from the Principal Contractor that the Scheme 'As Constructed' is in accordance with the design. Where soil or aggregate is reused on-site under a Materials Management Plan, a verification report will need to be produced and kept for 2 years. Monitor through programme of Environmental Auditing and Reporting.	Initial: Date:	N/A
MW2.2	Ch 12, section 12.9	Minimise waste generation and impact of wastes arising from the Scheme.	Implement good materials management and good practice construction methods to minimise waste generation. Wastes that are generated will be segregated and stored in dedicated areas. All wastes will be managed in accordance with the waste hierarchy. Wastes generated during the construction phase of the Scheme will be sampled and characterised to determine the appropriate waste classification, i.e. inert, non-hazardous or hazardous. Compliance with waste Duty of Care will be ensured to prevent negative environmental impacts arising from handling, storing, transporting and disposing of wastes arising from the Scheme.	A Site Waste Management Plan will be implemented by the Principal Contractor. The document will identify personnel and their roles and responsibilities relating to waste. This includes maintaining records of waste transfers. All personnel working on the site should be aware of waste	Waste transfer notes and consignment notes will be kept on record during the construction phase and as required by the legislation. Waste carrier licences and waste management facility permits will be checked to ensure they are authorised to	Principal Contractor	Confirmation from the Principal Contractor that the Scheme 'As Constructed' is in accordance with the design. Implement CEMP, MMP and SWMP, with all construction workers aware of measures identified in plans. Monitor through programme of Environmental Auditing and Reporting.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			Transfer of waste off-site will be carried out by a licensed waste carrier and with the appropriate documentation including: • a written description of the waste and the waste code; • non-hazardous waste will be accompanied by a transfer note or appropriate season ticket; and • hazardous waste will be accompanied by a consignment note. Checks will be made by the Principal Contractor or waste holder to ensure the receiving facility is authorised to receive the waste and undertake the required waste activity. Where safe and appropriate to do so, road planings may be left in situ to avoid unnecessary generation of hazardous waste arisings requiring disposal. This activity will require an exemption or environmental permit. An appropriate exemption or environmental permit will be sought for storing, treating, using or disposing of waste as part of the Scheme. For example, crushing of demolition waste may be required to produce an aggregate which can be used A dedicated Waste Manager from the Principal Contractor shall be responsible for all the waste strategy and management measures including segregation, collection, storage, transportation and disposal/treatment of hazardous and non-hazardous wastes arising from the Scheme. The Principal Contractor must ensure that Waste Electrical and Electronic Equipment produced in the construction, demolition and excavation should be segregated and managed separately from other wastes.	management procedures. The Principal Contractor will manage construction, demolition and excavation wastes in accordance with the Site Waste Management Plan.	undertake the waste activity.				
WM2.3	Ch 12, section 12.9	Reduce effects of importing materials and exporting waste.	Give preference to nearby sources of materials and suitable local or regional waste management facilities. Implement good practice construction methods and reduce haulage distances and/or need to travel.	The CEMP will consider sources of construction materials. The CEMP and Site Waste Management Plan will consider suitable waste management facilities.	The CEMP and Site Waste Management Plan will be reviewed and updated on a regular basis.	Principal Contractor	Implement CEMP, MMP, Site Waste Management Plan and traffic management plan, with all construction workers aware of measures identified in plans. Monitor through programme of Environmental Auditing and Reporting.	Initial: Date:	N/A
People and Communities									
PC2.1	Ch 13, section 13.9	To mitigate the impacts of construction on communities and people.	BPM approach to be taken to daytime and night-time construction works to minimise noise, vibration and dust disposal impacts at residential and community receptors. Less intensive piling processes to be used close to sensitive receptors as part of a BPM approach. Replacing high quality amenity planting.	Measures as set out in the Community Liaison Plan Agreement with local residents and NMU User Groups.	Community Liaison Plan to be reviewed every six months.	Principal Contractor	Good community relations. Downward trend in complaints over the course of the Scheme. Annual report to Highways England and the local authorities.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
PC2.2	Ch 13, section 13.9	To mitigate the impacts of construction on Private Residential receptors.	Alternative access arrangements will be made for properties, should the existing accesses be temporarily closed during the construction phase. Liaison to be managed with Wilderness Cottage to ensure they can access and egress their property at all times during the improvements to Old Lane. Ensure emergency vehicle access to local residents at all times.	Agreement to access arrangements with local residents and emergency services.	Access to be reviewed quarterly.	Principal Contractor	No objections to access arrangement from residents and emergency services.	Initial: Date:	N/A
PC2.3	Ch 13, section 13.9	To mitigate the impacts of construction on Community Assets.	Construction activities to be preferably undertaken outside of school hours at school locations and to be mindful of exam seasons to avoid amenity impacts. ~~Ensure the 715 and C1/C2 bus routes are maintained and disruption is minimised.~~ 'The contractor will liaise closely with the local authorities and the bus operators to ensure where practicable that the 715 and C1/C2 bus routes are maintained and any disruption to services is minimised. Remove and relocate existing bus stops at Wisley Lane and Painshill Junction. Potential disruption should be discussed with local public bus companies, RHS Wisley and Painshill Park in advance.	Discuss and agree with Surrey County Council, Stagecoach, RHS Wisley and Painshill Park.	Operation of bus routes reviewed quarterly during construction.	Principal Contractor	Implementation of measures outlined in the Detailed Design, the Traffic and Transport Management Plan and CEMP. No reduction of bus services during construction.	Initial: Date:	N/A
PC2.4	Ch 13, section 13.9	To mitigate the impacts of construction on Local Business.	Ensure a clear and easy to access complaints and advice helpline and ensure that complaints are responded to, investigated and addressed promptly. Ensure recruitment for construction jobs and procurement of goods and services starts at district and regional levels to ensure that the employment and economic benefits of the construction phase benefits the district and the region.	Discuss and agree with local businesses and local authorities and Job Centre.	Survey of workforce.	Principal Contractor	Direct communications with local Job Centre Plus and recruitment agencies. The construction of the Scheme benefits the district and region.	Initial: Date:	N/A
PC2.5	Ch 13, section 13.9	To mitigate the impacts of construction on Agricultural Land.	Control noise and dust to avoid/reduce impact on agricultural land. The quality and quantity of soil on site will be maintained by implementing appropriate techniques for stripping, stockpiling and reinstatement, in accordance with Defra's 2009 Code of Practice for the Sustainable Use of Soils on Construction Sites. This approach will be adopted in a Soil Handling Management Plan (SHMP), which will in due course form part of the Construction Environmental Management Plan (CEMP). A qualified soil scientist will supervise all aspects of this work.	Measures as set out in the CEMP/SWHP and as agreed with local landowners.	Quarterly liaison with land owners.	Principal Contractor	Continuity of access/operation for farm businesses. Reinstatement of areas affected by temporary use back to agriculture. Confirmation from land owners that they are satisfied with the proposals.	Initial: Date:	N/A
PC2.6	Ch 13, section 13.9	To mitigate the impacts of construction on Development Land.	Land acquired temporarily for construction compounds and working areas will be restored to a condition equivalent to its original before being returned to its owner.	Community Liaison Plan Agreement with local landowners.	Quarterly liaison with land owners	Principal Contractor	Confirmation from land owners that they are satisfied with the proposals.	Initial: Date:	N/A
PC2.7	Ch 13, section 13.9	To mitigate the impacts of construction on NMUs.	Ensure pedestrian linkages and accessibility are maintained. Construction works should be programmed so that affected PRoW, footpaths or cycleways remain open for part the duration, of the construction period, and so that other routes can act as a diversion route for those affected.	Agreement with local authorities, including Surrey County Council and NMU Forum and as set out in the Community Liaison Plan	Record feedback from users of NMU/PRoW.	Principal Contractor	Implementation of measures outlined in the Detailed Design, the Traffic and Transport Management Plan and CEMP. Programme and plan for temporary NMU access.	Initial: Date:	N/A

