BEACON FEN

Planning Inspectorate Reference: EN010151

Appendix 2.4 Outline Construction Environmental Management Plan
Document Reference: 6.3 ES Volume 2, 6.3.7
~~October~~December 2025

The Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(a)
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572) – Regulation 14

Quality information

Prepared by	Checked by	Verified by	Approved by
CR	GS	GS	SR

Revision History

Revision	Revision date	Details	Authorized	Name	Position
2	02.10.2025	Updated to reflect consultee comments		CR	Waste and Resources Consultant
3	21.10.2025	Updated to reflect consultee comments		TB	Project Ecologist
4	19.12.2025	Updated to reflect consultee comments		CR	Waste and Resources Consultant

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1. Introduction

1.1 Background

1.1.1 This Outline Construction Environmental Management Plan (OCEMP) has been prepared by Wardell Armstrong (part of SLR) (WA) on behalf of Beacon Fen Energy Park (the 'Applicant') in support of an application for a Development Consent Order (DCO) for the Beacon Fen Energy Park (the 'Proposed Development').

1.1.2 The Proposed Development comprises the construction, operation (and maintenance) and decommissioning of a solar photovoltaic (PV) electricity generating facility and battery energy storage system (BESS), with associated export and connection infrastructure to (via above and below ground works at) the existing National Grid ('National Grid') Bicker Fen (400 kV) Substation ('Bicker Fen Substation').

1.1.3 This OCEMP identifies measures to manage and mitigate the risks to the environment during the construction phase of the Proposed Development and will be further developed into a site-specific Detailed CEMP prior to construction works commencing.

1.2 Site Location

1.2.1 The location of the Proposed Development is shown on **Figure 1.1: Site Location Plan (Document Ref: 6.4 ES Vol.3, 6.4.1)** and sited approximately 6.5 km northeast of the Town of Sleaford, and 2.5 km north of Heckington.

1.2.2 At the County level, the Proposed Development is located within the administrative area of Lincolnshire County Council (LCC). At the local level, the majority of the DCO Order Limits ('Order Limits') are within the administrative area of North Kesteven District Council (NKDC), with the southern extent of the Cable Route Corridor located within the administrative area of Boston Borough Council (BBC).

1.3 The Order Limits

1.3.1 The Order Limits comprise of the land required for the construction, operation (and maintenance) and decommissioning of the Proposed Development and are shown on **Figure 1.3: Site Area Plan (Document Ref: 6.4 ES Vol.3, 6.4.3)**.

1.3.2 This comprises the Solar Array Area, the Bespoke Access Corridor and the Cable Route Corridor, which are defined as follows following:

- **Solar Array Area** - The land within the Order Limits within which the solar PV and BESS (and ancillary infrastructure) will be located.
- **Cable Route Corridor** - The land within the Order Limits within which the Cable Route will be located.

- **Cable Route** - The physical development (i.e. the cable itself) to be located within the Cable Route Corridor and will connect the Solar Array Area to the Bicker Fen Substation.
- **Bespoke Access Corridor** - The land within the Order Limits within which the Bespoke Access Road will be located.
- **Bespoke Access Road** - The physical development (i.e. the road itself) to be located within the Bespoke Access Corridor and providing bespoke site access.

1.3.3 The Order Limits cover an area of 757.7 hectares (ha) that is inclusive of the Solar Array Area (529ha), the Cable Route Corridor (183ha) and the Bespoke Access Corridor (45.4ha), along with associated infrastructure, landscaping and biodiversity provisions.

1.4 Purpose

1.4.1 The purpose of this document is to outline the principles and measures that will be implemented to successfully manage and, where necessary, mitigate any adverse environmental effects anticipated in relation to activities to be undertaken during the construction phase of the Proposed Development.

1.4.2 The term 'construction' in this OCEMP includes site preparation works, Heavy Goods Vehicle (HGV) deliveries, waste removal and all related engineering, construction and restoration activities as authorised by the DCO (if granted) within the Order Limits.

1.4.3 This OCEMP has been prepared to ensure that relevant stakeholders (such as LCC, NKDC and BBC) and the local community understand the measures that will be implemented during the construction phase of the Proposed Development.

