

# A12 Chelmsford to A120 widening scheme TR010060

## 6.5 First Iteration Environmental Management Plan

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**A12 Chelmsford to A120 widening scheme**  
Development Consent Order 202[ ]

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**6.5 First Iteration Environmental Management Plan**

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# 1 Introduction and background to the proposed scheme

## 1.1 Purpose of the Environmental Management Plan

- 1.1.1 National Highways (the “Applicant”) has submitted an application under section 37 of the Planning Act 2008 (the “2008 Act”) to the Secretary of State via the Planning Inspectorate (the Inspectorate) for an order to grant development consent (DCO) for the A12 Chelmsford to A120 widening scheme (the “proposed scheme”).
- 1.1.2 This document is the first iteration Environmental Management Plan (EMP), for the proposed scheme and has been developed in support of the DCO to construct and operate the proposed scheme.
- 1.1.3 An Environmental Statement [TR010060/APP/6.1] has been prepared as part of the process of Environmental Impact Assessment (EIA) in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. The Environmental Statement contains the assessment of the potential impacts on the environment that may be caused during construction, operation and maintenance of the proposed scheme and describes proposed mitigation measures to avoid, prevent, reduce or, where practical and appropriate, offset the potential environmental impacts associated with the construction of the proposed scheme.
- 1.1.4 This EMP is based on the design for which development consent for the proposed scheme is sought. It has been prepared in accordance with the Manual of Contract Documents for Highways Works (Highways England, 2014), the Design Manual for Roads and Bridges (DMRB) LA 120 Environmental Management Plans (Highways England, 2020c) and DMRB GG 182 Major Schemes: Enabling Handover into Operation and Maintenance (Highways England, 2020d).
- 1.1.5 The EMP identifies environmental risks, their associated control measures, compliance and corrective actions, including procedures for communication, monitoring, audit mechanisms and reporting of control measures. This EMP provides details on roles and responsibilities, consents and permissions, the collection and submission of environmental data, and induction, training and briefing procedures for those carrying out the proposed scheme.
- 1.1.6 For the purposes of the first iteration EMP, the following definitions apply:
- The Principal Contractor (PC) means any contractor appointed by National Highways to deliver the construction works (and shall also include any subcontractors appointed by the PC to carry out any part of the main construction works).
  - The maintenance authority is a body tasked with the maintenance of the proposed scheme once operational. Once the proposed scheme is complete in its entirety, this would be National Highways, in relation to the trunked sections of the proposed scheme. Prior to full completion this

would be the PC. Some components of the completed scheme will be maintained by Essex County Council.

1.1.7 The purpose of this first iteration EMP is to:

- Document all environmental actions and commitments that are required to manage and minimise the environmental effects of the proposed scheme as identified in the Environmental Statement [TR010060/APP/6.1].
- Provide the equivalent of a Code of Construction Practice (CoCP) containing the control measures and standards to be implemented by the proposed scheme, including those to avoid or reduce environmental effects. The CoCP is a suggested item for inclusion within the DCO application (see the Planning Inspectorate's Advice Note Six: Preparation and submission of application documents ((The Planning Inspectorate, 2021)). The scope of the first iteration EMP is such that it includes all those measures that would be expected within a CoCP.
- Form the basis for the more detailed iterations of the EMP (second and third iterations) that will follow.
- Enable the Examining Authority and the Secretary of State for Transport to identify those mitigation measures proposed within the proposed scheme which are secured within this EMP.

### **Preparation of the EMP**

- 1.1.8 Construction works would be undertaken with appropriate environmental controls in place, in line with the EMP. This EMP outlines the 'essential mitigation'<sup>1</sup> developed as part of the EIA (refer to Environmental Statement Chapter 5: Environmental assessment methodology [TR010060/APP/6.1], for more details). Essential mitigation measures are captured within the Register of Environmental Actions and Commitments (REAC) included in Chapter 3 and Appendix A of this EMP.
- 1.1.9 Environmental constraints are shown on figures included within Volume 2 of the Environmental Statement [TR010060/APP/6.2] and are referenced throughout this EMP. Mitigation measures included in the proposed scheme design are shown on the Environmental Masterplan. The Environmental Masterplan is included in Figure 2.1 of the Environmental Statement and is also supported by illustrative cross-sections shown on Figure 2.2 of the Environmental Statement [TR010060/APP/6.2].
- 1.1.10 A second iteration of the EMP would be developed and implemented by the PC for the construction phase of the proposed scheme to provide planning, management and control with the aim of controlling potential impacts upon the natural and historic environment, people and businesses.

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<sup>1</sup> Standard and additional mitigation make up 'essential mitigation' as per DMRB LA 104 Environmental Assessment and Monitoring (Highways England, 2020b). Essential mitigation is defined as measures critical for the delivery of the scheme which can be acquired through statutory powers.

- 1.1.11 The second iteration EMP would be based on the requirements of this first iteration of the EMP relevant to the construction works and the PC's contractual scope. This would include the implementation of appropriate industry standard practices and control measures for environmental impacts arising during construction, in addition to more detailed management plans and methodologies on the design and construction of the proposed scheme.
- 1.1.12 Management plans are key documents which ensure that the construction related mitigation measures and actions set out in the REAC are successfully implemented onsite. The relevant management plans inform the works and the development of associated task specific Risk Assessments and Method Statements (RAMS).
- 1.1.13 The following specific management plans have been prepared, at this stage, for the proposed scheme in outline format:
- Archaeological Management Plan (Appendix B)
  - Construction Compound Management Plan (Appendix C)
  - Contaminated Land Management Plan (Appendix D)
  - Dust Management Plan (Appendix E)
  - Emergency Procedures and Record of Any Environmental Incidents (Appendix F)
  - Energy and Resource Use Management Plan (Appendix G)
  - Invasive Species Management Plan (Appendix H)
  - Landscape and Ecology Management Plan (Appendix I)
  - Materials Management Plan (Appendix J)
  - Noise and Vibration Management Plan (Appendix K)
  - Site Waste Management Plan (Appendix L)
  - Soil Handling Management Plan (Appendix M)
  - Water Management Plan (Appendix N)
  - Haul Road Management Plan (Appendix O)
- 1.1.14 The specific management plans included for key environmental disciplines would be updated and developed into the final management plans, by the PC, prior to construction and included in the second iteration EMP.
- 1.1.15 In addition to the specific management plans listed above the second iteration EMP will, as a minimum, include the following appendices:
- Environmental Constraints Map

- Environmental Method Statements – where required and where commitments have been made to produce specific method statements including:
  - Arboricultural Method Statement and Tree Protection Plan which would be prepared during the detailed design phase, refined following final design agreement and in place prior to works affecting trees commencing
- Copy of Evaluation of Change Register – to identify changes to the proposed scheme that have occurred during the detailed design phase
- Final Environmental Investigation and Monitoring Reports – to include copies of or reference to the location of relevant survey reports (e.g. protected species) and environmental monitoring reports

**Development of the EMP through construction and handover**

- 1.1.16 The second iteration EMP (and any other document that forms part of it) would be a live document that would be maintained by the PC throughout the construction phase of the proposed scheme.
- 1.1.17 As a minimum, the second iteration EMP would be reviewed every six months to ensure that it is maintained and up to date, particularly to take account of the following:
- Changes in external factors such as regulations and standards
  - Any unforeseen circumstances as they arise such as new protected species or new archaeological finds
  - The results of inspections and audits
  - Learning points from environmental near misses and incidents
- 1.1.18 On completion of construction, the PC would prepare a final version of the EMP (third iteration EMP) for the operational and maintenance phase of the proposed scheme. The indicative contents of a third iteration EMP are set out in DMRB LA 120 Environmental Management Plans (Highways England, 2020c). The third iteration EMP would be implemented by the maintenance authority responsible for the maintenance of the proposed scheme during the operational phase.
- 1.1.19 Table 1.1 provides an illustration of the EMP relationship from the first to third iterations and gives an overview of which authorities are responsible for measures implemented at each stage. The EMP will provide a clear audit trail outlining the modifications made from any previous iteration.

**Table 1.1 Development of the EMP through construction and handover**

Project Stage	EMP iteration	Responsibility
Design, DCO production and determination	First iteration	National Highways



Project Stage	EMP iteration	Responsibility
Construction	Second iteration	Principal Contractor
Maintenance	Third iteration	Maintenance Authority

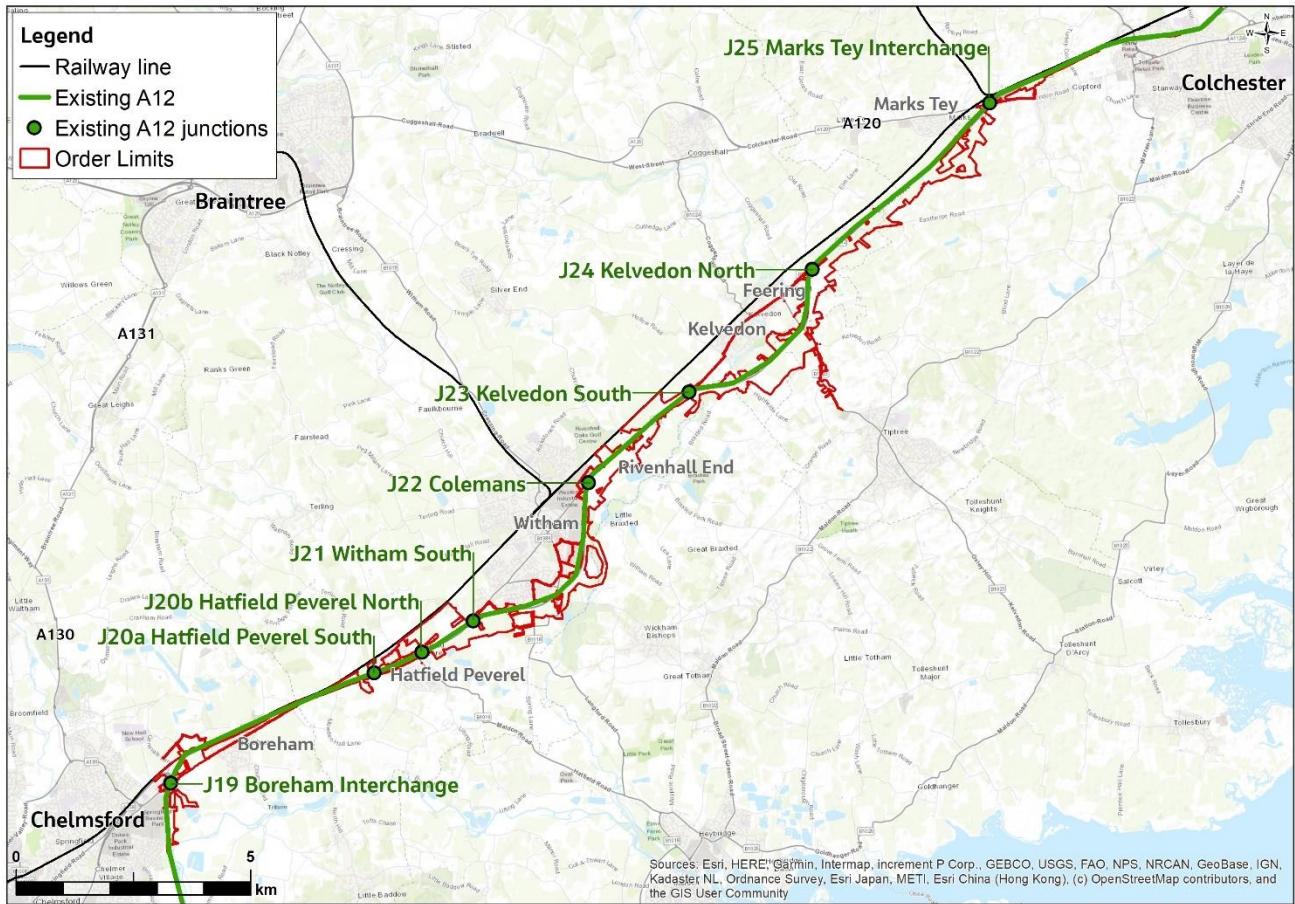
## 1.2 The proposed scheme

- 1.2.1 The proposed scheme comprises improvements to the A12 between junction 19 (Boreham interchange) and junction 25 (Marks Tey interchange), a distance of approximately 24km, or 15 miles (Plate 1.1). The proposed scheme involves widening the A12 to three lanes throughout (where it is not already three lanes) with a bypass between junctions 22 and 23 and a second bypass between junctions 24 and 25. It also includes safety improvements, including closing off existing private and local direct accesses onto the main carriageway, and providing alternative provision for walkers, cyclists and horse riders (WCH) to existing routes along the A12, which would be removed.
- 1.2.2 Full details of the proposed scheme description and outline of the proposed works are provided in Chapter 2: The proposed scheme, of the Environmental Statement [TR010060/APP/6.1].