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
			Deliver Green Bridge at Cockrow Bridge through Designated Funds.	Agreement with Highways England.			NMU access/ connectivity maintained		
Climate									
C2.1	Ch 13, section 13.9	Reduce greenhouse gas emissions from material production and transport to site.	• Follow the Construction Resources Management Plan (CRMP) as discussed in MW2.1; • Procure materials in optimal quantities to prevent over-supply; • Give preference to local sources of materials; • Prioritise the use of secondary/recycled materials; • Incorporate site-won materials back into construction where possible; and • Employ the Carbon Calculator Tool to monitor carbon emissions against KPIs.	N/A	Employ the Carbon Calculator Tool to monitor carbon emissions against KPIs.	Principal Contractor	Employ the Carbon Calculator Tool to monitor carbon emissions against KPIs.	Initial: Date:	N/A
C2.2	Ch 15, section 15.11	Reduce greenhouse gas emissions from waste generation and transport from site.	• Follow the Construction Resources Management Plan (CRMP) as discussed in MW2.1; • Procure materials in optimal quantities to prevent over-supply; • Give preference to local waste disposal companies; • Incorporate site-won materials back into construction where possible; and • Employ the Carbon Calculator Tool to monitor carbon emissions against KPIs.	N/A	Employ the Carbon Calculator Tool to monitor carbon emissions against KPIs.	Principal Contractor	Employ the Carbon Calculator Tool to monitor carbon emissions against KPIs.	Initial: Date:	N/A
C2.3	Ch 15, section 15.11	Reduce greenhouse gas emissions from transport of workers.	• Give preference to local workers/subcontractors; • Encourage sustainable modes of transport and lift sharing of workers; and • Ensure the minimum number of workers are onsite at any one time, to minimise transport.	N/A	Worker travel surveys. Labour planning and numbers on site.	Principal Contractor	Worker travel surveys. Labour planning and numbers on site.	Initial: Date:	N/A
C2.4	Ch 15, section 15.11	Reduce greenhouse gas emissions from construction processes.	• Minimise energy consumption onsite as far as possible by using low-emission and high-efficiency construction plant; • Set suitable energy consumption targets, and monitor/report consumption against these targets; • Minimise water consumption onsite as far as possible by using efficient plant and processes; • Consider alternate construction techniques to reduce greenhouse gas emissions; and • Set suitable water consumption targets, and monitor/report consumption against these targets.	N/A	Site energy and water consumption monitoring.	Principal Contractor	Reporting of site energy and water consumption, compared against targets.	Initial: Date:	N/A

Table G.4: REAC Part 2: Environmental Action Plan – Actions required after the end of construction (i.e. during operation)

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
Air Quality									
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Noise and Vibration									
NV3.1	Ch 6, section 6.9	Based upon final Scheme design and as built drawings, meet requirements of Land Compensation Act 1973, Part 2. Reassess the properties that meet the eligibility criteria of The Noise Insulation Regulations 1975.	Publish list of properties within 300 m that qualify for noise insulation, or statement that no properties qualify. Make offers of insulation to eligible properties before construction commences.	Consult with local residents.		Highways England/ Designer/ Principal Contractor	Highways England approval of the eligible properties. Residents accepting offers on insulation.	Initial: Date:	Legal requirement under the Land Compensation Act 1973, Part 2.
NV3.2	Ch 6, section 6.9	Assess changes in noise and vibration levels post construction works.	Undertake noise monitoring at residential locations to establish post construction Scheme noise levels. Undertake noise monitoring in SPA to confirm noise levels as part of ecological monitoring measures.	Consult with local residents, Surrey Wildlife Trust and Natural England.	As required by SPA Management Plan (Application Ref: TR010030/APP/6.5).	Designer/ Principal Contractor	Highways England approval of the detailed noise levels.	Initial: Date:	There is no requirement to undertake noise measurements, however Highways England generally request post opening noise monitoring.
Biodiversity									
BD3.1	Ch 7, section 7.9	Minimisation of operational impacts from habitat loss, disturbance and severance.	Establishment of a post-construction ecological survey and monitoring programme to be agreed with Highways England specialist and third parties as appropriate and in accordance with the ES. Monitor the success of the planting proposals, especially woodland and shrub/scrub planting. Inspection surveys of species habitat creation and enhancement measures to ensure success in the post construction period and during the aftercare period.	In accordance with the Landscape and Ecology Management and Monitoring Plan (Application Ref: TR010030/APP/6.5) and in agreement with Natural England, Surrey County Council, Elmbridge Borough Council, Guildford Borough Council.	In accordance with the Landscape and Ecology Management and Monitoring Plan (Application Ref: TR010030/APP/6.5).	ECoW/ Principal Contractor's Ecologist	To ensure the mitigation and enhancements has minimised the overall effect of the Scheme on the ecosystem.	Initial: Date:	The monitoring programme to be agreed with all stakeholders, in particular to decide what the indicators of success would be. This could include the successful establishment of certain species, or % cover of certain botanical species. The monitoring programme would also include actions to resolve any failures in the mitigation or

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
									enhancement measures.
BD3.2	Ch 7, section 7.9	Mitigate impact of loss of habitat from SSSI and SPA.	Continue habitat improvement activity in Ockham and Wisley Commons SSSI and Thames Basin Heaths SPA until end of contractual maintenance period.	Agreement with Natural England and Surrey County Council.	In accordance with the SPA Management and Monitoring Plan (Application Ref: TR010030/APP/6.5) and the Landscape and Ecology Management and Monitoring Plan (Application Ref: TR010030/APP/6.5).	ECoW/ Principal Contractor's Ecologist	As set out in the SPA Management and Monitoring Plan (Application Ref: TR010030/APP/6.5).	Initial: Date:	Methodology subject to ongoing review to ensure effectiveness.
Road Drainage and the Water Environment									
RD3.1	Ch 8, section 8.9	Maintenance of attenuation pond/ditches.	Remove contaminated sediment periodically from the attenuation ponds, soakaways and other drainage features. Undertake regular inspections to ascertain when this action would need to be taken.	Arrange schedule of inspections and reporting. Agreement with Surrey County Council.	Status log for attenuation ponds to be maintained.	Principal Contractor	Successful operation of ponds. Annual reporting by contractor and maintaining agent	Initial: Date:	N/A
Landscape									
LV3.1	Ch 9, section 9.9	Mitigation planting to replace lost vegetation, integrate Scheme and provide screening functions.	Aftercare requirement for all landscape planting for minimum of 5 years or term as set out in Management Plans prior to handover to managing agent or landowner.	Operations to be in accordance with the Series 3000 specification and CEMP.	Monitoring requirements as set out in Series 3000 specification and CEMP.	Principal Contractor and Scheme Landscape Architect	Regular inspections of planting by the ECoW to approve thriving specimens and achievement of growth in accordance with contract document specifications.	Initial: Date:	. N/A
LV3.2	Ch 9, section 9.9	Ensure long term maintenance of landscape works and planted areas.	Prepare HEMP and data for EnvIS/soft estate management.	Operation in HEMP to be in accordance with Management Plans as discussed with Managing Agent, Natural England, Surrey Wildlife Trust and affected landowners.	Monitoring requirements as developed and set out in HEMP.	Principal Contractor, Managing Agent	Successful establishment of landscape mitigation - achievement criteria as set out in Management Plans.	Initial: Date:	N/A
Geology and Soils									
GS3.1	Ch 10, section 10.9	To avoid deterioration of soil resources.	Aftercare of restored soils if required. Appropriate cropping of restored soils, for example a temporary grass ley if required, and associated soil nutrient requirements.	To be detailed within CEMP and SHMP for the Scheme.	To be detailed within the CEMP and SHMP for the Scheme.	Principal Contractor	Retain soil resources potential to support plant growth and maintain quality of agricultural land/soils.	Initial: Date:	N/A
Cultural Heritage									