1.4.4 Specifically, this OCEMP details and secures how the relevant mitigation measures and monitoring requirements presented within the **Environmental Statement Volume 1 (Document Ref: 6.2)** will be implemented during the construction phase, and has been prepared with the objective of compliance with The Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations (2017) and the and the Planning Act (2008).

1.4.5 Prior to the commencement of the construction phase, a detailed CEMP (or multiple detailed CEMPs if the authorised development is brought forward in different parts) will be produced by the Principal Contractor for the Proposed Development.

1.4.6 In accordance with Requirement 12 in Schedule 2, Part 1 to the **Draft DCO (Document Ref: 3.1):**

(1) No part of the authorised development may commence until a construction environmental management plan (which must be substantially in accordance with the outline construction environmental management plan) for that part has been submitted to and approved by the relevant planning authority, or, where the part falls within the administrative areas of multiple relevant planning authorities, each of the relevant planning authorities.

(2) All construction works associated with the authorised development must be carried out in accordance with the approved construction environmental management plan.

1.5 Document Structure

1.5.1 This OCEMP includes the following sections:

- Section 1: Introduction
- Section 2: Construction Details
- Section 3: Construction Management
- Section 4: Pollution Prevention
- Section 5: Waste Management
- Section 6: Environmental Mitigation and Management
- Section 7: Complementary Management Plans
- Section 8: Monitoring and Reporting

2. Construction Details

2.1 Construction Principles

2.1.1 The Proposed Development will be constructed in an environmentally sensitive manner in order to meet the requirements of all relevant legislation, codes of practice and standards identified in the **Environmental Statement Volume 1 (Document Ref: 6.2)** and any updates to legislation or standards adopted at the time of construction. Efforts will be made to limit adverse impacts on the local community and environment as far as reasonably practicable, and the construction phase will be managed to prioritise the health and safety of the public and construction staff.

2.2 Construction Programme

2.2.1 Following the submission of the DCO application in 2025 and subject to DCO consent then being granted in 2026, it is anticipated that construction would commence in 2027.

2.2.2 The total length of the construction period will be dependent on environmental and market factors, but in total is anticipated to last between 2.5 and 5 years. The Bespoke Access Road and Cable Route Corridor can commence construction at the same time and are anticipated to last between 6 to 12 months for the Bespoke Access Road and 12 to 24 months for the Cable Route.

2.2.3 All material construction on the Solar Array Area will follow the completion of the Bespoke Access Road and last between 24 to 36 months. Some limited preparatory works may be carried out on the Solar Array Area simultaneously to the construction of the Bespoke Access Road.

2.2.4 Construction of the Bicker Fen Substation extension will be undertaken separately by National Grid and is anticipated to last 60 weeks.

2.3 Working Hours

2.3.1 The core working hours will be as per the below. However, these working hours may be reduced during winter months reflective of the seasonal daylight hours:

- 0700 – 1900 Monday to Friday; and
- 0800 – 1300 Saturdays.

2.3.2 Subject to the paragraph, below, no works will take place on Sundays or Bank Holidays.

2.3.3 Some activities may need to occur outside of the core hours due to activities requiring to be undertaken continuously (such as Horizontal Directional Drilling (HDD) and cable jointing). Where work outside of the specified core working hours is necessary, prior notification will be provided to the relevant local planning authority.

2.3.4 Further consultations with relevant local planning authorities will be sought whenever necessary if any activities performed outside of the core hours are likely to cause a nuisance (e.g. increased noise and vibration).

2.3.5 Additionally, quiet non-intrusive works such as the installation of PV modules may take place over longer periods during the high summer and other quiet non-intrusive works such as electrical testing, commissioning and inspection may take place over longer periods throughout the year.

2.4 Construction Activities

2.4.1 The anticipated construction activities and associated works therein to deliver the Proposed Development are outlined, below (not exhaustive). Some limited preparatory works will likely be required and are excluded from this OCEMP as these minor works are not classed as 'development' in the meaning of the Proposed Development. The minor preparatory works could include the following:

- Temporary fencing;
- Archaeological surveys;
- Ecological surveys; and
- Tree protection measures.