### Location

- 1.2.3 The location and Order Limits of the proposed scheme are illustrated on Figure 1.1 of the Environmental Statement [TR010060/APP/6.2].
- 1.2.4 The proposed scheme lies within Essex, mainly passing through the administrative areas of Braintree District Council and Colchester Borough Council, as well as parts of the administrative areas of Chelmsford City Council and Maldon Borough Council. Chelmsford is located to the south-west of the proposed scheme and Colchester to the north-east. The A12 lies adjacent to the smaller settlements of Boreham, Hatfield Peverel, Witham, Rivenhall End, Kelvedon, Feering and Marks Tey. There are also individual business and residential properties which front directly onto the A12.
- 1.2.5 The A12 runs in parallel and to the south of the Great Eastern Main Line (GEML) railway for most of its length between junctions 19 and 25. Major connecting roads include the A130 which joins the A12 at junction 19 (Boreham interchange) and the A120 which joins the A12 at junction 25 (Marks Tey interchange). The B1018 and the B1019 link Maldon to Witham and Hatfield Peverel respectively. The B1023 links Kelvedon and Tiptree.

**Plate 1.1 Proposed scheme location**



**Need for the proposed scheme**

1.2.6 The A12 is an important economic link in Essex and across the east of England. It provides the main south-west/north-east route through Essex and Suffolk, connecting Ipswich to London and to the M25. Full details of the need for the proposed scheme are provided in the Case for the Scheme [TR010060/APP/7.1] and Chapter 2: The proposed scheme, of the Environmental Statement [TR010060/APP/6.1].

**Programme**

1.2.7 Construction is scheduled to commence in 2024. The proposed scheme would take approximately four years to construct, with an assumed opening year of 2027. Key dates are shown in Table 1.2.

1.2.8 To minimise the disruption caused by construction of the proposed scheme, certain works (referred to as advanced and pre-commencement works) would be undertaken ahead of the main construction works to allow these works to proceed, and to optimise the overall delivery programme for the proposed scheme.

- Advanced works would be undertaken prior to consent for the DCO application being granted, and would be secured through separate planning permissions and landowner agreements outside of the powers

contained in the DCO. Advanced works would primarily comprise archaeological investigations, advanced ecology work, and diversions of key utilities.

- Pre-commencement works are preparations to make a building site ready for construction. It covers activities from site preparation, creation of access routes, and the installation of facilities like security fencing, ramps, and placing of signs. Pre-commencement works would primarily comprise works associated with the establishment of construction compounds (although some compound establishment would be undertaken as advanced works), including construction of accesses. These works would also include preliminary site clearance works, haul road and site access works, and permanent/temporary works to public rights of way (PRoW).

1.2.9 A summary of activities for advanced and pre-commencement works is included in Table 2.8 of Chapter 2: The proposed scheme, of the Environmental Statement [TR010060/APP/6.1]. There would be some overlap between advanced and pre-commencement works. In addition, although advanced works would be delivered outside the powers of the DCO, powers are included within the draft DCO [TR010060/APP/3.1] to deliver these advanced works, in the event that National Highways is unsuccessful in securing the necessary consents and agreements outside of the DCO application and/or is unable to implement them in the periods assumed in the construction programme. Advanced works have therefore been included in the draft DCO and assessed as such in the Environmental Statement.

1.2.10 The main construction works would commence following on from the advanced and pre-commencement works.

1.2.11 Full details of the construction programme and details on advanced and pre-commencement works are provided in Chapter 2: The proposed scheme, of the Environmental Statement [TR010060/APP/6.1].

**Table 1.2 Key milestones and targeted dates**

Milestone	Targeted date
Secretary of State DCO decision	Q1 2024
Advanced works (pre-DCO decision)	Q1 2023
Start-on-site date	Q1 2024
Pre-commencement works (post-DCO decision)	Q1 2024
Start of main works	Q2 2024
Full proposed scheme open to traffic	Q4 2027

### 1.3 Scheme objectives

1.3.1 The overall aim of the proposed scheme is to alleviate strategic traffic problems and congestion, and associated safety issues, along the Strategic Road

Network (SRN) between junctions 19 (Boreham interchange) and 25 (Marks Tey interchange).

## 1.3.2

Scheme-specific objectives included below have been used to develop the proposed scheme design. Further information on Scheme-specific objectives and design principles is included in Section 2.2 of Chapter 2: The proposed scheme, of the Environmental Statement [TR010060/APP/6.1] and the Design Principles document [TR010060/APP/7.10].

- Proposed scheme supports the growth identified in Local Plans by reducing congestion related delay, improving journey time reliability and increasing the overall transport capacity of the A12
- Improved safety design: private accesses to the strategic road network closed off and alternative access to local roads provided by the proposed scheme
- Proposed scheme improves road user safety
- Proposed scheme improves road worker safety during maintenance operation
- Proposed scheme reduces current and forecast congestion related delays and therefore increases journey time reliability
- Proposed scheme understands the impacts of other schemes and recognises other Road Investment Strategy schemes.
- Reduce the visual, air and noise quality impacts of the proposed scheme on affected communities on the route
- Reduce the capital carbon and biodiversity impact of the proposed scheme
- Proposed scheme reduces the impact of severance of communities along the route
- Proposed scheme improves accessibility for walkers, cyclists, horse riders and public transport users
- Improve customer satisfaction, and reduce customer impact during construction



## 2 Project team roles and responsibilities

### 2.1 Environmental management responsibilities

- 2.1.1 The PC is responsible for all activities onsite and for ensuring that all other parties such as subcontractors, National Highways and any delegated consultants acting on their behalf, comply with the EMP and applicable environmental legislation, together with any additional environmental controls imposed within the draft DCO [TR010060/APP/3.1].
- 2.1.2 Environmental requirements would form part of any subcontract contract agreement with the PC and all persons onsite would be made aware of their duty of care to the environment through training, for example toolbox talks, supervision, or specific instruction such as method statements.
- 2.1.3 These environmental requirements are set out in this first iteration EMP and would be included in the second and third iteration EMP, as appropriate. Implementation of the EMP is secured in the DCO [TR010060/APP/3.1].

### 2.2 Site roles and responsibilities

- 2.2.1 The roles, identified in Table 2.1, define the responsibilities associated with the construction works that the PC must establish and maintain. The responsibilities defined in the table include those relating directly to the development and implementation of the second iteration EMP, final management plans and the wider environmental responsibilities. The PC would be required to delegate responsibilities, for example monitoring of environmental mitigation, to personnel within key areas of the site and compounds. The delegation of responsibility would be clearly identified within relevant documents.
- 2.2.2 Individual names and contact details would be confirmed and inserted where applicable by National Highways and the PC once appointed and confirmed.
- 2.2.3 It is anticipated that prior to the commencement of the relevant construction works, individuals would be identified to fulfil the relevant roles.

**Table 2.1 Environmental roles and responsibilities**

Role	Responsibilities
National Highways	<p><u>Second iteration EMP responsibilities:</u></p> <p>Assist in the production of the second iteration EMP/management plans as required by Schedule 2 of the draft DCO [TR010060/APP/3.1] and any detailed schemes required by this first iteration EMP (for example, protected species protection).</p> <p><u>Overall responsibilities:</u></p> <p>Set the framework and policy for environmental requirements and objectives for the proposed scheme.</p> <p>To monitor the PC’s performance against the contract including any environmental commitments and targets agreed for the proposed scheme.</p>

Role	Responsibilities
	<p>Primary responsibility for all matters under the DCO, its requirements and the EMP.</p>
<p>The Principal Contractor's Project Manager (PM)</p>	<p><u>Second iteration EMP responsibilities:</u>                      Production of the second iteration EMP, prepared by the Environment Manager (EM), for the relevant phase of works.</p> <p>Ensure that all controls specified within the second iteration EMP and associated management plans are implemented by employees and subcontractors.</p> <p><u>Overall responsibilities:</u>                      Responsible for the delivery of the proposed scheme. Has overall responsibility for the environmental performance of the proposed scheme and all staff.</p> <p>Regular communication with National Highways and the relevant statutory environmental bodies on all environmental matters (as they arise).</p> <p>The PM would be required to:</p> <ul style="list-style-type: none"> <li>• Provide information on contract requirements to the EM prior to start of works onsite</li> <li>• Ensure environmental and waste requirements are included on requisitions and in subcontracts and orders</li> <li>• Ensure that all required consents and licences are in place for the relevant works</li> <li>• Log and monitor incidents and non-compliances. Report incidents and non-compliances to National Highways at the earliest possible opportunity</li> <li>• Ensure that National Highways is informed of all environmental complaints</li> <li>• Provide an initial point of contact for members of the public and local community who have queries regarding the works</li> <li>• Ensure employees and subcontractors receive Induction Training (including environmental) and toolbox talks, as appropriate</li> <li>• Verify actions resulting from non-compliances and observations raised during audits are completed by the deadlines set</li> <li>• Undertake inspections alongside the EM to ensure that the environmental controls as set out within the second iteration EMP and management plans are in place and working effectively</li> <li>• Ensure all records are retained and readily available onsite</li> </ul>
<p>Principal Contractor's Environmental Manager (EM)</p>	<p><u>Second Iteration EMP responsibilities:</u>                      Preparing the second iteration EMP and management plans based on the first iteration EMP and outline management plans.</p>

Role	Responsibilities
	<p>Undertake site inspections to monitor compliance with the environmental licences/consents for the works and the measures within the second iteration EMP/Management Plans.</p> <p>Managing the delivery of the monitoring required under the second iteration EMP and management plans, alongside environment team and relevant specialists, and reporting to relevant stakeholders at a frequency to be defined in the second iteration EMP.</p> <p>Prepare any changes to the second iteration EMP and management plans in consultation with the PM.</p> <p>Maintaining and updating the second iteration EMP and management plans on an ongoing basis as required during the relevant project phase.</p> <p>Managing the delivery of the various management plans defined within the appendices of the second iteration EMP, using appropriate technical expertise as required.</p> <p><u>Overall responsibilities:</u></p> <p>Responsible for ensuring that the proposed scheme complies with all environmental legislation, consents, objectives, targets and other environmental commitments, including those arising from the Environmental Statement [TR010060/APP/6.1] throughout the relevant project phase.</p> <p>The EM would be required to:</p> <ul style="list-style-type: none"> <li>• Monitor compliance of construction activities in line with the EMP/Management Plans and the relevant environmental legislation, consents, and permissions throughout the construction phase</li> <li>• Assist with the delivery of environmental training (e.g. toolbox talks and environmental inductions) to all staff involved in the relevant phase of the proposed scheme</li> <li>• Deal with queries and correspondence on environmental issues, including liaison with relevant consultees/stakeholders</li> <li>• Provide appropriate professional and practical advice to contractors, consultants and project team members associated with environmental issues (e.g. identification of key environmental concerns onsite as the proposed scheme progresses) and where appropriate resolve issues in a practical and efficient way</li> <li>• Ensure that the environmental elements of the proposed scheme have been created and maintained in accordance with the first iteration EMP and second iteration EMP to the appropriate standard. The EM should approve this by way of sign off</li> <li>• Manage environmental specialists</li> <li>• Investigate environmental incidents and implement follow-up corrective actions to ensure compliance with UK regulations and legislation</li> <li>• Identify cost savings and best practice activities</li> </ul>