Ref.	ES ref.	Environmental Objective	Action/Commitment {including specific locations, if applicable and any assumptions of the action/commitment}	Action/Commitment Implementation methods (incl. stakeholder agreements)	Required Monitoring Details	Responsible Person	Achievement criteria and reporting requirement	Completion record	Notes/Further action
CH3.1	Ch 11, section 11.9	Complete actions required to achieve preservation by record of heritage features in accordance with relevant Written Scheme of Investigations, ES commitments and agreements with Historic England and the Surrey County Archaeologist and Historic England~~Archaeological Officers of the Greater London Archaeology Advisory Service and Elmbridge and Guildford Borough Councils~~.	Implement post-fieldwork analysis and processing of records, samples, artefacts etc. obtained through implementation of pre-construction and post-construction actions, in accordance with any relevant Written Scheme of Investigations.	Agreement with Surrey County Archaeologist and Historic England~~Archaeological Officers of the Greater London Archaeology Advisory Service and Elmbridge and Guildford Borough Councils~~.	None required	Principal Contractor	Report(s) accepted for publication if appropriate; archive reports accepted as satisfactory by the Surrey County Archaeologist and Historic England~~Archaeological Officers of the Greater London Archaeology Advisory Service and Elmbridge and Guildford Borough Councils~~.	Initial: Date:	Post-excavation and reporting works to be monitored by a specialist archaeological consultant.
CH3.2			Prepare records, samples, artefacts etc. as an archive or series of archives for deposition in a museum or other appropriate repository in accordance with any relevant Written Scheme of Investigation, and implement the deposition. Charges for deposition will apply.			Principal Contractor	Archives transferred to appropriate museum or other repository.	Initial: Date:	
Materials and Waste									
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
People and Communities									
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Climate									
C3.1	Ch15.2.10	To maintain the design level of flood protection.	Regular inspection of drainage infrastructure and clearance of sediment traps.	To be detailed within CEMP	To be detailed within the CEMP.	Managing Agent	Successful operation of drainage infrastructure. No flooding following rainfall events within design limits.	N/A	N/A
C3.2	Ch15.2.12	To ensure extreme climate events are not having unexpected impacts.	Monitoring and evaluation of the Scheme's major assets resilience to climate shall be part of regular asset inspections to inform climate change adaptation decision-making in the future.	To be detailed within CEMP	To be detailed within the CEMP.	Managing Agent	To ensure in an ongoing manner that the embedded mitigation has/is minimising the overall effect of climate change on the Scheme.	N/A	N/A

Appendix H. Section 61

H.1.1 [Note: Principal Contractor to include Section 61 consents]

Appendix I. Environmental Consents Checklist

I.1.1 [Note: Principal Contractor to update Environmental Consents checklist or similar document]

Table I.1: Legislation, policies and strategies

Notice/Order/Consent/Licence	Legislation	Authority
F10 Notification	Construction (Design and Management) Regulations 2015	Health and Safety Executive
Permission for Works in roads and streets	New Roads and Street Works Act 1991	Highways England/local authority
Permission for Site Accesses and Road Excavation	Highways Act 1980	Highways England/local authority
Permission for installation of Passing Places	Highways Act 1980, Section 184	Highways England
Planning Consent for building, mining, or other engineering operations in, on or over land	The Town and Country Planning Act 1990 [England and Wales]	Local Planning Authority
Environmental Impact Assessment Screening Request/Environmental Statement	Infrastructure Planning (Environmental Impact Assessment) Regulations 2009	The Planning Inspectorate
Development Consent Order	Infrastructure Planning (Environmental Impact Assessment) Regulations 2009	The Planning Inspectorate
Approval for interaction with overhead lines		Third Party Stakeholders
Crossing of Apparatus		Relevant Operator
Gas Licence	Gas Act 1986 as amended	Gas and Electricity Markets Authority
Habitats Regulation Assessment Screening	Conservations of Habitats and Species Regulations 2010	Environment Agency and Natural England (via the Environment Agency Flood Defence Consent process)
Badger licence for any work within 30m of an occupied sett	Protection of Badgers Act 1992	Natural England
Water Vole licence for works causing disturbance	Wildlife and Countryside Act, Schedule 5	Natural England

Notice/Order/Consent/Licence	Legislation	Authority
Bat Mitigation Licence	Regulation 55 of the Conservation of Habitats and Species Regulations 2017	Natural England
Confirmation of exemption under the Hedgerow Regulations (1997)	The Hedgerows Regulations 1997	Local authority
Works affecting Navigable Waterways [Rivers, canals]	Section 34 of the Coast Protection Act 1949	British waterways
Land Drainage Consent for work on land adjoining a main river or within its flood plain	Land Drainage Act 1991, Section 23	Environment Agency
Flood Risk Activity Permit for structures in, over or under a water course which is part of a main river	Environmental Permitting (England and Wales) Regulations 2016 (as amended)	Environment Agency
Pump Testing	Section 32 Borehole consent - Investigating a Groundwater Source	Environment Agency
Land Drainage Consent for structures in ordinary watercourses [i.e. other than a main river]	Land Drainage Act 1991, Section 23	IDB
Abstraction Licence	Water Resources Act 1991	Environment Agency
Water Discharge Permit	Environmental Permitting (England and Wales) Regulations 2016 (as amended)	Environment Agency
Groundwater Activity Permit	Environmental Permitting (England and Wales) Regulations 2016 (as amended)	Environment Agency
Water Impoundment Licence	Water Resources Act 1991 section 25	Environment Agency
Waste Operation Permit	Environmental Permitting (England and Wales) Regulations 2016 (as amended)	Environment Agency
Waste exemptions and permits for storage, use, treatment and disposal	Environmental Permitting (England and Wales) Regulations 2016 Environmental Protection Act 1990 (as amended) Waste (England and Wales) Regulations 2011 Hazardous Waste (England and Wales) Regulations 2005	Environment Agency or Local Planning Authority
Footpath Closure	Highways Act 1980	Highways Authority
Footpath Diversion Order	Highways Act 1980	Highways Authority