Site Wide Activities

- Site preparation, including setting up access, compounds and security;
- Import of construction materials, plant and equipment to the Site;
- Diversion and installation of utilities (as required);
- Marking out the location of infrastructure;
- Appropriate storage and capping of soil; and
- Upgrading of existing site tracks / access roads and construction of new tracks, including creation of the Bespoke Access Road.

Bespoke Access Road

- Site preparation (e.g. clearing vegetation and marking boundaries);

- Topsoil strip;
- Excavation and levelling;
- Works to widen and surface the public highway and private means of access;
- Base layer installation;
- Creation of accesses from the public highway;
- Creation of visibility splays;
- Works to create associated drainage infrastructure;
- Creation of temporary construction compounds;
- Erection of temporary fencing and hoarding and permanent access gates;
- Road surface application; and
- Finishing and quality checks.

Solar Array Area

- Import of components to the Site;
- Piling and erection of PV mounting structures;
- Mounting of PV panels;
- Trenching and installation of electric cabling;
- Installation of Power Conversion Units (PCU);
- Installation of BESS;
- Construction of onsite substation;
- Concrete pouring for foundations;
- Cable installation (including trenching);
- The establishment of construction compounds and haul road;
- Stripping of topsoil and ground levelling in sections for the onsite substation and BESS area, only;
- Appropriate construction drainage with pumping where necessary;
- Sectionalised approach of duct installation;
- Excavation and installation of jointing pits;
- Cable pulling;
- Testing and commissioning; and
- Site reinstatement, habitat creation and landscaping.

Cable Connection to Bicker Fen Substation

- The establishment of construction compounds and haul roads;
- Stripping of topsoil in sections;
- Trenching in sections;
- Appropriate storage and capping of soil;
- Appropriate construction drainage, with pumping where necessary;
- Sectionalised approach of duct installation;
- Excavation and installation of jointing pits;
- Cable pulling;
- Cable joint installation;
- Implementation of crossing methodologies for watercourses, infrastructure (including roads and rail) and sensitive habitats (e.g. cofferdam or trenchless methods, such as HDD);
- Testing and commissioning; and
- Site reinstatement, habitat creation and landscaping.

Site Reinstatement, Habitat Creation and Landscaping

2.4.2 As highlighted, site reinstatement will form part of the construction activities. This will include habitat creation, enhancement and landscaping. These works will be managed in accordance with the principles set out in this OCEMP and in **Appendix 6.7 Outline Landscape and Ecological Management Plan (LEMP) (Document Ref: 6.3, ES Vol.2, 6.3.19).**

2.4.3 The proposed planting is presented in **Figure 6.34 Landscape Strategy Plan (Document Ref: 6.4 ES Vol.3, 6.4.41)** and discussed in **Chapter 6 Landscape and Visual (Document Ref: 6.2 ES Vol.1, 6.2.6),** and **Chapter 7 Ecology (Document Ref: 6.2 ES Vol.1, 6.2.7).**

2.5 Construction Method Statements

2.5.1 All construction activities that have the potential to give rise to adverse environmental impacts will be managed through the implementation of detailed procedures and method statements. The detailed CEMP(s) will include Construction Method Statements (CMS) that will detail the following:

- Comprehensive construction programme detailing each sequential construction stage with a breakdown of the required materials, workforce, and plant and equipment resources;
- Detailed Site layout arrangements, including temporary works requirements;
- Description of operations likely to cause disruption and / or will require consents separate to the DCO (such as environmental permits), including the expected duration of operations with key dates; and
- A procedure for prior notification to relevant authorities and third parties to facilitate agreement on local arrangements will also be included.

2.5.2 Adherence to these Construction Method Statements will ensure construction activities are legally compliant and align with best practices across all of the environmental topics outlined in Section 6.

2.5.3 **Appendix 2.1 Grid Connection Construction Method Statement (Document Ref: 6.3 ES Vol.2, 6.3.4)** and **Appendix 2.2 Bespoke Access Road Construction Method Statement (Document Ref: 6.3 ES Vol.2, 6.3.5)** provide further detail and outline the construction approach and working scenarios for those respective elements.