Role	Responsibilities
<p>Principal Contractor's Ecological Clerk of Works (ECoW)</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Review of relevant sections of the second iteration EMP.</p> <p>Responsible for ensuring that all ecological elements of the second iteration EMP are complied with.</p> <p>Updating the Landscape and Ecology Management Plan (LEMP) (Appendix I), with the Landscape Architect.</p> <p>Prepare ecological method statements and where necessary other relevant ecological management plans.</p> <p><u>Overall responsibilities:</u></p> <p>Responsible for ensuring that the proposed scheme complies with all ecological legislation and consents, including the DCO and those arising from the Environmental Statement [TR010060/APP/6.1] throughout the construction phase</p> <p>The ECoW would be required to:</p> <ul style="list-style-type: none"> <li>• Monitor ecological compliance of construction activities in line with the Management Plans and the relevant environmental legislation, consents, and permissions throughout the construction phase</li> <li>• Monitor and supervise construction activities (e.g. watching briefs during site clearance activities) to ensure that any unanticipated discoveries of notable flora and fauna, including invasive species, are appropriately dealt with</li> <li>• Identify any new ecological constraints onsite and appropriate mitigation measures for them in accordance with the DCO</li> <li>• Give toolbox talks, where required, to inform all site personnel of the ecological constraints onsite</li> <li>• Deal with queries and correspondence on environmental issues</li> <li>• Provide appropriate professional and practical advice to contractors, consultants and project team members associated with ecological issues and where appropriate resolve issues in a practical and efficient way</li> <li>• Approve by way of sign off, that the ecological elements of the proposed scheme have been created and maintained in accordance with the second iteration EMP to the appropriate standard</li> <li>• Monitor and provide guidance in respect of the LEMP during the creation of ecological habitats</li> <li>• Identify cost savings and best practice activities</li> </ul>
<p>Principal Contractor's Landscape Architect</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Review of relevant sections of the second iteration EMP.</p> <p>Responsible for ensuring that all landscape elements of the second iteration EMP are complied with.</p> <p>Updating the LEMP (Appendix I), with the ECoW.</p>



Role	Responsibilities
	<p>Prepare landscape method statements and where necessary other relevant landscape management plans.</p> <p><u>Overall responsibilities:</u></p> <p>Responsible for ensuring that the proposed scheme complies with all landscape legislation and consents, including the DCO and those arising from the Environmental Statement [TR010060/APP/6.1] throughout the construction phase</p> <p>The Landscape Architect would be required to:</p> <ul style="list-style-type: none"> <li>• Monitor landscape compliance during construction in line with the LEMP (Appendix I), the Soil Handling Management Plan (Appendix M), Arboricultural Method Statement and Tree Protection Plan and the relevant environmental legislation, consents, and permissions throughout the construction phase</li> <li>• Identify and assess any new landscape constraints onsite and appropriate mitigation measures for them in accordance with the DCO</li> <li>• Give toolbox talks, where required, to inform all site personnel of the landscape constraints onsite</li> <li>• Deal with queries and correspondence on landscape issues.</li> <li>• Monitor and provide guidance in respect of the LEMP and Series 3000 specification during the implementation, establishment and maintenance of planting</li> <li>• Identify cost savings and best practice activities.</li> <li>• Provide appropriate professional and practical advice to contractors, consultants and project team members associated with landscape issues and where appropriate resolve issues in a practical and efficient way</li> <li>• Approve by way of sign off, that the landscape elements of the proposed scheme have been created and maintained in accordance with the second iteration EMP to the appropriate standard</li> </ul>
<p>Principal Contractor's Archaeological Clerk of Works (ACoW)</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Responsible for ensuring that all archaeological and heritage elements of the second iteration EMP are complied with.</p> <p>Liaise with and provide guidance for contractors in relation to the requirements of the Archaeological Mitigation Strategy (AMS) Appendix 7.10 of the Environmental Statement [TR010060/APP/6.3] and Written Scheme of Investigation (WSI).</p> <p>Prepare archaeological method statements and the Archaeological Management Plan (Appendix B), as identified by the first iteration EMP.</p> <p><u>Overall responsibilities:</u></p> <p>Responsible for ensuring that the proposed scheme complies with all archaeological and heritage legislation and consents, including the DCO and</p>

Role	Responsibilities
	<p>those arising from the Environmental Statement [TR010060/APP/6.1] throughout the relevant project phase.</p> <p>The ACoW would be required to:</p> <ul style="list-style-type: none"> <li>• Establish the WSI</li> <li>• Monitor the work undertaken by the Archaeological Contractor to ensure compliance with the AMS and WSI</li> <li>• Coordinate archaeological site works and act as coordinator in respect of access and monitoring arrangements with the National Highways representative and the Curators (archaeological planning advisors to the local authorities and Historic England)</li> <li>• Organise and attend site meetings (anticipated to be monthly but additional meetings may be required) to be held with the relevant Curators</li> <li>• Review interim statements and provide these to the National Highways representative and the Curators</li> <li>• Manage the sign-off process with the National Highways representative and the Curators and submit a completion statement before construction activity can commence</li> <li>• Give toolbox talks to inform all site personnel of the archaeological and historic environment constraints onsite, the protection measures that are required and their obligations under the AMS to ensure that these are put in place and complied with</li> <li>• Inspect areas where any unexpected archaeological remains are located and liaise with the relevant Curators to determine the requirement for appropriate mitigation measures for them in accordance with the DCO</li> <li>• Review and comment on the Post Excavation Assessment Report (PEAR) and Archaeological Research Design during the post-excavation phase</li> </ul>
<p>Principal Contractor's Environmental Specialist(s)</p>	<p>As required environmental specialists such as archaeologists, ecologists, arboriculturists, geotechnical engineers, hydrologists and soil specialists, etc. would be responsible for undertaking preconstruction surveys and watching briefs, as well as providing advice on specific issues (as they arise) throughout the construction phase.</p> <p><u>Second Iteration EMP responsibilities:</u></p> <p>Preparing and review of relevant management plans to the second iteration EMP.</p> <p><u>Overall responsibilities:</u></p> <p>Responsible for ensuring that the proposed scheme complies with all relevant legislation and consents, including the DCO and those arising from the Environmental Statement throughout the relevant project phase.</p> <p>Provide appropriate professional and practical advice to PCs, consultants and project team members associated with environmental and ecological issues and where appropriate resolve issues in a practical and efficient way.</p>

Role	Responsibilities
	<p>Other responsibilities as necessary and appropriate, such as:</p> <ul style="list-style-type: none"> <li>• Developing and reviewing environmental management plans and method statements</li> <li>• Liaison with statutory environmental bodies</li> <li>• Obtaining relevant consents and permissions</li> <li>• Monitoring compliance of construction activities in line with the EMP/Management Plans and the relevant environmental legislation, consents, and permissions throughout the construction phase</li> </ul>
<p>Principal Contractor's Community Liaison Manager</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Preparing and review of relevant management plans to the second iteration EMP.</p> <p><u>Overall responsibilities:</u></p> <p>Coordinate the Community Liaison team's communications with the public and interested parties, including outreach activities and education, as appropriate. The role would include the following responsibilities:</p> <ul style="list-style-type: none"> <li>• Ensuring a project 24-hour reporting system (e.g. hotline number) is established prior to construction works commencing</li> <li>• Assisting National Highways with responses to public concerns or complaints about the works received by National Highways correspondence team and the out-of-hours 'phone service</li> <li>• In collaboration with the PM and EM, addressing landowner or occupier (if applicable) and community concerns relating to the works and liaising directly with concerned parties in conjunction with National Highways, as required</li> <li>• Keeping the PM and the EM informed of environmental complaints received</li> <li>• Keeping the public informed of project progress and explaining construction activities that may be of interest to and/or inconvenience local communities</li> <li>• <a href="#"><u>Preparation of the Construction Phase Communications Plan</u></a></li> </ul>
<p>Principal Contractor's Agricultural Liaison Officer (ALO)</p>	<p><u>Second Iteration EMP responsibilities:</u></p> <p>Preparing and review of relevant management plans to the second iteration EMP.</p> <p><u>Overall responsibilities:</u></p> <p>The ALO will be appointed by the PC prior to the commencement of the works and would be the prime contact for ongoing engagement about practical matters with the landowners, the occupier (if applicable) and their respective agents prior, throughout and after the construction of the proposed scheme. The PC would be permitted to appoint more than one ALO if required.</p>

Role	Responsibilities
	<p>The ALO (or their company) would be contactable between 07:00 and 19:00 during the construction phase of the proposed scheme and a project 24-hour reporting system (e.g. hotline number) will be established prior to construction works commencing for use in the event of emergency.</p> <p>The PC would seek to appoint an ALO with relevant experience of working with landowners and agricultural businesses, with knowledge of the compulsory acquisition process and working on a linear infrastructure project.</p> <p>The ALO would remain appointed for up to one year after land is returned to affected landowners/occupiers.</p> <p>The role would include the following responsibilities:</p> <ul style="list-style-type: none"> <li>• Coordinating the provision of the schedule of condition and preconstruction soil survey</li> <li>• Undertaking preconstruction liaison with affected parties to minimise disruption, where practicable, to existing farming regimes and timings of activities</li> <li>• Providing preconstruction survey information to landowners including company name, survey type and equipment to be used and an estimate of how long the surveys are expected to take</li> <li>• Coordinating drainage surveys with the landowner or occupier</li> <li>• Coordinating water supply statements</li> <li>• Ensuring the landowner and the occupier (if applicable) are consulted in respect of requirements to field entrances and accesses across the works to landlocked and severed land parcels</li> <li>• Liaising with owner/occupiers regarding measures to be implemented to maintain livestock water supplies which may be affected due to construction works and fencing requirements both during and post-construction</li> <li>• Discussing the location, grouping, and marking of inspection chambers with the landowner and the occupier (if applicable)</li> <li>• Where necessary, advising on risks relating to the translocation of soil diseases</li> <li>• Liaising with affected landowners/occupiers about activities which may affect their land/business prior to public release of information about those activities</li> <li>• Liaising with the affected landowners/occupiers regarding drainage attenuation pond locations</li> <li>• Liaising with the affected landowners/occupiers regarding gate design where agricultural access is required</li> <li>• Liaising with private water supply abstractors should any pollution incidents occur which may impact on private water supplies</li> <li>• Arranging regular meetings with the landowner, the occupier (if applicable) or their respective agent representatives</li> </ul>

Role	Responsibilities
	<ul style="list-style-type: none"> <li>• Undertaking preconstruction and day-to-day discussions with affected owner/occupiers to minimise disruption, where practicable, to existing farming regimes and timings of activities</li> <li>• Undertaking site inspections during construction to monitor working practices and compliance of the contractor/s with their obligations to owner/occupiers under this first iteration EMP</li> <li>• As early as is reasonably practicable discussing and agreeing reinstatement measures for land which would be returned to the affected landowners/occupiers</li> </ul>
<p>All site staff</p>	<p><u>EMP responsibilities:</u></p> <p>Ensure adherence to all environmental policies, procedures and rules as set out in the second iteration EMP and any supporting management plans.</p> <p>Organise work to be carried out to the required standards within the aim of minimum risk to the environment. All site personnel to receive instructions on their responsibilities to ensure correct environmental practice in line with the second iteration EMP.</p> <p><u>Overall responsibilities:</u></p> <p>To receive general environmental awareness training and undertake work in accordance with all works method statements and toolbox talks. Only trained personnel are to manage particular tasks such as refuelling plant and equipment, managing the stores, water quality monitoring and supervising the segregation and collection of waste. The responsibilities of all staff onsite throughout the construction of the works would include the following:</p> <ul style="list-style-type: none"> <li>• All staff are to be appropriately trained to carry out their respective tasks</li> <li>• Adhere to legislation and, where appropriate, codes of practice and guidance notes relevant to their work</li> </ul>

## 3 Environmental actions and commitments

### 3.1 Introduction

- 3.1.1 The REAC is included in Appendix A of the first iteration EMP. The REAC identifies the commitments included within the Environmental Statement [TR010060/APP/6.1] to address the potential environmental effects of the proposed scheme.
- 3.1.2 The REAC table would be updated by the PC when they prepare the second iteration EMP relevant to the scope of works. The REAC table would be updated as required, as the proposed scheme progresses to track progress of the commitments and record outcomes and evidence of the actions taken, as well as recording and addressing any additional environmental issues that arise during construction.
- 3.1.3 The REAC table would be finalised at the end of construction, on completion of the proposed scheme, where it would inform the development of, and be included within the third iteration EMP. The third iteration EMP would be the mechanism for passing essential environmental information to National Highways and to the bodies responsible for the future maintenance and operation of the proposed scheme.