Appendix J. Register of environmental legislation

Table J.1: Legislation, policies and strategies

Legislation, policy or strategy	Requirement	Comments/Actions
General		
The Construction (Design and Management) Regulations 2015	Places legal duties on virtually everyone involved in construction work. Known as 'duty holders' and include clients, principle designer, designers, principal contractors, contractors and workers.	All works during design and construction to comply with duties held under the Regulations. All personnel to be competent within the role they are appointed to.
Planning Act 2008	Sets out the framework for the DCO process for Nationally Significant Infrastructure Projects. To obtain authorisation prior to carrying out any works outside the Scheme boundary and comply with the specific conditions of any planning consents applied for.	The Client must ensure that the process is conducted. The Principal Contractor is to ensure that all operations are conducted within the extent of the planning permissions granted.
Countryside Rights of Way Act 2000	Relates to public access and the adoption of core paths. Access to Rights of Way should be maintained and public notice should be given for any access diversions.	The REAC and the Schedule of Mitigation, lists the requirements in relation to access.
Environmental Protection Act 1990	To prevent pollution from emissions to air, land or water. Part III sets out statutory nuisance provisions that local authorities have in relation to smoke, dust, gas, fumes, steam, smell, accumulation, deposit, noise or vibration that is prejudicial to health or a nuisance.	Ensure that the work complies with the mitigation works detailed in the ES and in the REAC, the Schedule of Mitigation. Include necessary measures within the Health and Safety file. The Principal Contractor is to prepare method statements relating to emission to air, land and water.
Highways Act 1980	Relate to duties and liabilities in relation to road construction and management. Carry out consultation with stakeholders and ensure information on footpath/road closures will be provided at an early stage.	If consent to close footpaths and roads is required this will be applied for and timing constraints built into the programme.
Air quality		

Legislation, policy or strategy	Requirement	Comments/Actions
Environmental Protection Act 1990	Part III of the Act sets out statutory nuisance provisions that local authorities have in relation to any smoke, dust, gas, fumes, steam, smell, accumulation or deposit, that is prejudicial to health or a nuisance	Principal Contractor to ensure construction works comply with the REAC
Noise and vibration		
Environmental Protection Act 1990	Part III of the Act sets out statutory nuisance provisions that local authorities have in relation to any smoke, dust, gas, fumes, steam, smell, accumulation, deposit, noise or vibration that is prejudicial to health or a nuisance. Applies to noise and vibration from construction activities, which will be designed to minimise potential affects wherever possible, closely monitored and accompanied by risk assessments.	Principal Contractor to ensure that works comply with the REAC the Schedule of Mitigation, and to include necessary measures within the Health and Safety file. Principal Contractor is to prepare method statements to address noise and vibration, including restricting working hours to minimise disruption to residents caused by noise.
Control of Pollution Act 1974	Consult with the local authorities over the need to apply for Section 61 Consent.	Principal Contractor to apply for a Section 61 Consent, if the local authorities require one.
Environmental Noise (England) Regulations 2006	The regulations implement the European Environmental Noise Directive in England and require Important Areas to be identified.	Important Areas identified from strategic noise mapping are considered in the Environmental Statement to ensure impacts at these locations are minimised
Noise Policy Statement for England 2010	Within the context of Government policy on sustainable development, the NPSE requires that significant adverse effects as a result of the Scheme are avoided, adverse impacts are mitigated and minimised, and that the Scheme contributes to the enhancement of the acoustic environment.	The Scheme incorporates mitigation measures in its design to avoid significant adverse effects and to minimise adverse impacts during the operation phase, which are shown in the ES to improve existing noise levels. Mitigation measures are also proposed for the construction phase to minimise impacts.
Land Compensation Act 1973	This Act is relevant to the operational phase of the Scheme. Part I Compensation for depreciation caused by use of public works	This will be reviewed on a case-by-case basis subject to any claims made.
Noise Insulation Regulations 1975 (as amended)	The Noise Insulation Regulations impose a duty on authorities to undertake or make a grant in respect of the cost of undertaking noise insulation work in or to eligible buildings, subject to meeting certain criteria given in the Regulation.	No buildings were identified that meet the requirements for noise insulation during the construction phase or the operation phase due to the Scheme. This will be reviewed on a case-by-case basis subject to any claims made.

Legislation, policy or strategy	Requirement	Comments/Actions
Infrastructure Act 2018	Section 5(2) of the Infrastructure Act and the Highways England Licence seek to minimise the environmental impacts of projects, protect and enhance the quality of the surrounding environment and conform to the principles of sustainable development.	The Scheme incorporates mitigation measures to avoid significant adverse effects and to minimise adverse impacts during the construction and operation phases.
National Policy Statement for National Networks	The NPSNN states the following factors as determinants of the likely noise impact: • construction noise and the inherent operational noise from the proposed development and its characteristics; • the proximity of the proposed development to noise sensitive premises and noise sensitive areas; • the proximity of the proposed development to quiet places and other areas that are particularly valued for their tranquillity, acoustic environment or landscape quality; and • the proximity of the proposed development to designated sites where noise may have an adverse impact on the special features of interest, protected species or other wildlife	The ES includes assessments of impacts arising in the construction and operation phases of the Scheme, and incorporates mitigation measures to minimise impacts. Potential impacts to ecologically sensitive sites due to noise are also considered.
National Planning Policy Framework 2019	Paragraph 180 states that decisions on development should aim to: • ensure that new development is appropriate for its location, taking into account the likely effects (and cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site and wider area impacts that could arise from the development; • mitigate and reduce to a minimum, other adverse impacts resulting from new development, and avoid noise giving rise to significant adverse effects on health and quality of life; and • identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are	The Scheme incorporates mitigation measures to avoid significant adverse effects and to minimise adverse impacts during the construction and operation phases.

Legislation, policy or strategy	Requirement	Comments/Actions
	prized for their recreational and amenity value for this reason.	
Biodiversity		
Wildlife and Countryside Act 1981 (as amended)	Provides legal protection for species of flora and fauna and designated sites in UK Britain and allows for a three-stage approach to managing invasive non-native species. No vegetation clearance shall be undertaken between the months of March to June, inclusive. Where protected habitats and/or species are to be either directly or indirectly affected all impacts shall be mitigated (e.g. bats, birds, fish, otters etc.). Under no circumstances shall there be intentional killing or taking of fauna. Provision shall be made for wildlife to continue to utilise corridors.	If tree felling needs to take place, trees will be inspected for bats/birds by a qualified ecologist prior to removal.
Natural Environment and Rural Communities Act 2006	Directly applicable activities: • Demolition and site clearance; • Earthworks; • Site set up; • Landscaping; and • Site reinstatement. When works are likely to impact on areas of interest to Natural England this body must be consulted regarding working practices and plans. Part III of the Act makes additional provision for protection of birds, and spread of invasive species.	Where licences and/or permits are required these must be obtained ahead of works.
Conservation of Habitats and Species Regulations 2010	Allows for the designation of Special Areas of Conservation (SACs), and SPAs and protection of certain species. All protected species listed on the schedules of the Regulations are also listed within the Wildlife and Countryside Act 1981 (as amended).	The REAC the Schedule of Mitigation, lists all the requirements for protected species.