2.6 Construction Plant

2.6.1 It is envisaged that the following plant and machinery will be utilised during the construction phase works (list is not exhaustive):

- Excavator;
- Bulldozer;
- Mobile crane;
- Crawler dozer;
- Piling rig;
- Power generator;
- Telehandler;
- Dump truck;
- Vibrating roller;
- Mud mixing unit;
- Cable trailers;
- Cable winches;

- Cable rollers;
- Conduit rods;
- Cable duct equipment;
- Cable drum jacks & spindles; and
- Cable pulling machines.

2.7 Electrical Cabling

2.7.1 Low voltage onsite electrical cabling will connect the PV modules and BESS to the inverters and the inverters to the onsite transformers. The dimension of the trenches for this cabling will vary depending upon the number of circuits they contain, but would typically be up to 1.2m in width and between 0.8m to 1.6m in depth.

2.7.2 Higher voltage cables are required between the transformers and the switchgear and from switchgear to the onsite substation. The dimensions of the trenches for this cabling will vary depending on the number of circuits they contain, but are anticipated to be up to 1.2m in width and up to 1.6m in depth.

2.7.3 In limited locations, for both low and higher voltage cables, the depths of the trenches can be increased to 2.5m or deeper to account for local anomalies.

2.7.4 Where possible, the higher voltage cables will share trenches with the lower voltage cables on the same route.

2.7.5 Onsite cabling between PV modules and inverters is anticipated to be above ground level, along the mounting structure to either a combiner box (if a central inverter is used) or directly to a string inverter (if that option is used). These cables are typically installed on the tables, but may be buried in ducts between the table rows. All other onsite cabling will be underground where possible.

2.8 Cable Installation Method

2.8.1 The Proposed Development requires a single 400kV circuit, comprised of three sets of cables to connect the On-site Substation to the Bicker Fen Substation.

2.8.2 It is proposed that the Cable Route will be constructed primarily through trenched methods such as standard open cut trenching or through methods such as Cofferdam. However, where required, trenchless methods for the crossing of existing infrastructure or sensitive features will be explored such as auger boring, Horizontal Directional Drilling (HDD) and micro-tunnelling. The working width during construction of the Cable Route will be 30m.

2.8.3 Trenchless methods will be deployed to cross Hodge Dike, Heckington Eau and South Forty Foot Drain.

Trenching

2.8.4 Trenching will be carried out progressively across the Cable Route Corridor in phases to avoid disruption to other construction activities. A temporary haul road will be required to facilitate the installation of the Cable Route.

Trenched Cabling

2.8.5 For open cut trenching, the typical process for each section would be as follows:

- Construction of the haul road for that section of cable;
- Trench excavation (or trenches where there are multiple electrical circuits): approximately 2m wide x 2.5m depth excavated for each circuit subject to design and ground conditions;
- Excavation of joint bays, with topsoil and subsoil being stored separately;
- Installation of earthing cable at the base of the trench (subject to design);
- Installation of fibre optic duct into the trench;
- Installation of auxiliary cable;
- Sand base layer;
- Cable installation;
- Jointing of the cable sections;
- The distance between joint bays is anticipated to be between 100m and 1,000m;
- Backfill of subsoil and topsoil; and
- Compaction in layers to original surface level.

2.8.6 The following measures shall be implemented to minimise the risk associated with general excavations and trenching:

- General excavations and trenches will be limited in periods of wet weather to avoid collapse of trenches (wherever possible);
- The areas where the final alignment of the Cable Route will be sited will have topsoil stripped, with appropriate stockpiling and management of the topsoil arisings as outlined in **Appendix 14.4 Outline Soil Management Plan (OSMP) (Document Ref: 6.3 ES Vol.2, 6.3.95**) and **Chapter 14 Soils & Agricultural Land (Document Ref: 6.2 ES Vol.1, 6.2.14)**;
- Trench excavation arisings will be stored temporarily at a safe distance from the open void;
- A bed of imported material (sand) will be laid and levelled in the bottom of the trench;
- Care will be taken to ensure cable trench excavations are managed and backfilled in a timely manner to avoid collapse;
- Excavations will be left open only where necessary, with the time that any excavation is open to be kept to a minimum to avoid ingress and removal of water;
- Where excavations are to be left open, they will be secured with trench covers, wherever possible, to prevent materials, people, vehicles and animals falling into the excavations;
- Where open-cut trenches are used to install the cable across a watercourse appropriately designed over pumping and/or diversion systems will be put in place to ensure continuity of flows;
- Each cable will be overlaid by layers of warning tape marked ‘Electric Cable Below’;

- Excavations will be backfilled in an 'as-dug' manner on completion of jointing and testing; and
- The cables will be suitably protected with ducting where the runs cross the roads/tracks.