### 3.2 Guide to the REAC table

- 3.2.1 The table does not define general legislative requirements. It is required that in addition to compliance with the measures in the table, that all activities would comply with applicable legislation.
- 3.2.2 Table 3.1 provides a summary of the scope of each column within the REAC table.

**Table 3.1 Guide to the REAC table**

Column	Explanation
Reference Number (Ref No.)	A unique identifier defined within the REAC table to enable simple reference to individual measures.
Source reference (Source Ref.)	The source of the action, including references to source documentation, for example the Environmental Statement and, where relevant, confirmation of commitments agreed with stakeholders.
Topic	Topic of the action/commitment.
Action/commitment	Clear and specific description of the action/commitment, including the specific location where appropriate. Where no location is given, the measure is normally one which is relevant across the proposed scheme (e.g. working hours).
Monitoring required	Details of any monitoring required.
Objective	The outcome which the defined action/commitment is designed to achieve.



Column	Explanation
Assumptions	Assumption(s) on which the action/commitment is based.
Achievement criteria	The criteria which define the successful implementation of the action, such as a document approval or an audit which confirms the action has been undertaken.
Responsible person(s)	The person or body responsible for delivery of the action; this would often be the PC or National Highways.
Stage	The anticipated project stage of implementation or achievement of commitment.
How the action is to be implemented	The contractual or other relationship between the relevant parties, which ensure that the action would be delivered.

- 3.2.3 Unless otherwise stated, the REAC table does not typically define how the action is to be implemented or achieved, other than beyond a contractual obligation, and does not consider the risk management of individual items, unless these elements are implicit within the action.
- 3.2.4 The REAC table does not include a column to define the 'source of the action', since this is generally clear from the Source Reference. However, in preparing a second iteration EMP, the PC would include within this column confirmation of commitments agreed with stakeholders.
- 3.2.5 When preparing the second iteration EMP, the PC would include a new column for approval and sign off of actions in accordance with DMRB LA 120 Environmental Management Plans (Highways England, 2020c).
- 3.2.6 The references to guidance documents within the REAC tables are not intended to be exhaustive and in preparing the second iteration EMP, the PC would have due regard to any relevant technical guidance in individual subject areas and draw upon and reference these as appropriate.

### **Delivery of environmental actions and commitments**

- 3.2.7 The REAC tables present the environmental actions and commitments for the proposed scheme (i.e. the essential mitigation measures). The PC would deliver the actions and commitments with the application of standard best practice or practice presented within this first iteration EMP and mitigation measures included in the proposed scheme design as shown on the Environmental Masterplan (included in Figure 2.1 of the Environmental Statement [TR010060/APP/6.2]).
- 3.2.8 In the event that the PC is able to:
- Define an alternative measure, or
  - Refine measures included in the REAC, which would achieve the same environmental outcome at the relevant location
- 3.2.9 The PC would have to provide evidence to National Highways that the use of the alternative measures would not lead to any materially new or materially

different environmental effects compared to those as presented in the Environmental Statement [TR010060/APP/6.1].



## 4 Consents and permissions

### 4.1 Consents, Licences and Agreements Position Statement

4.1.1 As part of the DCO application, a Consents, Licences and Agreements Position Statement [TR010060/APP/3.3] has been prepared and submitted which sets out National Highways' intended strategy for obtaining the consents and associated agreements needed to implement the proposed scheme. It identifies at a high level what consents are expected to be needed for the proposed scheme.

4.1.2 This chapter outlines the consents, permissions and agreements (outside of the DCO) that would be, or are likely to be, sought by either National Highways or the PC in relation to the environmental aspects of the proposed scheme.

#### **DCO powers and consents**

4.1.3 The principal consent for the proposed scheme would be the DCO.

4.1.4 The DCO provides development consent for the works and enables land acquisition and temporary possession, along with many consents and powers to be dealt with at the same time. Those consents in relation to environmental aspects include:

- Authorisation of all permanent and temporary works (equivalent of planning permission) (assuming that some of the works relate to environmental aspects of the proposed 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 proposed scheme)
- Consent to stop up and divert public and private rights of way
- Consent to carry out tree works (including works to trees subject to a Tree Preservation Order)
- Consent to remove hedgerows (including any 'important hedgerows')
- Works to highways and traffic regulations
- Survey powers

4.1.5 A number of the consents included in the draft DCO [TR010060/APP/3.1] are prescribed in The Infrastructure Planning (Interested Parties and Miscellaneous Provisions) Regulations 2015. As a result, under section 150 of the Planning Act 2008, the relevant consenting body must agree to the inclusion (i.e. disapplication) of these consents within the DCO. Discussions between National Highways and the consenting bodies are ongoing. The aim is that agreement for inclusion of disapplication would be provided during the examination of the DCO application.

## Other Environmental Consents to be obtained

- 4.1.6 There is a need to supplement the DCO with additional consent applications. Additional consents and permissions that relate directly to the measures within this first iteration EMP will need to be sought separately from the DCO. These are outlined in the Consents, Licences and Agreements Position Statement [TR010060/APP/3.3].
- 4.1.7 Additional consents to be obtained are dependent on finalisation of the detailed design, the detailed construction site set up and methodologies, and discussions with stakeholders, for example the Environment Agency (EA) and Local Authority. These are not sufficiently developed at this stage to confirm the requirements and therefore it is not practicable to include them within the DCO.
- 4.1.8 The PC shall update the Consents, Licences and Agreements Position Statement [TR010060/APP/3.3] and include environmental consents, licences and agreements within the second iteration EMP to cover developments through the proposed scheme detailed design phase and throughout the construction phase, to ensure all relevant consents and permissions are captured.

## Agreements

- 4.1.9 Agreements with third parties may be required in parallel to the DCO and may take a variety of forms. Some of these may be related to environmental aspects and will therefore be recorded in this chapter of the EMP.
- 4.1.10 A fundamental part of the DCO is the preparation and agreement of Statements of Common Ground (SoCG) with third parties to identify the matters on which parties are in agreement. Such statements would be agreed with:
- Environment Agency
  - Historic England
  - Natural England
  - Essex County Council
  - Braintree District Council
  - Chelmsford City Council
  - Colchester Borough Council
  - Maldon District Council
- 4.1.11 The content of some SoCG may become the basis of legal agreements, formal undertakings or memoranda of understanding regulating land and works powers. These would be progressed by National Highways where appropriate.

## **Recording**

- 4.1.12 A register of environmental permits, consents, licences and agreements relating to construction activities would be maintained by the PC.
- 4.1.13 Any conditions related to each consent, permission or agreement will be added to the REAC, specific environmental management plans and environmental method statements where appropriate and included within the second iteration EMP.

## 5 Environmental asset data and as-built drawings

### 5.1 National Highways Environmental Information System

- 5.1.1 The National Highways Environmental Information System (EnvIS) is a system for defining and categorising the man-made or natural assets within and surrounding the SRN.
- 5.1.2 EnvIS contains environmental data and is displayed in the Highways Agency Geographic Information System (HAGIS). The data within EnvIS identifies the asset, location, condition and broad management requirements. This data is used to assist in managing the environment, within and surrounding the SRN, and in the review and reporting of the environmental performance of both service providers and National Highways.
- 5.1.3 The aim of EnvIS is to assist National Highways and service providers, in designing and managing the SRN in an accurate, consistent and environmentally sound manner. Specifically, it aims to achieve the following key strategic and operational objectives:
- Enable consistent and accurate recording and retrieving of specific environmental data about the SRN
  - Assist in the review and reporting of environmental performance of both National Highways and service providers
  - Improve understanding of the environmental issues and opportunities that must be considered at different stages of trunk road and motorway management
  - In line with ensuring a value for money approach, assist in the prioritisation of environmental management actions based on an understanding of the condition of the element of the SRN and environmental objectives
  - Assist in the handover of environmental data from designers to network management agents (and vice versa) and the transfer of environmental data from an outgoing network management agent to its successor
  - Assist designers and network management agents in the collection of environmental data and use this information to develop specific environmental management programmes and strategies, including EMPs

### 5.2 Collection and submission of EnvIS data

- 5.2.1 National Highways' Asset Data Management Manual Part 2 – Requirements and Additional Information (Highways England, 2020a) states that *'environmental data will be collected and amended over time in a cycle of continual improvement'* and *'achieving this continual improvement requires adherence to regular and specific data submission milestones'*. In the context of major projects, these milestones are identified as the first iteration EMP stage and third iteration EMP stage.

- 5.2.2 At first iteration EMP, species data and cultural heritage data is only required to be uploaded to EnvIS if survey work has identified previously unknown assets. EnvIS data will be added at the end of the design phase to ensure it is retained for the benefit of the business instead of being lost in the handover from design to construction.
- 5.2.3 This section should be updated by the PC in advance of the third iteration EMP, which will not be signed off by National Highways without confirmation that environmental data has been submitted and fully validated.
- 5.2.4 Extensive surveys have been undertaken to inform the aspect-specific environmental assessments within the Environmental Statement [TR010060/APP/6.1] including:
- Extended Phase 1 habitat survey and hedgerow survey
  - Otter and water vole surveys
  - Badger and dormouse surveys
  - Bat (activity and roost) surveys
  - Freshwater environment surveys (fish, invertebrates, aquatic plants, white-clawed crayfish)
  - Great crested newt survey
  - Reptile survey
  - Wintering birds, breeding birds, and barn owl surveys
  - Terrestrial invertebrate survey
  - Landscape winter and summer walkovers
  - Arboriculture surveys
  - Air quality monitoring
  - Ground investigations, including groundwater monitoring and testing for contaminated soils
  - Geophysical surveys for below ground archaeology
  - Trial trenching surveys for below ground archaeology
  - Agricultural Land Classification soil surveys
  - Noise monitoring surveys
- 5.2.5 As described in Environmental Statement Chapter 5: Environmental assessment methodology [TR010060/APP/6.1] the above surveys were generally undertaken in 2020–2021. In some instances, surveys were undertaken in 2017–2018 to inform the proposed scheme option development and selection process. In these instances, surveys have either been updated to

bring results up to date, or it has been agreed with consultees that updates are not required. More information on surveys, timeframes and assessments that have been undertaken is provided in the individual aspect chapters (Chapters 6 to 15) of the Environmental Statement [TR010060/APP/6.1].