Legislation, policy or strategy	Requirement	Comments/Actions
	Any activities that may affect protected habitat/species, as listed under these Regulations, should be discussed with a suitably qualified ecologist.	
Protection of Badgers Act 1992 (as amended)	A badger licence is required for an activity that intentionally or recklessly damages, destroys or obstructs access to a badger sett or disturb a badger in its sett.	A badger licence will be required from Natural England.
Regulatory Position Statement 178	Assess the Regulatory Position Statement (RPS) for suitability on site specific detail and submit the required information to the Environment Agency.	To bring some control of invasive species within the RPS system when dealing with volumes below specified criteria as outlined with the RPS.
Road drainage and the water environment		
Environmental Protection Act 1990	Aims to prevent pollution from emissions to air, land or water. To comply with the mitigation works detailed in the ES and in the REAC and the Schedule of Mitigation.	Principal Contractor to ensure that the work complies with the REAC the Schedule of Mitigation, for the Scheme, and to include necessary measures within the Health and Safety file.
The Water Act 2003. Pollution Prevention and Control Act 1999.	Aim to prevent the pollution of waters (groundwater, rivers, streams, inland waters, territorial waters and some coastal waters) by making it an offence to cause or knowingly permit any poisonous, noxious, or polluting material, or any solid waste to enter them. Storage of hazardous materials within the construction site must be secured to avoid ground/groundwater contamination. Offences include allowing spillages, leakages of chemicals/oils, or fire-fighting waters to enter surface water drains. Works in and around any contaminated land must ensure that the risk of migration of contamination into watercourses is avoided. Consent/approval required for any discharge of water to watercourse.	Principal Contractor to prepare method statements to address groundwater and surface water and spillage of fuel and oil. Principal Contractor to apply for all necessary consents, permits and licences as required. Principal Contractor to prepare drainage method statement, emergency pollution plan and emergency procedures. Principal Contractor to prepare a Health and Safety file.
Water Industry Act 1991	Site welfare facilities may be required to seek a trade effluent consent, which would be covered by this legislation.	Contractor to obtain necessary consents from the relevant water company.

Legislation, policy or strategy	Requirement		Comments/Actions
Water Resources Act 1991	To prevent pollution of controlled waters.	All works (temporary or permanent) within 10 m of a watercourse (or 8 m depending on some by-laws) requires Consent. Either the Environment Agency (in the case of main rivers), the Internal Drainage Board or local authorities for ordinary watercourses issues the consent.	
Land Drainage Act 1991	To mitigate flood risk from development.		
The Water Resources (Abstraction and Impounding) Regulations 2006	Requirement to obtain an extraction licence if extracting more than 20m^3/day from any watercourse.		Principal Contractor to obtain licence if required.
Flood and Water Management Act 2010	Schedule 3 for drainage system requirements.		
Control of Pesticides Regulations 1986	If there is a need to spray a pesticide near a watercourse then a consent from the Environment Agency is to be obtained.		Principal Contractor to monitor need for pesticide use and if it is required to obtain the consent from the Environment Agency.
Pollution Prevention Guidelines[5]	Detail good practice advice for undertaking works which may have the potential to cause water pollution.		
Landscape			
National Policy Statement for National Networks 2014	Measures to protect the landscape and assess effects to inform Scheme development		Considered in development of the scheme and in preparation of landscape design proposals
National Planning Policy Framework 2018	Protection of Green Belt and the conservation and enhancement of the environment		
Countryside and Rights of Way Act 2008	Regulation of rights of way and preservation of access		
Geology and soils			

[5] Pollution Prevention Guidelines (PPGs) with particular reference to PPG1 (general guide to the prevention of water pollution), PPG3 (use and design of oil separators in surface water drainage systems), PPG5 (works near or liable to affect watercourses) and PPG6 (working at construction and demolition sites). The PPGs contain a mix of regulatory requirements and good practice advice. They have been withdrawn by the Environment Agency but are still considered good practice advice to avoid pollution of watercourses. All of the PPGs are available from http://webarchive.nationalarchives.gov.uk/20140328084622/http://www.environment-agency.gov.uk/business/topics/pollution/39083.aspx

Legislation, policy or strategy	Requirement	Comments/Actions
Pollution Prevention Guidance	For implementation of pollution incident control e.g. plant drip trays and spill kits.	
The Control of Substances Hazardous to Health Regulations 2002	For Health and Safety Risk Assessments, Method Statements and appropriate Personal Protective Equipment.	
Environmental Protection Act 1990	Overarching requirements for the protection of sensitive receptors from contaminated land.	
Water Framework Directive 2000	The WFD establishes a framework for the protection of sensitive water receptors including inland surface waters, transitional waters and groundwater.	
Cultural heritage		
Ancient Monuments and Archaeological Areas Act 1979	The specific consent of the SoST has to be given for: a) "any works resulting in the demolition or destruction of or any damage to a Scheduled Monument; b) any works for the purpose of removing or repairing a Scheduled Monument or any part of it or of making any alteration or additions thereto; and c) any flooding or tipping operation on land in, on or under which there is a Scheduled Monument". It is illegal to carry out any of the above works to a Scheduled Ancient Monument without consent. If such works will also require planning permission it is advisable that Historic England/Department of Culture, Media and Sport are contacted to advise on Scheduled Monument Consent prior to application for planning permission. It should be noted that certain activities do not require Scheduled Monument Consent and the class consents are detailed in Ancient Monuments (Class Consents) Order 1994. Advice is offered by the Department of Culture, Media and Sport.	No consents required
Planning (Listed Buildings and Conservation Area) Act 1990	Developers of listed buildings must obtain a listed building consent to demolish or to alter a listed building's character. Planning authorities must preserve and	No consents required

Legislation, policy or strategy	Requirement	Comments/Actions
	enhance conservation areas and they must be taken into account in determining the planning application of developments within them. Ensure that the clients/developers have agreed with the planning consents and those procedures are in place for dealing with Historic England or otherwise. Time constraints for approval of method statements and strict control of the method of works are required, otherwise the National Heritage Act 1983 could be enforced.	
Materials and waste		
Waste (England and Wales) Regulations 2011	The Regulations 2011 (SI 2011/988), as amended in 2012 (SI 2012/1889) and in 2014 (SI 2014/656), transpose the Revised EU Waste Framework Directive (2008/98/EC) into English law and require organisations to manage waste in alignment with the waste hierarchy in order to prevent waste going to landfill.	The Principal Contractor or waste holder must take all reasonably practical steps to ensure that: • Prior to disposing of material ensure that options other than disposal have been considered; • Ensure that all waste movements have the correct permits, licences and transfer information; and • Provide evidence that the waste hierarchy has been applied. This evidence can be in the form of waste transfer notes and hazardous waste consignment notes, which themselves must be kept for two and three years, respectively.
The Hazardous Waste (England and Wales) Regulations 2005 (SI 2005/894)	The Regulations, as amended in 2009 (SI 2009/507), 2015 (SI 2015/1360) and 2016 (SI 2016/336) applies to all wastes listed as hazardous in the List of Waste (2000/532/EC) and the CLP (Classification, Labelling and Packaging) Regulation (EC 1272/2008).	Hazardous waste may be produced throughout the Scheme. The Principal Contractor or waste holder will manage hazardous waste in accordance with the Regulations, including: • Notification of premises managing hazardous waste to the Environment Agency, where applicable. • Preventing the mixing of hazardous waste. • Producing a hazardous waste consignment note with written description and waste code for each movement.