Trenchless Cabling

2.8.7 Where trenchless cabling will be required across sensitive areas and crossings, the general principles for the method will be as follows:

- Construction of the haul road to each launch and reception pit (launch being the location that the drill rig is located and reception pit being the other end);
- Excavating the launch and reception pits, with topsoil and subsoil to be stored separately;
- Manoeuvre the drill rig and associated machinery to position adjacent to the launch pits;
- Manoeuvre the duct to the reception pit;
- Directional drill from launch to reception pit (up to 25m depth subject to design and ground conditions);
- Withdraw the drill, pulling the duct back into the pit;
- Repeat for each duct required;
- Modify the launch pits and reception pits into joint pits;
- Pull the cable from the launch pit to the reception pit; and
- Jointing of the cable sections.

2.9 Construction Compounds

2.9.1 During the construction phase, up to six main (temporary) construction compounds are anticipated to be required, and located proportionately along the Cable Route Corridor, with temporary roadways to facilitate access to all land within the Site.

- Compound 1: Access from the Solar Array Area;
- Compound 2: Access from A17;
- Compound 3: Access from Carterplot Road;
- Compound 4: Access from Great Hale Drove (East);
- Compound 5: Access from A17/Triton Knoll Substation Access; and
- Compound 6: Access from A17/Triton Knoll Substation Access.

2.9.2 The location of the construction compounds are outlined in **Appendix 9.3 Outline Construction Traffic Management Plan (Document Ref: 6.3 ES Vol.2, 6.3.78)**. Smaller temporary compounds may also be located anywhere within the final working area.

2.9.3 The location of temporary construction compounds, associated storage, machinery, equipment and temporary buildings are to be sited to minimise environmental effects and outside flood risk areas where practicable.

2.9.4 The temporary construction compounds are anticipated to include (but not be limited to):

- Temporary site offices / welfare facilities;
- Turning and loading areas for incoming HGVs;

- Containerised storage areas;
- Waste storage areas;
- PV panel testing areas;
- 110% capacity bunded area for storage of fuels and hydrocarbons; and
- Parking and security infrastructure, including fencing and CCTV.

2.9.5 Welfare facilities will be equipped with heating, tables, chairs, a means of heating food and boiling water, wash basins, showers, drying rooms, toilet facilities and hand sanitiser equipment. These facilities will be strategically located to ensure good access, adequate lighting, and proper ventilation. Regular maintenance and cleaning will be carried out to keep the facilities in optimal condition.

2.10 Construction Energy Use

2.10.1 The primary sources of energy consumption at the Site are anticipated to be from plant machinery (diesel usage), hand tools, fixed plant, concrete manufacture, and the transportation of construction materials and waste. Efforts to reduce energy consumption during construction will be achieved through adherence to BS EN ISO 14001:2015 standard (or equivalent standard in force at the point at which construction is undertaken), which will be used to monitor, track and identify opportunities for improvement throughout the construction process.

2.10.2 The Principal Contractor will explore suitable procurement options to support energy reduction, such as the use of electric-powered machinery where feasible, along with other strategies to minimise waste generation and overall energy consumption.

3. Construction Management

3.1 Legislation

3.1.1 In accordance with Section 5 of the Construction (Design and Management) Regulations 2015 ('CDM Regulations'), it is anticipated that there will be more than one contractor working on the Site during the construction phase. The Applicant will formally appoint for the following roles:

- A Principal Designer with control over the pre-construction phase; and
- A Principal Contractor with control over the construction phase.

3.1.2 The appointment of both the Principal Designer and Principal Contractor will occur prior to the construction phase commencing. Should the Applicant fail to appoint either a Principal Designer or Principal Contractor, the Applicant themselves will carry out their duties in respect of the CDM Regulations.