5.2.6 Additional surveys are planned to be undertaken to inform the detailed design of the proposed scheme and licence applications, as follows:

- Bat roost surveys
- Badger surveys
- Barn owl surveys
- Otter and water vole surveys
- Reptile population surveys
- Targeted National Vegetation Classification (NVC) survey at Wet Woodland 7
- Dormouse surveys (only if identified as present for the gas main diversion)
- Further arboriculture surveys (to inform the Arboricultural Method Statement and Tree Protection Plan)
- Surface water monitoring
- Groundwater monitoring
- Ground gas monitoring
- Soil resource survey

## 5.3 Record of condition

5.3.1 A record of condition or precondition survey will be undertaken prior to taking possession of temporary land from landowners and occupiers (if applicable) and would include the following where applicable:

- Existing crop regimes and the condition of crops (if at a stage this can be assessed)
- The position and condition of existing boundaries
- The condition of existing access arrangements
- The location and type of existing utility assets (e.g. private water supplies)
- The type of land use taking place
- The quality of grazing land
- The existing weed burden

- Soil resource survey report
- The condition of structures and/or buildings
- Weather conditions
- Date of survey
- Grid reference
- Any other relevant details

5.3.2 Where practicable, photographs, drone and/or video footage including where applicable section drawings/plans should be included in the record of condition, alongside the soil resource survey report and should be provided to the landowner and occupier, for agreement, prior to taking possession of temporary land.

## 6 Details of EMP monitoring activities

- 6.1.1 The Environmental Statement [TR010060/APP/6.1] and REAC (Appendix A) identify environmental monitoring during construction to ensure the mitigation measures and actions can be tracked and closed out when completed. Some of these are specific, for example, water quality monitoring, others are more general, for example, covered by regular environmental inspections or confirmation by the PC that an element of the proposed scheme design has been completed. Monitoring requirements would continue to be refined during detailed design, some in consultation with third party stakeholders. Confirmed arrangements for monitoring and, where relevant, maintenance activities would be included in the second iteration EMP.
- 6.1.2 The PC will ensure there is a central filing system in place for any checklists, reports and monitoring consistent with the proposed scheme Quality Management System (QMS) and the Environmental Management System (EMS) of the PC, meeting the ISO14001:2015 standards (ISO, 2015).
- 6.1.3 The system would include methods for monitoring, recording and implementing environmental management onsite, and for responding to any noted areas of non-compliance. This will ensure that a high standard of environmental control is maintained through the construction programme of the proposed scheme.
- 6.1.4 Records of compliance with the requirements of the EMP, derived from audits and other inspections, will be held within the PC's central filing system. These records would be available for inspection by representatives of any internal or external audit team for matters related to its function.
- 6.1.5 This chapter would be updated in the second iteration EMP by the PC to include:
- Procedures for monitoring and reviewing compliance including inspection/audit frequency and reporting
  - Assessment criteria to identify success
  - Procedures for rectification of breaching or failings of the second iteration EMP measures



## 7 Induction, training, and briefing procedures for staff

### 7.1 Environmental training

- 7.1.1 The PC will be responsible for inductions and training of all personnel on the site, whether visitors, full time staff or subcontractors. The PC must ensure all personnel are suitably trained for their roles, including their environmental responsibilities in order to meet the environmental commitments set out in the EMP.
- 7.1.2 All individuals working on or visiting the site will be required to attend an induction appropriate to their role. Additionally, specific training needs will be identified and provided for all personnel participating in or near to specific activities that could result in an adverse impact on the environment. For example, additional training or toolbox talks, led by the PC or specialists, on ecology, pollution control, waste management and emergency procedures.
- 7.1.3 A record of training will be maintained by the PC, for example records of toolbox talks carried out and who attended them. As a minimum all site personnel will be given a site induction, regular environmental toolbox talks and RAMS briefings which will cover environmental issues related to the works or working area.
- 7.1.4 The PC or their Environmental Manager must highlight requirements for additional training, as the project progresses, to improve and add value to the overall site environmental awareness and compliance. Additional training requirements would be identified through site environmental inspections, or feedback on any noted non-compliance. It is a requirement for the site to maintain the standard of environmental management required by the EMS and minimise risks that could negatively impact on the environment.
- 7.1.5 Table 7.1 identifies an indicative programme of training on environmental issues relevant to the proposed scheme that have been identified.

**Table 7.1 Indicative list of environmental induction, training, and competencies**

Environmental training requirement	Frequency	Attendees
Site Induction (which will include environmental aspects).	On first visit to site	All persons attending site (site personnel, subcontractors, Applicant, visitors).
Job specific training, e.g. Institution of Occupational Safety and Health (IOSH) working with Environmental Responsibilities and Site Waste Management. Supply of specific certificates and/or training confirmation required.	As required	As identified for personnel with environmental responsibilities.
RAMS briefings.	As required for every task	All persons involved in task.

Environmental training requirement	Frequency	Attendees
Environmental toolbox talks will be carried out appropriate to the construction works being carried out onsite at that time.	Target minimum of one per month	All persons carrying out work onsite (site personnel, subcontractors).
Environmental briefings, for example Environmental Bulletins/Alerts, Lessons Learnt, Results of Inspections/Audits.	As required	All persons carrying out work onsite (site personnel, subcontractors).

## 7.2 Site induction

7.2.1 Prior to commencing work onsite, all personnel are to receive a site induction (if appropriate to their role) which will communicate environmental objectives, requirements and responsibilities. During the site induction the PC will communicate the site personnel's obligations while onsite. This will introduce accountability for personnel working on the proposed scheme.

7.2.2 The site induction shall cover relevant parts of the following areas to a level of sufficient detail for the workforce. The items relating to environmental matters which are likely to be covered during site induction may include, but are not limited to the following:

- Site environment and risks
- Prevention and control of pollution (e.g. fuel containment; spill kits)
- Risks of exposure to contamination associated with earthworks and excavations
- Materials storage (defined for excavated and imported materials)
- Waste management and storage (defined for domestic waste and construction waste)
- Wheel washing and road sweeping
- Nuisance minimisation (e.g. noise, dust, vibration and odour)
- Agreed traffic management measures (e.g. haulage routes, carriageway restrictions, carriageway closures and diversions)
- Communication with the public
- Reporting procedure of environmental hazards and incidents
- Emergency Response Plans

## 7.3 Environmental competencies

7.3.1 The PC shall ensure all personnel conducting environmental tasks are suitably qualified or experienced for the roles and responsibilities that they are employed to undertake. The PC will prepare and deliver a programme of training relevant to environmental management. This may include more detailed training in the

topics listed in the site induction and those relevant to the site-specific hazards. Any personnel carrying out activities with a potential for specific environmental impacts (e.g. refuelling of plant) will be provided with specific training for that task.

7.3.2 The PC will monitor and record that all staff have attended the Site Induction prior to undertaking any activities onsite, in addition to relevant training and toolbox talks (including updated or new training) during the delivery of the proposed scheme.

7.3.3 The PC will monitor the success of environmental training through audits, site environmental inspection, or site feedback on any noted non-compliance to ensure effectiveness of environmental training.

## 7.4 Toolbox talks

7.4.1 A 'toolbox talk' is a short presentation to the workforce on a single aspect, for example, noise management. Toolbox talks are generally conducted at the start of a work shift or commencement of a new activity and cover environmental issues related to the works or working area.

7.4.2 In addition to short presentations, where appropriate toolbox talks would be posted within common use areas such as welfare units and office reception areas. Key environmental issues linked to the programme would be targeted on the notice board as an aide memoir to all staff onsite, for example seasonal environmental constraints such as bird nesting seasons.

7.4.3 The PC and each of its subcontractors would establish a regime of toolbox talks relevant to the site-specific hazards or task. For subcontractors, their supervisors are responsible for conducting these briefings and their implementation would be monitored by the PC.

7.4.4 An indicative list of appropriate toolbox talks is provided below. Additional toolbox talks may be added to this list as the project progresses.

- Dust management and air quality control
- Location and protection of sensitive environmental sites and features (including buffer zones where appropriate)
- Noise management
- Water receptors present onsite and working in or near watercourses
- Surface water pollution and control, for example silt management
- Identification of contaminated land
- Use of spill kits and emergency response procedures
- Segregation and storage of waste
- Non-native invasive species
- Nesting birds

- Protected species

## Acronyms

Abbreviation	Term
ACM	Asbestos Containing Materials
ACoW	Archaeological Clerk of Works
ADMM	Asset Data Management Manual
AEP	Annual Exceedance Probability
ALC	Agricultural Land Classification
ALO	Agricultural Liaison Officer
AMP	Archaeological Management Plan
AMS	Archaeological Mitigation Strategy
BGS	British Geological Survey
BoQ	Bill of Quantities
BPM	Best Practicable Means
BS	British Standard
BSI	British Standards Institution
C&D	construction and demolition
CCTV	Closed Circuit Television
CIRIA	Construction Industry Research and Information Association
CL:AiRE	Contaminated Land: Applications in Real Environments
CLM	Community Liaison Manager
CoCP	Code of Construction Practice
COSHH	Control of Substances Hazardous to Health
CTMP	Construction Traffic Management Plan
DCO	Development Consent Order
Defra	Department for Environmental, Farming & Rural Affairs
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges
DoWCoP	Definition of Waste: Code of Practice
DQRA	Detailed Quantitative Risk Assessment
EA	Environment Agency

Abbreviation	Term
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EM	Environmental Manager
EMP	Environmental Management Plan
EMS	Environmental Management System
EnvIS	Environmental Information System
EPSM	European Protected Species Mitigation
FRA	Flood Risk Assessment
GCN	Great crested newt
GEML	Great Eastern Main Line
GHG	Greenhouse Gas
GIS	Geographic information systems
GWDTEs	Groundwater Dependant Terrestrial Ecosystems
HAGIS	Highways Agency Geographic Information System
HEWRAT	Highways England Water Risk Assessment Tool
HVO	Hydrotreated Vegetable Oil
HWCN	Hazardous Waste Consignment Note
INNS	Invasive Non-Native Species
IOSH	Institution of Occupational Safety and Health
ISMP	Invasive Species Management Plan
KPIs	Key Performance Indicators
LEMP	Landscape and Ecology Management Plan
LEP	Local Enterprise Partnerships
LLFA	Lead Local Flood Authority
LNR	Local Nature Reserve
LoW	List of Waste
LWS	Local Wildlife Site
MCHW	Manual of Contract Documents for Highway Works
MMP	Materials Management Plan

Abbreviation	Term
MSDS	Material Safety Data Sheet
NRMM	Non-Road Mobile Machinery
MRP	Maintenance requirements plan
NVC	National Vegetation Classification
NVMP	Noise & Vibration Management Plan
PC	Principal Contractor
PEAR	Post Excavation Assessment Report
PM	Project Manager
PPE	Personal Protective Equipment
PRoW	Public rights of way
PWS	Private Water Supplies
QMS	Quality Management System
RAMS	Risk Assessments and Method Statements
REAC	Register of Environmental Actions and Commitments
REGO	Renewable Energy Guarantee of Origin
RoFSW	Risk of Flooding from Surface Water
RPA	Root Protection Area
RPS	Regulatory Position Statement
RSI	Road Surface Influence
SEPA	Scottish Environment Protection Agency
SIC	Standard Industrial Classification
SoCG	Statements of Common Ground
SPP	Sustainable Procurement Plan
SPZ	Source Protection Zone
SRN	Strategic Road Network
STEM	Science, Technology, Engineering and Maths
SuDS	Sustainable Drainage Systems
SWMP	Site Waste Management Plan
TPO	Tree Preservation Order

Abbreviation	Term
WAC	Waste Acceptance Criteria
WCH	Walkers, Cyclists and Horse Riders
WEEE	Waste Electrical and Electronic Equipment
WMP	Water Management Plan
WRAP	Waste and Resources Action Programme
WSI	Written Scheme of Investigation
WTN	Waste Transfer Note



## Glossary

Term	Definition
Additional Mitigation	Requires further activity (after consideration of embedded and standard mitigation) in order to achieve the anticipated outcome. It is described in the aspect chapters of the Environmental Statement and secured through the Register of Environmental Actions and Commitments (REAC) and the Development Consent Order (DCO).
Advance planting	Implementation of new planting as soon as practicable after the Development Consent Order has been made, to achieve screening for construction activities or to accelerate its function for mitigation and improvement in sensitive areas.
Advanced works	Advanced works would be undertaken prior to consent for the DCO application being granted, which would be secured through separate planning permissions and landowner agreements outside of the powers contained in the DCO.
Affected property	The lengths of all-purpose trunk road and/or motorway (including carriageways, hard shoulders, slip roads, roundabouts and access roads) and the associated premises, infrastructure and other amenities to be maintained and operated.
Aggregates	An umbrella term for bulk raw particulate materials used in infrastructure construction
Agricultural Land Classification (ALC)	The Agricultural Land Classification system forms part of the planning system in England and Wales. It classifies agricultural land into five categories according to versatility and suitability
Ancient tree	Tree which is remarkably old for its species, which can vary dramatically depending on the species. These features include missing branches, hollow trunks and habitat features.
Ancient woodland	A woodland that has existed continuously since 1600 or before in England, Wales and Northern Ireland (or 1750 in Scotland).
Annual Exceedance Probability (AEP)	Refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which may be calculated to have a 1% chance to occur in any one year, is described as a 1% AEP event.
Application Document	A document submitted to the Planning Inspectorate as part of the application for development consent.
Arboriculturist	Person who has, through relevant education, training and experience, gained expertise in the field of trees in relation to construction (BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations).
Arboricultural impact assessment	An assessment of the effect of the proposed scheme on existing trees.