Legislation, policy or strategy	Requirement	Comments/Actions
		• Ensuring waste carriers and waste management facilities hold an appropriate licence or permit.
Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 (SI 2013/3113)	The Regulations revoke the previous WEEE Regulations (2006 (SI 2006/3289), 2007 (SI 2007/3454), 2009 (SI 2009/2957) and 2010 (SI 2010/1155)) and have a key objective to reduce the amount of WEEE that goes to landfill. This is to be achieved by making producers responsible for the collection, treatment and recovery of WEEE, including the associated costs.	The Principal Contractor or Waste Holder must ensure that WEEE produced in the construction, demolition and excavation (CD&E) phase of the Scheme is segregated and managed separately from other wastes.
The Waste Batteries and Accumulators Regulations 2009 (SI 2009/890)	The Regulations, as amended in 2015 (SI 2015/1935), require that producers of batteries and accumulators must either take back waste batteries and accumulators or fund the collection and recycling of them. The 2015 amendment removed several additional requirements, inclusive of the provision of operational plans and independent audit reports.	The Principal Contractor or Waste Holder must ensure that batteries produced in the CD&E phase are segregated and managed separately from other wastes.
Environmental Protection Act 1990, as amended	The Environmental Protection Act 1990 (c. 43) as amended in 1996 and 1999 implements integrated pollution control for the disposal of waste to air, land and water, including solid waste disposal. As part of this, under Section 34, the Act imposes Duty of Care on anyone who produces, imports, keeps, stores, transports, treats or disposes of waste.	The Principal Contractor or waste holder must take all reasonably practical steps to ensure that: • Waste is consigned only to a licensed waste carrier, authorised person, local authority waste collector or is managed as an exempt waste activity; • Waste that is disposed of is accompanied by a detailed written description of the waste to ensure its safe handling, treatment and disposal (waste transfer notes are to be kept for a minimum of two years and hazardous waste consignment notes are to be kept for a minimum of three years); • Waste is securely contained to prevent it escaping to the environment; • Appropriate measures are taken to ensure that others involved in the handling and disposal of waste do so in accordance with the all applicable Regulations;

Legislation, policy or strategy	Requirement	Comments/Actions
		• Copies of registration certificates should be obtained for all waste contractors and waste carriers used as part of the Scheme and it should be ensured that they are on the Environment Agency's 'Public Register of Waste Carriers, Brokers and Dealers'; and • Checks should be made on the final destination of each waste, ensuring that the waste management facilities are authorised to accept and manage the waste. Duty of Care audits of carriers and waste management facilities are advisable.
Environmental Permitting (England and Wales) Regulations 2016 (SI 2016/1154)	The Environmental Permitting Regulations 2016 (SI 2016/1154) replace the 2010 Regulations (SI 2010/675) (as amended in 2011 (SI 2011/2043), 2012 (SI 2012/630) and 2014 (SI 2014/255)). The Regulations put in place requirements to ensure that sites that produce certain materials and undertake certain activities (such as the storage, use or treatment of waste) have a permit or exemption from the regulator (i.e. the Environment Agency). Permit or exemption details of all sites that manage waste from the Scheme will be checked to ensure waste is being managed legally.	The Principal Contractor or waste holder must take all reasonably practical steps to ensure that: • Appropriate environmental permit or exemption is in place, prior to works starting, for waste storage, treatment, use or disposal; and • Waste management facilities used by the Scheme hold an appropriate permit to receive and undertake the required waste activity.
The CLP (Classification, Labelling and Packaging) Regulation (EC 1272/2008)	The CLP Regulation (within the UK and EU) was introduced in a staggered manner between 1999 and 2015. To summarise, the Regulation provides guidance on the application of the CLP criteria for hazards (physical, health and environmental).	The Principal Contractor or Waste Holder will ensure that the classification, labelling and packaging of waste and materials is undertaken in accordance with the Regulation. This includes classifying waste using a six-digit code, which must be recorded on all waste transfer notes and hazardous waste consignment notes for the movement of waste.
Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (England and Wales) Regulations 2000 (SI 2000/1043)	The Regulations, as amended in 2000 (SI 2000/3359), require the safe disposal or decontamination of all equipment that contains polychlorinated biphenyls (PCBs). Equipment containing 5 litres or more of PCB substance or mixture is also covered by the Regulations.	PCBs may be present in old electrical equipment which may be removed as part of the Scheme. The Principal Contractor or Waste Holder will ensure PCBs and other dangerous substances are disposed of in accordance with the Regulations.

Legislation, policy or strategy	Requirement	Comments/Actions
Environmental Damage (Prevention and Remediation) Regulations 2015 (SI 2015/810)	The Regulations further developed obligations (introduced by the original regulation in 2009) to ensure the polluter pays for any environmental damage caused. The Regulations are applicable to all economic activities and therefore cover businesses. The Regulations require caution to be taken when managing sites to prevent damage to water, land and biodiversity.	The Principal Contractor or Waste Holder will manage waste to prevent pollution or damage to the environment.
The Control of Asbestos Regulations 2012 (SI 2012/632)	The Regulations require notification to the appropriate authority of all notifiable asbestos works (as specified in the Regulations), the medical surveillance (from April 2015) and health records for employers dealing with asbestos, the provision of the correct equipment and training for working with asbestos; and the documentation of the method, storage and disposal of asbestos waste. Any waste containing asbestos (e.g. insulation or lagging) must be stored and disposed of, in suitable packaging to prevent fibre release, in line with the Regulations. All asbestos must be removed by a licensed contractor who has undergone the appropriate training for the removal of asbestos and must wear the appropriate PPE. Written records must be kept of the workers and the likely level of exposure. The asbestos must only be disposed of at an appropriately permitted disposal site.	The Regulations will be adhered to during the construction of the Scheme to minimise harm to human health due to asbestos exposure.
Climate		
The Climate Change Act 2008	Support UK Government in achieving target of 80% carbon reduction by 2050, and the intervening Carbon Budgets.	Principal Contractor to mitigate carbon emissions as far as possible.
Construction 2025	Support UK construction industry in achieving 50% reduction in construction emissions by 2025.	Principal Contractor to mitigate carbon emissions as far as possible.

Appendix K. Environmental risks

Table K.1: Environmental risks

K.1.1 Risks identified from Scheme risk register.