Term	Definition
Asbestos Containing Material	Material that contains asbestos fibres.
Aspect	This refers to an environmental topic (e.g. air quality, biodiversity, noise).
Asset delivery	Asset delivery is where National Highways is directly responsible for managing all aspects of the operation of the network. This includes determining and managing what routine maintenance activities are undertaken and capital renewal and improvement schemes.
Attenuation pond	Part of a drainage system that is used for temporarily storing and attenuating surface water.
Backfilling	Backfilling means a recovery operation where waste is used in excavated areas (such as underground mines, gravel pits) for the purpose of slope reclamation or safety or for engineering purposes in landscaping and where the waste is substituting other non-waste materials which would have had to be used for the purpose.
Baseline	In EIA, 'baseline conditions' are the environmental conditions in existence before the occurrence of an impact from a development, i.e. they are the existing conditions that would be affected.
Baseline (in context of landscape and visual)	Work to provide an outline understanding of landscape and visual conditions before or without implementation of the project, requiring a mix of desk study consultation and field work. (DMRB LA 107, Highways England, 2020e).
Bed substrate	The material that rests at the bottom of a stream and along the channel margins.
Best overall environmental outcome	A departure from the waste hierarchy which delivers better overall environmental outcomes.
Best Practicable Means (BPM)	Measured to reduce noise and vibration from construction activities that are reasonable practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to the financial implications.
Bill of Quantities (BoQ)	A document containing details on the volumes of excavated arisings from, and materials required for, a development
Borehole	A hole bored into the ground, usually as part of investigations, typically to test the depth and quality of soil, rock and groundwater. A borehole can also be used to dewater the ground.
Borrow pit	A pit resulting from the excavation of material for use in construction
Bridleway	A highway over which the public have a right of way on foot and a right of way on horseback or leading a horse. In some cases it may include a right to drive animals of any description along the highway. Statute has added the

Term	Definition
	right to ride a bicycle (not a mechanically propelled vehicle), although cyclists must give way to pedestrians and persons on horseback.
British Standard	British Standards are the standards produced by the British Standards Institution, which is incorporated under royal charter and formally designated as the national standards body for the UK.
British Standards Institution	The national standards body of the United Kingdom which produces technical standards for various industries.
Bund	An embankment which acts as a visual or noise screen, or acts as a barrier to control the spillage of fluids.
Carriageway	The width of a highway that can be used by motorised vehicles and non-motorised users, formed by a number of lanes. Dual two-lane means two lanes in each direction, and dual three-lane means three lanes in each direction (dual two-lane and three-lane carriageways have a central reserve to separate the traffic travelling in each direction).
Category A tree	Tree of high quality and value capable of making a significant contribution to the area for 40 or more years.
Category B tree	Tree of moderate quality or value capable of making a significant contribution to the area for 20 or more years.
Characteristics (in context of landscape and visual)	Elements or combination of elements, which make a particular contribution to distinctive character. (DMRB LA 107, Highways England, 2020e)
CIRIA	Construction Industry Research and Information Association. A member-based research and information organisation dedicated to improvement in all aspects of the construction industry.
Circular Economy	A circular economy is an alternative to a traditional linear economy (of make, use, dispose) in which resources are kept in use for as long as possible; extracting the maximum value from resources while in use; recovering and regenerating products and materials at the end of life; and keeping products, components and materials at their highest utility and value at all times.
Climate change	Long-term variations in global temperature and weather patterns caused by natural and human actions.
Closed-circuit television	CCTV cameras are used to monitor traffic flows on the English motorway and trunk road network primarily for the purposes of traffic management.
Code of Construction Practice	Contains control measures and standards to be implemented by the Proposed Scheme, including those to avoid or reduce environmental effects.
Compulsory acquisition	The compulsory acquisition of land or buildings for public interest purposes.

Term	Definition
Consignment note	A legally required document that details the transfer of hazardous waste from one party to another. The note must be prepared before any hazardous waste is moved and is required for all movements of hazardous waste. The format of the consignment note must meet the requirements set out in Schedule 1 of The Hazardous Waste (England and Wales) (Amendment) Regulations 2016
Construction	Activity on and/or offsite required to implement the Proposed Scheme. The construction phase is considered to commence with the first activity onsite (e.g. creation of site access), and ends with demobilisation.
Construction compound	A compound used during construction for the storage of material, assembly of components or for other construction related activities.
Construction, demolition and excavation waste	Arisings and waste from the demolition of buildings and structures, site preparation and clearance, remediation, excavation and construction activities.
Construction Industry Research Information Association	A not-for-profit, independent organisation that facilitates a range of collaborative activities to help improve the construction industry.
Construction materials	Primary, recycled or secondary, and renewable sources of materials required for constructing a project.
Controlled Waste	Household, industrial and commercial waste (not agricultural waste, waste from mines or quarries and most radioactive waste).
Culvert	A tunnel (pipe or box-shaped) carrying a stream, open drain or utility equipment under a feature such as a road or railway.
Cumulative effects	Effects upon the environment that result from the incremental impact of an action when added to other past, present or reasonably foreseeable actions. Each impact by itself may not be significant but can become a significant effect when combined with other impacts.
Cut-fill balance	Where the amount of material obtained from earthwork cuttings broadly matches the amount of fill material required to form embankments, thereby minimising the amount of material needed to be imported into, or exported from, a construction site
Cutting (earthwork)	In road construction, where the route is cut into the ground such that its vertical alignment is lower than the surrounding ground level. Often used on hilly terrain and to achieve safe gradients for roads.
Department for Transport (DfT)	The Government department responsible for the English transport network.
De-mountability	Means structures and assets are designed to allow destruction-free disassembly and reassembly responding to changing structural demands, refurbishment or removal (e.g. through modular, flexible, adaptable and upgradable components with detachable connections).

Term	Definition
Defect	<p>A defect to the asset is that it:</p> <ol style="list-style-type: none"> <li>1) causes an unintended hazard, nuisance or danger to the users of the highway</li> <li>2) represents a deterioration from the normal condition</li> <li>3) prevents an asset from acting in the intended manner</li> <li>4) is damaged</li> </ol> <p>is likely to increase the rate of deterioration of another asset.</p>
Design for resource efficiency	Making the best use of materials, water and energy over the lifecycle of built assets to minimise embodied and operational carbon.
Design Manual for Roads and Bridges (DMRB)	Provides standards relating to the design, assessment and operation of trunk roads, including motorways, in the United Kingdom.
Designated sites	<p>Nationally-designated sites comprise:</p> <ol style="list-style-type: none"> <li>1) sites of special scientific interest</li> <li>2) local sites</li> <li>3) nature reserves</li> <li>4) areas of outstanding natural beauty</li> </ol> <p>Internationally-designated sites cover those with European designations including:</p> <ol style="list-style-type: none"> <li>1) Special Areas of Conservation and Special Protection Areas</li> </ol> <p>sites with international designations, such as Ramsar sites of wetland importance.</p>
Detailed Quantitative Risk Assessment (in relation to geology and soils)	A Detailed Quantitative Risk Assessment involves detailed or supplementary investigation to confirm contaminant linkages and to identify or develop site-specific assessment criteria.
Development	Any proposal that results in a change to the land use, landscape and/or visual environment.
Development Consent Order (DCO)	Introduced by the Planning Act in 2008, a DCO is the means of obtaining permission for developments categorised as Nationally Significant Infrastructure Proposed Schemes (NSIP).
Development Consent Order application	The Proposed Scheme Application Documents, collectively known as the 'DCO application'.
Dewatering	The removal of water from solid material or soil.
Discharge	The volume of flow passing a point in a given time period.

Term	Definition
Disposal	Any operation which is not recovery, even where the operation reclaims substances or energy as a secondary consequence.
Duty of care	The Duty of Care is a legal requirement for those dealing with certain kinds of waste to take all reasonable steps to keep it safe and is set out in the Environmental Protection Act 1990 (as amended). It applies to anyone who is a holder of household, industrial and commercial waste, known as controlled waste.
Earthworks	Engineering works created through the processing of parts of the earth's surface involving quantities of soil or unformed rock.
Effect	Term used to express the consequence of an impact. The significance of effect is determined by correlating the magnitude of the impact with the importance, or sensitivity, of the receptor or resource in accordance with defined significance criteria.
Embankment	Artificially raised ground, commonly made of earth material, on which the carriageway is laid.
Embedded mitigation	Intrinsic part of design evolution (e.g. reducing height of an embankment to reduce visual impact), taking into account guidance provided in DMRB GG 103 (Highways England, 2020d) and LD 117–119 (Highways England, 2020f, 2020g & 2020h). This forms part of the proposed scheme description in the Environmental Statement.
End of first life	The point at which an asset is no longer useful in the capacity for which it was originally intended.
Environment Agency	Established under the Environment Act 1995, it is a non-departmental public body of Defra. The Environment Agency is the leading public body for protecting and improving the environment in England and Wales. It is responsible for wide-ranging matters, including the management of all forms of flood risk, water resources, water quality, waste regulation, pollution control, inland fisheries, recreation, conservation and navigation of inland waterways.
Environmental Impact Assessment (EIA)	A process by which information about environmental effects of a proposed development is collected, assessed and used to inform decision making. For certain projects, EIA is a statutory requirement.
Environmental Management Plan (EMP)	A site-specific plan (or set of plans) developed to ensure that appropriate environmental management practices are followed during the construction and operational phases of a scheme. A first iteration EMP has been included in the DCO application. This will then be updated before construction starts (second iteration), and again after completion of works before the proposed scheme becomes operational (third iteration).
Environmental Masterplan	Plan which illustrates the mitigation measures integrated into the design of the proposed scheme.
Environmental Statement	A document produced in accordance with the EIA Directive, as transposed into UK law by the EIA Regulations, to report the results of an EIA.