K.1.2 Rating key:

Very Low	Low	Medium	High	Very High

Xactium Risk No	Risk Title	Cause	Event	Impact	Current Score	Current Rating	Update and Review Notes	Mitigation Action	Post-Mitigation Score	Post-Mitigation Rating
R20846	Environmentally sensitive areas	The topsoil strip areas that have a boundary with adjacent ancient woodland risk of damaging adjacent tree roots.	There is a risk that the Scheduled Monument site mixed in with area of Woodland may add complications to the environmental mitigation works, where the archaeological Scheduled Monument site has more protection than Ancient Woodland overlying it.	The original planned methods of dealing with each of the Scheduled Monument sites would be unworkable. There is limited experienced resources available to undertake this type of work causing procurement competition issues and workforce availability.	9				9	
R20852	Environmental mitigations - seasons	Some elements of the construction works can only be undertaken during seasonal ecology migration windows. This is particularly relevant to vegetation clearance activities, which will need to avoid nesting bird season (March to August inclusive) where possible.	There is a risk that changes to the construction schedule may result in the seasonal ecology mitigation windows being missed.	Construction activities would be delayed until the seasonal ecology mitigation window, or require heightened ecological inputs under a Precautionary Method of Working, with risks of delays in particular locations where ecological constraints occur	20		Because of local environmental sensitivities, it is likely that the resultant Imperative Reasons for Public Interest (IROPI) will result in onerous 'conditions' being applied to the Development Consent Order (DCO).	Plan and prepare activities in advance and ensure that associated risks are managed, with mitigation plans in place for areas supporting critical activities. Identify any reversible works that can be undertaken on land that has prior access agreed. FALLBACK - Work with the construction teams to develop a schedule that minimises time impact of any DCO 'conditions'.	9	
R20848	Significant ecology species	Elements of the site are currently undeveloped and the exact extent ecology species is unknown.	There is a risk that bat roosts and great crested newts may be found on the site that the project will need to provide mitigation measures for that are not expected.	Programme delays and increased costs whilst surveys are undertaken and licenses obtained. Licenses may take up to three months to obtain.	15			Use bat and dormouse expert ecology consultants, undertake investigations. Atkins confirm that surveys have now been undertaken, from which no dormouse presence has been found. An Arborist may be needed for these works due to tree standing issues. Plan EPS mitigation as early as possible. Plan well in advance and gain CPO Land early - Sufficient time needs to be allowed for in order for a coordinated environmental mitigation plan to be developed and implemented well in	10	

Xactium Risk No	Risk Title	Cause	Event	Impact	Current Score	Current Rating	Update and Review Notes	Mitigation Action	Post-Mitigation Score	Post-Mitigation Rating
								advance of construction works starting, to manage the competing requirements of the different archaeological and environmental stakeholders.		
R3165	Important artefacts	The Stage 6 construction activities will include extensive below ground works.	There is a risk that significant archaeological discoveries may be made during the Stage 6 construction activities.	Investigating, recording and preserving important artefacts will delay the Scheme and add cost during Stage 6.	6			Undertake sufficient design/survey work during Stage 5 to investigate the area which is known for archaeological remains.	4	
R19962	Drainage impact on Bolder Mere	The DCO design is based on design assumptions (and not based on a detailed site drainage survey) in order to avoid a significant impact on the objectives of the Water Framework Directive.	There is a risk that the proposed drainage design may not be considered feasible when the Topographical and Drainage surveys are completed.	A discharge into Bolder Mere which would fail to meet the Water Framework Directive objectives as the proposed design solution would be environmentally worse than that supported as part of the DCO process.	6			Identify a new location of discharge, this would require additional space and RLB changes. Discharge to the Bolder Mere (which is the case for the current status) which would require a departure to be approved by Environmental Agency. Consider providing a new culvert below the A3. This would be a high cost option.	4	
R3149	Leachate infiltration	The proposed construction area includes former areas of landfill.	There is a risk that construction activities may be delayed due to contamination and leachate infiltration within or near the construction boundaries.	Changes to the Stage 6 construction programme to allow for mitigation of the leaks/contamination.	6			During Stage 3 undertake intrusive surveys to clarify extent of contamination and clarify ownership issues and any implications of working on that land. Include the use of monitoring equipment to check for any changes post survey.	2	
R20843	Stability of slopes and excavation in sand conditions	Although there will be site Geotechnical information (reference to existing borehole data etc) it will not be complete.	There is a risk that excavations throughout the Scheme may encounter sand and gravel conditions that will provide challenging conditions to ensure stability of cut slopes.	Additional working widths/land take will likely be necessary to accommodate this, or alternatively increased demand on temporary works solutions, resulting in delays to the programme and increase costs.	12			Undertake advance ground investigation works and ensure sufficient temporary land is included with the RLB, to undertake works in the most efficient method. Plan works well in advance to ensure that an appropriate action plan is implemented prior starting excavation activities.	8	
R16278	DCO application not accepted due to lack of Ground Investigation (GI)	The DCO submission will be made to PINs. which needs to demonstrate the correct process has been carried and the technical quality is appropriate. The GIs will not be completed prior to the submission. as there is insufficient time to complete them before	There is a risk that the DCO submission may not be accepted if the quality is not sufficient.	The submission would be withdrawn and the issues addressed prior to resubmission.	10			Examine this risk to verify whether successful completion of the mitigation action has reduced the risk to acceptable levels.	8	

Xactium Risk No	Risk Title	Cause	Event	Impact	Current Score	Current Rating	Update and Review Notes	Mitigation Action	Post-Mitigation Score	Post-Mitigation Rating
		the expected submission date. PINs have identified this is a concern.								
	Insufficient time for Phase 2 of the GI	The GI has been split into two phases. Phase 1 will be performed in Stage 3 and Phase 2 will likely be performed in Stage 6. Phase 2 of the GI is required in advance of construction to confirm detailed design and in a bid to decrease costs will utilise construction phase traffic management.	There is a risk that there may be Insufficient time left in the Stage 6 programme for Phase 2 of the GI to be completed in advance of construction.	Delay to the design completion and/or the construction periods with additional costs due to lack of information. Increased costs due to delays.	8			Leave sufficient time in Stage 6 programme for the Phase 2 GI.	4	
R20842	BT diversions	Multiple interface/clashes likely during earthworks including local feeds and main strategic fibre optic service runs parallel within Highways England boundary along the A3 via J10 existing gyratory east overbridge. Advance diversions will likely be required to enable the earthworks and SGN works, subject to SI and detailed design including drainage, any ditches etc to remain where it is may pose a construction sequencing and logistic risk and pose a significant risk to the asset owner.	There is a risk that some elements may have longer lead-in procurement times than expected.	An adverse impact on the diversion coordination and advance works due to lack of materials will result in significant delays to the programme and increase costs.	12			Determine location of asset well in advance to plan for any necessary diversions where required. A route along RLB/NMU where possible would likely be most appropriate to assist in works sequencing.	8	
R9464	Discharge of DCO conditions	There could be conditions applied to the DCO that will need to be discharged prior to the start of the Stage 6 construction works.	There is a risk that conditions attached to the DCO may take longer to discharge than required to meet the Scheme Stage 6 construction schedule.	The start of Stage 6 will be delayed whilst the DCO conditions are discharged.	16			Address any likely DCO conditions during the host local authorities and land owners discussions to reduce this risk impacting after Stage 3.	12	
R19419	Completion of land transactions	This Scheme requires a large volume of land transactions to enable	There is a risk that there is not enough time to process the volume of	This will delay the Stage 6 construction schedule.	12			Prioritise the transactions to minimise the impact on the	12	

Xactium Risk No	Risk Title	Cause	Event	Impact	Current Score	Current Rating	Update and Review Notes	Mitigation Action	Post-Mitigation Score	Post-Mitigation Rating
		delivery, when compared with other similar Schemes.	land transactions which would be necessary to commence Stage 6 as currently scheduled.					construction schedule and address those first.		
	Suitability of ground conditions	Assumption have been made regarding geological features (including ground water) and ground conditions within the construction limits.	There is a risk that when the GI surveys are undertaken the ground conditions may prove not be suitable to deliver the Scheme as expected.	Changes to the expected construction methodologies and schedule.	6				2	
R20853	Bridge/gantry erections and demolitions	In order to erect or demolish existing structures spanning over the carriageway road closures will be necessary. Full 48hr weekend closures will likely be required for demolitions and possibly needed for erection of new bridges due to the single span structural forms chosen to avoid a central reserve phase on the M25. Overnight closures will be required for the removal and erection of gantries.	There is a risk that the planned possession dates may cause unacceptable disruption to the public and not be allowed.	Where long lead-in procession dates are missed this will cause programme delay and increasing costs.	10			Traffic Management closures will be necessary, with advanced notification designated diversion routes in place to minimise impact on the road users. Key stakeholder engagement will be essential for the success of these critical operations. Contractor to liaise with M20 J10a team to ensure best practice and lessons learnt from weekend closures that impacted the Port of Dover.	5	
	Traffic management during construction	A buildable and safe temporary traffic management design will be required for the Stage 6 construction activities.	There is a risk that the temporary traffic management measures may not be as effective as expected during the GI and the Stage 6 construction activities.	A lack of working space delaying the Scheme GI and Stage 6 construction activities. Unexpected congestion in the Junction 10 area.	4				2	
R20839	Volume of imported earthworks	Imported earthworks fill quantities are large (255,000 m^3) for the construction of the embankments for the slip roads at J10. The availability of the road wagons to deliver the quantities required and the distance that they will need to travel. For the Stage 6 programme material will have to be imported at imported at 1000m^3/day.	There is a risk that the material cannot be imported, placed and compacted within the time frame envisaged.	It may affect the main construction duration beyond the programmed 2 years, 6 months particularity where the trucks importing the material cause congestion.	12			Material can be potentially taken from other regional strategic projects such as HS2 that have significant surplus to export. This can be delivered to railheads at Tolworth or Woking and then transferred to road wagons via the A3/M25. At peak this will be approximately 125 truckloads per day; serving two embankment construction work fronts at a time. Site access on and off the embankments will need to be gained directly from the existing slip	8	

Xactium Risk No	Risk Title	Cause	Event	Impact	Current Score	Current Rating	Update and Review Notes	Mitigation Action	Post-Mitigation Score	Post-Mitigation Rating
								roads to prevent impact on the local road network.		
R9469	Water course contamination	The Scheme is located in close proximity to watercourses, waterbodies, and associated flood plain.	There is a risk that a water resource may be contaminated during the construction activities.	A delay to the construction activities (and additional cost) whilst the contamination is dealt with. Possible prosecution/objection by the Environment Agency and potential land compensation to mitigate the impact on flood plain.	6			To be addressed within the contractor's CEMP which is a PCF product.	1	
R20849	Access for ecology mitigation	Access to land is required to put in place advanced environmental /ecological mitigation measures. Some of this land is in private ownership.	There is a risk that access to the privately-owned land required to undertake these advanced environmental /ecological mitigation measures may not be granted as expected.	Delay to the start of Stage 6 whilst the land ownership is identified, and access agreed.	12			Identify receptor land for any translocated woodland, or for mitigation planting, in advance of the DCO application. Adequate ground investigation needs to be undertaken of both existing ancient woodland areas and receptor sites to determine a coordinated environmental mitigation plan. Its rationale needs to inform the DCO application. There also needs to be clarity on how and who by the relocated or mitigation areas will be owned and managed and used in perpetuity. If the new woodland area is to remain in the ownership of the original landowner, early agreements can be reached before the DCO process; any agreements need careful drafting to reflect any outcome of the DCO process.	8	
R20859	Traffic management for non-motorway users	There is insufficient space to maintain the safe passage of non-motorway users through Junction 10 during the construction works.	There is a risk that the need to maintain safe passage for non-motorway users may alter the expected phasing of Stage 6.	Changes to when elements of the Scheme are delivered particularly the footbridge replacement.	12			A diversion will need to be implemented and phased with the adjacent footbridge replacement works.	9	
R9468	Unexploded Ordnance (UXO) on site	The area is within a known UXO risk area.	There is a risk that the GI or construction works may uncover UXO.	Delay to the schedule while the UXO is made safe and/or removed ff a strike occurs. Injury and/or fatality to both the public and site personnel. Damage to construction equipment and highway infrastructure.	4			Undertake UXO surveys during the intrusive GI survey activities to identify any likely UXO sites.	2	
R18959	DCO related Cockcrow Bridge funding	In the context of the proposed green bridge to replace the existing Cockcrow Bridge, the legal advisers (BDB) have advised that a reasonable prospect of funding must be demonstrated in order to	There is a risk that sufficient evidence of a reasonable prospect of funding (from Designated Funds) for the proposed green bridge may not be provided to support the Statement of Reasons.	There will be uncertainty on the funding for the construction of the green bridge at Cockcrow therefore the Statement of Reasons will not be complete for DCO or the funding will come from the project will need to pay.	16			Verify whether funding has been agreed or whether further mitigation actions are required.	4	

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		justify the compulsory powers of acquisition needed to acquire the land for the green bridge. This test is contained in the Department for Communities and Local Government guidance								
	Extreme weather	Extreme weather during construction, for example drought, storms or heavy fog.	There is a risk that construction works could be affected by extreme weather.	During an extreme weather event it may not be possible to work safely and even with work stopped materials and equipment could be damaged. Additionally, works requiring water could be delayed if they coincided with a drought.	4			Construction programme and activity schedule may need to be reviewed. The CEMP and construction risk assessments should set out how extreme weather events are monitored so construction activities can be planned accordingly. This should include emergency planning for disastrous weather impacts.	2	
	Groundwater contamination	Lack of GI data means the groundwater quality assessment has been completed using the limited data available at the time of reporting and an additional risk assessment could not be completed.	There is a risk that when the GI data is available and the additional risk assessment completed the result show a higher risk to groundwater quality.	The Scheme will have an unacceptable impact on groundwater quality.				Additional mitigation to protect groundwater quality or the drainage design to be amended to avoid discharge to the ground. The CEMP and construction risk assessments should set out how extreme weather events are monitored so construction activities can be planned accordingly. This should include emergency planning for disastrous weather impacts.		
	Unforeseen waste arisings	During excavation works unforeseen areas of contamination may be found.	Where ground contamination is present excavated material is likely to become a waste.	Waste arisings requiring disposal will incur additional cost to the Scheme.	4			A detailed GI is required prior to construction works commencing. Procedures for managing hazardous wastes need to be included in a Site Waste Management Plan.	2	

Appendix L. Records of environmental monitoring undertaken during construction

L.1.1 [Note: Principal Contractor to produce Appendix L and Appendix M or equivalent form of recording environmental monitoring during construction.]

Appendix M. Records of management actions undertaken during construction and implementation of the outcomes

M.1.1 [Note: Principal Contractor to produce Appendix L and Appendix M or equivalent form of recording management actions undertaken during construction and implementing the outcomes.]

Appendix N. Records of environmental incidents

N.1.1 [Note: Principal Contractor to produce record of Environmental Incidents document]

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