Term	Definition
Essential mitigation	Essential mitigation is defined as measures critical for the delivery of the scheme which can be acquired through statutory powers. For the purpose of the proposed scheme, both standard and additional mitigation are considered essential mitigation.
Examination	Statutory process in where the Secretary of State will appoint an Inspector to carry out an independent examination.
Examining Authority (ExA)	The Examining Authority is appointed by the Secretary of State to examine an application for a Development Consent Order and make a recommendation.
Feathered tree	Feathered trees have a single vertical trunk as well as lateral branches from the ground up. The shape has been allowed to develop naturally.
Features (in context of landscape and visual)	Particularly prominent, 'eye-catching' elements or characteristic components (i.e. tree clumps, church towers, or wooded skylines). (DMRB LA 107
Floodplain	A floodplain is flat or nearly flat land adjacent to a stream or river, stretching from the banks of its channel to the base of the enclosing valley walls and (under natural conditions) experiences periods of flooding.
Flood risk	The exposure, vulnerability and hazard associated with flooding.
Flow dynamics	The manner in which flow behaves, i.e., turbulent flows, non-energetic and laminar flows.
Footpath	A highway over which the public have a right of way on foot only, not being a footway. A footpath is essentially a freestanding right of way (i.e. not alongside a carriageway).
Footway	A way comprised in a highway which also comprises a carriageway, being a way over which the public have a right of way on foot only. A footway is essentially a pavement alongside a carriageway – it is the part of a carriageway highway set aside for pedestrians.
Geology	The physical structure, substance and history of the earth (rocks and minerals).
Green buffer	A planning tool to prevent urban sprawl by keeping land permanently open.
Green wedge	Open areas around and between parts of settlements, which maintain the distinction between the countryside and built-up areas, prevent the coalescence (merging) of adjacent places and can also provide recreational opportunities.
Greenhouse gases (GHGs)	A gaseous compound that absorbs infrared radiation and traps heat in the atmosphere. Greenhouse gases are usually expressed in terms of carbon dioxide equivalent (CO <sub>2</sub> e).
Ground gas	Gases such as carbon dioxide and methane, which are generated within the ground and/or within landfills, commonly from the breakdown of vegetative matter.



Term	Definition
Ground investigation (GI)	Ground investigations are a means of determining the condition of the ground, ideally before beginning construction works.
Groundwater	Water below ground level
Haul road/route	Temporary routes which will be used during construction by construction-related vehicles.
Hazardous waste	Defined in line with Article 3(2) of the Waste Framework Directive (Council Directive 2008/98/EC) as waste which displays one or more of the hazardous properties listed in Annex III of the Directive.
Historic England	A public body responsible for ensuring that England's historic environment is protected and improved.
Hydromorphology	The scientific study of the form and function of rivers and the interaction between streams and the landscape around them.
Improved grassland	Intensively managed or highly modified agricultural grassland that has been reseeded and/or regularly fertilised with chemical fertilisers.
Inert Waste	<p>Waste which meets one or more of the following criteria:</p> <ul style="list-style-type: none"> <li>• It does not undergo any significant physical, chemical or biological transformations</li> <li>• It does not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm to human health</li> <li>• Its total leachability and pollutant content and the ecotoxicity of its leachate are insignificant and, in particular, do not endanger the quality of any surface water or groundwater</li> </ul> <p>See Directive 1999/31/EC and Council Decision 2003/33/EC.</p>
Injurious weeds	As defined by the Weeds Act 1959.
Interchange	A term used to describe a grade separated junction that provides free flow from one mainline to another.
Interested Party	A person or persons with an interest in land affected by the application, or who has registered a relevant representation by the deadline set by the Planning Inspectorate after the application has been accepted.
Invasive species	As defined by the Wildlife and Countryside Act 1981 (as amended), Part I, Clause 14: Introduction of New Species etc., and Schedule 9 of the Act.
Junction	A place where two or more roads meet.
Land use	The purpose that land is used for, based on broad categories of functional land cover, such as urban and industrial use and the different types of agriculture and forestry.
Land-take	The temporary acquisition or permanent loss of land as a result of the construction and/or operation of the Proposed Scheme.

Term	Definition
Landscape	An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors. (GLVIA3)
Landscape architect	Competent expert to mean: 1) Chartered Member of the Landscape Institute; or 2) member of a recognised equivalent landscape professional body. (DMRB LA 107)
Landscape elements	Individual parts which make up the landscape, such as, for example, trees, hedges and buildings.
Laydown area	An area used for the temporary storage of construction equipment and supplies.
Lead Local Flood Authority (LLFA)	Local Authority responsible for taking the lead on local flood risk management. The duties of LLFAs are set out in the Flood and Water Management Act 2010.
Light standard tree	A tree with 6/8 cm girth, measured at 1 metre above ground.
Limits of deviation	The tolerances, both laterally and vertically, that any parts of the Proposed Scheme can be constructed from the lines and situations shown on the Works Plans [TR010060/APP/2.6] and the levels shown on the Engineering Section Drawing [TR010060/APP/2.9].
Listed building	A building or structure designated under Section 1 of the Planning (Listed Building and Conservation Areas) Act 1990 as being of special architectural or historic interest.
Local authority (also local planning authority)	The body officially responsible for all the public services and facilities in a particular area, and which is empowered by law to exercise planning functions.
Local Nature Reserves (LNRs)	Sites that are designated by the local authority under Section 21 of the National Parks and Access to the Countryside Act 1949 for nature conservation which have wildlife or geological features that are of special interest locally.
Local Plan	The plan for the future development of the local area, drawn up by the local planning authority in consultation with the community. They define the priorities for an area, strategic policies, the framework for neighbourhood plans, land allocations, infrastructure requirements, housing needs, requirements for safeguarding the environment, measures for adapting to climate change, among others.
Local Planning Authority (LPA)	The local authority or council that is empowered by law to exercise planning functions for a particular area.
Low nutrient grassland	When topsoil is removed, and grassland areas are left as either subsoil or bare substrate and nutrient levels drop off dramatically. These lower nutrient environments take the vigour out of competitive, coarse grasses and 'weed'

Term	Definition
	species, reducing growth rates, and open the grassland sward for increased germination of more delicate species.
Magnitude	The scale, size or degree of change (impact) to the environment from an action upon it.
Main constructions compounds	Construction compounds that contain features, apparatus and provisions including office and welfare facilities, batching plants, waste management facilities, materials testing laboratory facilities, and CCTV traffic control facilities.
Mainline	The carriageway carrying the main flow of traffic, generally traffic passing straight through a junction or interchange.
Main River	A watercourse shown as such on the Main River Map, and for which the Environment Agency has responsibilities and powers. N.B. Main River designation is not an indication of size, although it is often the case that they are larger than Ordinary Watercourses.
Marshy grassland	Also called wet grassland, this occurs on poorly drained, mainly acidic sites in lowland areas (valley bottoms and upland fringes) with high rainfall and wet soils.
Maintenance requirement	A requirement relating to maintenance service delivery.
Matter	This relates to sub-topics of an environmental aspect (e.g. designated sites, protected species).
Mineral resource	Natural concentrations of minerals in or on Earth's crust that are or may become of economic interest because they are present in such form, quality and quantity that there is the potential for eventual economic extraction. Generally, a mineral resource is known to exist within the boundaries outlined by British Geological Survey geological mapping.
Mineral Safeguarding Area (MSA)	An area designated by a mineral planning authority which covers known deposits of minerals which are desired to be safeguarded from unnecessary sterilisation by non-mineral development. Mineral Safeguarding Areas are different from mineral safeguarding sites, defined above, as Government guidance is clear that there is no presumption that resources defined in Mineral Safeguarding Areas would be worked.
Mineral safeguarding sites	Operational extraction sites or mineral sites specifically identified and allocated in strategic planning documents as those that would be mined or extracted.
Mitigation	The action of reducing the severity and magnitude of change (impact) to the environment. Measures to avoid, reduce, remedy or compensate for significant adverse effects.
National Highways	National Highways is the public body that operates, maintains and improves England's motorways and major A-roads.
National Policy Statement (NPS)	National Policy Statements (NPS) are produced by Government. They give reasons for the policy set out in the statement and must include an

Term	Definition
	explanation of how the policy takes account of Government policy relating to the mitigation of, and adaptation to, climate change.
Nationally Significant Infrastructure Project (NSIP)	Major infrastructure developments in England and Wales, such as proposals for power plants, large renewable energy projects, new airports and airport extensions, and major road projects, as set out in the Planning Act 2008. See entry for Development Consent Order.
Natural England	A public body responsible for ensuring that England's natural environment is protected and improved.
Non-hazardous waste	Waste that is classified as neither inert nor hazardous.
Offline	Highway development on land under non-highway use, for example a new dual carriageway constructed on agricultural land.
Online	Highway development proposed along, or on the line of, an existing road, for example road widening.
Opening year	The first year of operation.
Operation	Describes the operational phase of a completed development and is considered to commence at the end of the construction phase, after demobilisation.
Order Limits	The spatial boundaries of the proposed scheme.
Ordinary Watercourse	All watercourses that are not designated Main River, and which are the responsibility of Local Authorities or, where they exist, Internal Drainage Boards. Note that Ordinary Watercourse does not imply a 'small' river, although it is often the case that Ordinary Watercourses are smaller than Main Rivers.
Outcome	An outcome required to be achieved in relation to a specific maintenance requirement.
Outfall	Point of discharge into a waterbody.
Outline Construction Traffic Management Plan (Outline CTMP)	A plan which identifies clear controls on routes, vehicle types, vehicle frequency, vehicle quality and hours of site operation.
Overbridge	A bridge crossing over a transport corridor (for example a highway).
Planform	The birds-eye view of the channel and the form of the channel from that perspective.
Planning Act 2008	The primary legislation that establishes the legal framework for applying for, examining and determining Development Consent Order applications for Nationally Significant Infrastructure Proposed Schemes.

Term	Definition
Planning Inspectorate	The Planning Inspectorate for England and Wales is an executive agency of the Department for Levelling Up, Housing and Communities with responsibility to make decisions and provide recommendations and advice on a range of land use planning-related issues, including operating the planning process for Nationally Significant Infrastructure Projects.
Plant	The machinery or infrastructure used to construct or support the operation of a given development or facility.
Pre-commencement works	Pre-commencement works are preparations to make a building site ready for construction. It covers activities from site preparation, creation of access routes, and the installation of facilities like security fencing, ramps, and placing of signs.
Prevention	<p>Measures taken before a substance, material or product has become waste, that reduce:</p> <ul style="list-style-type: none"> <li>• the quantity of waste, including through the reuse of products or the extension of the life span of products</li> <li>• the adverse impacts of the generated waste on the environment and human health</li> <li>• the content of harmful substances in materials and products</li> </ul>
Primary Materials	Physical substances from non-renewables sources, that is those that cannot or will not be replaced in short (non-geological) periods of time. Also referred to as 'virgin' materials.
Principal Contractor	Contractor appointed to coordinate the construction phase of a project where it involves more than one contractor.
Prior extraction	<p>There are varying degrees of prior extraction, including the following:</p> <ul style="list-style-type: none"> <li>• Large-scale extraction: Where the full mineral resource, or a significant proportion of it, is extracted. Large-scale extraction would typically occur as a separate activity to the non-minerals development and would include restoration of the land to make it suitable for future non-minerals development. However, in line with national policy there would be no presumption that the mineral would be worked in full.</li> <li>• Medium to smaller-scale extraction: Where there is no opportunity for a more comprehensive extraction of the mineral resources present, prior extraction would be undertaken as an integral part of the non-minerals development (such as during site preparation). The material would then either be processed and used onsite or exported to a suitable minerals operator for processing so that it can be used to supply other development projects.</li> <li>• Incidental extraction: Where any minerals that are incidentally extracted during site preparation would be processed and used onsite (such as from excavating the road box, foundations, drainage works). This is typically the minimum level of prior extraction that the MPA would seek as part of any non-minerals development in an MSA.</li> </ul>

Term	Definition
Public right of way (PRoW)	A right to cross land owned by another person is known as a 'right of way'. If this is a right exercisable by the public at large, it is a 'public right of way'.
Realignment (in relation to rivers)	The artificial relocation, or straightening, of a river channel to accommodate structures, flood control, or navigation.
Receptor	A defined individual environmental feature usually associated with people, fauna and flora that could be impacted by a development.
Recovery	Any operation, the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the study areas or wider economy.
Recycling	Any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. Recycling includes the reprocessing of organic material but does not include energy recovery and reprocessing into materials that are to be used as fuels or for backfilling operations.
Recycled aggregates	Aggregates that are typically derived from reprocessing materials previously used in construction, such as road planings, railway ballast, crushed concrete or masonry from construction and demolition activities.
Region (in relation to material assets and waste)	The defined geographical areas or physical extents of the second study area. For the purposes of the material assets and waste aspect, the recommended physical extent is the former East of England Planning Region.
Register of Environmental Actions and Commitments (REAC)	Itemised schedule of environmental mitigation. Sets out the intended purpose of the mitigation, as well as how it will be delivered, who is responsible for implementing it, when it will be implemented, and success criteria (including monitoring requirements). The REAC forms part of the EMP.
Reinstatement	The act of restoring something to a condition agreed with the relevant authorities.
Reuse (material assets and waste)	Any operation by which products or components that are not waste are used again for the same purpose for which they were conceived.
Riparian zone/corridor	The corridor of land which runs along the banks of a river channel. If vegetated, it is known as the vegetated riparian zone.
Road Surface Influence (RSI)	A parameter used for quantifying road surfacing noise performance.
Runoff	The movement of water above and below the surface.
Scoping	The process of identifying the issues to be addressed in the Environmental Impact Assessment process. It is a method of ensuring that an assessment focuses on the important issues and avoids those that are considered unlikely to be significant.



Term	Definition
Scoping Opinion	The relevant authority's formal view on the issues an Environmental Statement should address. For the Proposed Scheme, the Scoping Opinion was given by the Planning Inspectorate on behalf of the Secretary of State.
Screening	The formal process undertaken to determine whether it is necessary to carry out an Environmental Impact Assessment (EIA) and publish an Environmental Statement in accordance with the EIA Regulations.
Secondary A aquifer	Deposits that comprise permeable layers that can support local water supplies and may form an important source of base flow to rivers or wetland ecosystems.
Secondary B aquifer	Deposits with mainly lower permeability layers that may store and yield limited amounts of groundwater.
Secondary Undifferentiated aquifer	Deposits where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type.
Second study area (in relation to material assets and waste)	<ul style="list-style-type: none"> <li>• Feasible sources and availability of construction materials required to construct the main elements of the proposed scheme.</li> <li>• Suitable recovery and waste management infrastructure that could accept arisings and waste generated by the proposed scheme.</li> </ul>
Secretary of State	The Secretary of State has overall responsibility for the policies of the Department for Transport.
Selected standard tree	A tree with 10/12 cm girth, measured at 1 metre above ground.
Sensitivity	Receptor or resource environmental value.
Sensitivity (in relation to landscape and visual)	Term applied to specific receptors, combining judgements of the susceptibility of the receptor to specific type of change proposed and the value related to that receptor. (GLVIA3)
Severance	Severance is used to refer to a change in ease of access for walkers, cyclists and horse riders due to, for example, a change in travel distance or travel time or a change in traffic levels on a route that makes it harder for walkers, cyclists and horse riders to cross. A reference to severance does not necessarily imply a route is closed to access.
Side road	The network of local roads which connect to a busier or more important road.
Significance	A measure of the importance, or gravity, of the environmental effect, defined by significance criteria specific to the environmental aspect.
Slip road	A connector road within a junction between a mainline carriageway and the local highway network, or vice versa, which meets the local highway network at-grade.



Term	Definition
Soil resource plan	A Soil Resource Plan shows the areas and type of topsoil and subsoil to be stripped, haul routes, the methods to be used, and the location, type and management of each soil stockpile.
Source Protection Zone (SPZ)	Zones around groundwater sources used for potable supply or food processing, including wells, boreholes and springs, which show the level of risk to the source from contamination.
Species-poor neutral grassland	Grassland which typically has over 30% cover of rye-grasses and white clover. Only up to eight vascular plant species per square metre. Less than 10% cover of wildflowers and sedges, excluding white clover, creeping buttercup and injurious weeds. Grass species present usually include Yorkshire fog, Italian rye-grass, rough-stalked meadow grass, perennial rye-grass, timothy and cock's-foot.
Species-rich neutral grassland	Grassland which typically has under 10% coverage of rye-grasses and white clover, and over 15 vascular plant species per square metre. There is a high cover of wildflowers and sedges (more than 30%), excluding white clover, creeping buttercup and injurious weeds.
Standard Mitigation	Mitigation required regardless of the EIA because it is generally imposed through legislative requirements or standard sector practices (e.g. implementing considerate contractor practices to reduce nuisance from site work). These measures have been captured in an Environmental Management Plan (EMP).
Statement of Common Ground (SoCG)	A Statement of Common Ground is a written statement containing factual information about the proposal which is the subject of the appeal that the appellant reasonably considers will not be disputed by the local planning authority.
Statutory Environmental Body	Any principal council as defined in subsection (1) of section 270 of the Local Government Act 1982 for the area where the land is situated. Where the land is situated in England, SEBs include Natural England, Historic England, and the Environment Agency. Where, in the opinion of the Secretary of State, the land is sufficiently near to Wales to be of interest to them, Natural Resources Wales and the National Assembly for Wales would also be SEBs. SEBs also include any other public authority which has environmental responsibilities and which the Secretary of State considers likely to have an interest in the Proposed Scheme.
Strategic Road Network (SRN)	The network of motorways and trunk roads in England.
Superficial deposits	Superficial deposits (previously called 'drift') are the youngest geological deposits formed during the most recent period of geological time. Most of these superficial deposits are unconsolidated sediments, such as gravel, sand, silt and clay
Sustainable Drainage System (SuDS)	Methods of management practices and control structures that are designed to drain surface water in a more sustainable manner than some conventional techniques.

Term	Definition
Surface water flooding	Flooding as a result of surface water runoff after high intensity rainfall when water is ponding or flowing over the ground surface before it enters the underground drainage network or watercourse, or cannot enter it because the network is full to capacity, thus causing what is known as surface water or pluvial flooding.
Toolbox Talks	A 'toolbox talk' is a short presentation to the workforce on a single aspect of health and safety.
Topsoil	The top layer of soil that is high in organic matter and nutrients, formed by the slow weathering of rocks and decaying organic matter over thousands of years.
Trackout	The transport of dust and dirt from a construction/ demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network.
Traffic management	The act of directing vehicles and pedestrians around some form of disruption. This could be a construction site, accident, community event, tree removal, road surfacing, traffic congestion – or anything else that could cause danger or disruption to a vehicle or pedestrian.
Tree Preservation Order (TPO)	A Tree Preservation Order is an order made by a local planning authority in England to protect specific trees, groups of trees or woodlands in the interests of amenity.
Trial trenching	<p>The excavation of a pattern of linear trenches to determine the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts and their research potential, within a specified area. If such archaeological remains are present, trial trenching aims to define their character, extent, quality and state of preservation, reports on them and enables an assessment of their significance in a local, regional, national or international context as appropriate.</p> <p>Trial trenching may be conducted 'blind' or to test the results of non-intrusive investigations like geophysical surveys.</p>
Trunk road	A trunk road is a road owned and operated by the Secretary of State for Transport. Trunk roads form part of the strategic road network. Trunk roads include all-purpose trunk roads (APTTRs) and motorways.
Unimproved neutral grassland	Grassland areas that have never been ploughed, reseeded or heavily fertilised. They are semi-natural habitats, which have developed as a result of sustained grazing, and they support a wide range of associated plant and animals.
Unproductive strata	Deposits which are largely unable to provide usable water supplies and are unlikely to have surface water and wetland ecosystems dependent on them.
Utilities	Refers to the set of services provided by organisations and consumed by the public: electricity, natural gas, water, sewage, and telephone. Broadband internet services (both fixed line and mobile) are included within the definition.

Term	Definition
Value engineering	Value engineering is used to solve problems and identify and eliminate unwanted and unnecessary costs, while improving function and quality. The aim is to increase the value of products, satisfying the product's performance requirements at the lowest possible cost.
Veteran tree	A tree that by recognised criteria shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.
Vulnerability (in relation to climate change)	The degree to which a system/asset is exposed and resilient to adverse effects of climate change.
Walkers, cyclists and horse riders (WCH)	<p>Users that include:</p> <ul style="list-style-type: none"> <li>• pedestrians – including mobility impaired and vulnerable pedestrians</li> <li>• cyclists – including mobility impaired and vulnerable cyclists</li> <li>• equestrians – including mobility impaired and vulnerable equestrians</li> </ul> <p>Other users considered as part of this group include (but are not limited to):</p> <ul style="list-style-type: none"> <li>• scooter riders (non-motorised)</li> <li>• cyclists with electrically assisted pedal cycles (where these conform to Department for Transport or other relevant regional regulations and where they can legally be used)</li> <li>• users of powered wheelchairs (where these conform to Department for Transport regulations and where they can legally be used)</li> </ul>
Waste	Defined in line with Article 3(1) of the Waste Framework Directive (Council Directive 2008/98/EC) as 'any substance or object which the holder discards or intends or is required to discard'. Waste is commonly split into the following classifications: inert, hazardous and non-hazardous (the latter being waste classified as neither inert nor hazardous).
Waste classification	As part of waste Duty of Care, waste holders must classify their waste: before it is collected, disposed of or recovered; to identify the controls that apply to the movement of the waste; to complete waste documents and records; to identify suitably authorised waste management options; and to prevent harm to people and the environment. Technical Guidance WM3 'Waste Classification - Guidance on the classification and assessment of waste' provides guidance on waste classification in the UK. It is a comprehensive reference manual for anyone involved in producing, managing and regulating waste. Appendix A of WM3 includes the waste classification codes, also referred to as LoW (List of Waste) or EWC (European Waste Catalogue) codes.
Waste hierarchy	The waste hierarchy ranks waste management options according to what is best for the environment. It gives top priority to preventing waste in the first place. When waste is created, it gives priority to preparing it for re-use, then recycling, then recovery, and last of all disposal (e.g. landfill).
Waste holder	The duty of care applies to anyone who imports, produces, carries, keeps, treats, disposes of, or is a dealer or broker that has control of, controlled

Term	Definition
	<p>waste (commonly referred to as a 'waste holder'). Waste holders include the following:</p> <ul style="list-style-type: none"> <li>• Waste producer – any person whose activities produce waste. It also includes permitted operations or exempt facilities that produce waste as part of their activities. If you carry out a waste operation that changes the nature or composition of the waste, you are regarded as a producer of the waste. Waste producers play a key role under the duty of care requirements as they are in the best position to identify the nature and characteristics of the waste.</li> <li>• Waste carrier – any person who normally and regularly collects, carries or transports waste in the course of any business or with a view to profit, including those that produce and transport their own waste.</li> <li>• Waste dealer – any person, business or organisation that buys waste with the aim of subsequently selling it, including in circumstances where the dealer does not take physical possession of the waste.</li> <li>• Waste broker – any person, business or organisation that arranges waste transportation and management of waste on behalf of another party, such as organisations contracting out waste collection services.</li> <li>• Waste manager – any person involved in the collection, transport, recovery or disposal of controlled waste, including the supervision of these operations, the aftercare of disposal sites and actions taken as a dealer or broker.</li> </ul>
Waste transfer note	<p>A waste transfer note is a legally required document which must be completed for all transfers of non-hazardous waste to another party. The format of the waste transfer note must conform to the requirements laid out in Part 9 of The Waste (England and Wales) Regulations 2011 (as amended).</p>

## References

The following references have been used in Chapters 1 to 7 of the first iteration EMP.

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