3.2 Roles and Responsibilities

3.2.1 Key roles and responsibilities in managing environmental impacts during the construction phase will likely include those outlined, below. Depending on the

appointed Contractor, some of these roles may be combined and / or titled differently, but the roles listed are to ensure the various responsibilities are captured during construction.

Contracts Manager (CM)

3.2.2 The Contracts Manager (CM) has overall responsibility for the safe and proper execution of the contracted works undertaken by the Principal Contractor. They will ensure the construction programme is carried out having regard to potential effects on the environment.

Director of Safety, Health and Environment (SHE) (or equivalent title)

3.2.3 The SHE Director will oversee the implementation of safe systems of work and ensure legal health and safety requirements are met. They will direct and advise Site staff and personnel in respect of safety and environmental legal requirements. This is especially important for the cut and fill exercise where large plant will be utilised and environmental considerations (as well as health and safety aspects) need to be prioritised.

Site Manager (SM)

3.2.4 The Site Manager (SM) is responsible for ensuring the works are completed in accordance with all applicable legislation, the detailed CEMP(s) and the DCO more generally The role involves a fortnightly review of the implementation of the CEMP(s), reviewing environmental management reports prepared by the Project Environmental Manager (PEM), investigate incidents and non-conformances, and proactively address any issues (where necessary).

3.2.5 The SM will also be responsible for ensuring adherence to all permits, authorisations and consents and will be the main point of contact with the Applicant (or the Applicant's Representative) regarding Environmental Management onsite; also ensuring any environmental instructions from the Applicant are carried out. The SM will ensure the Principal Contractor's staff and sub-contractors receive appropriate training on project specific environmental issues and any task-specific risks have been effectively communicated. A Complaints Log will be maintained and reviewed regularly to identify any changes to management procedures or operational controls to mitigate causes of complaints wherever possible. All complaints will be recorded in the Considerate Constructor Site File.

Principal Contractor (PC)

3.2.6 The Principal Contractor (PC) holds a central role in co-ordinating and managing the project, which includes overseeing the entire construction process from planning to execution, health and safety and regulatory compliance, quality control, sub-contractor and supplier management, logistics and resource management and project risk management. The PC will also be responsible for implementing a structured complaints-handling process, including records of receipt, investigation and response resolutions. This will ensure that the construction process is conducted in a timely and professional manner to ensure a positive relationship with the community and

to have a smooth progress of the construction work. Complaints will be investigated and resolved within a defined timeline in a prompt manner by the PC and the feedback from complaints will be used to make necessary changes / to identify areas of improvement of the construction process.

Project Environmental Manager (PEM) / Environmental Co-ordinator (or equivalent)

3.2.7 The Project Environmental Manager (PEM) will be responsible for liaising with the Principal Contractor in order to ensure compliance with environmental requirements as well as planning, implementing, and reporting the environmental monitoring of noise, vibration and dust (as required) via environmental audits and inspections.

3.2.8 The PEM will also be responsible for the dissemination of environmental information and maintaining awareness of the work force of the environmental implications of their actions including via delivering environmental training and toolbox talks. The PEM will report non-compliances to the Site Manager (SM) and will, as far as reasonably practicable, attend any environmental incidents onsite. Incidents and non-conformances will be proactively addressed, and preventative action implemented. The PEM will aid in reviewing the detailed CEMP(s) and relevant procedures, including risk assessments and method statements, ensuring all environmental standards and commitments are adhered to. This includes carrying out the relevant / necessary environmental induction and training. Attendance at formal contract progress meetings and liaison with third-party interest groups will be required.

3.2.9 The PEM will be responsible for managing responses to flood incidents in line with the emergency response plan.

3.2.10 The PEM will be responsible for the implementation of the Environmental Management System and its associated management procedures. They will liaise closely with the project management team and advise on the delivery of environmental responsibilities.

Ecological Clerk of Works

3.2.11 The Ecological Clerk of Works (ECoW) will be responsible for the management of risks to biodiversity during construction at the Site, advising in relation to protecting valued biodiversity features and providing practical solutions.

Arboricultural Clerk of Works

3.2.12 The Arboricultural Clerk of Works (ACoW) will be responsible for the management of the risks to trees and hedgerows to be retained during construction (and subsequent decommissioning) works at the Site, including advising on the protection and management of the arboricultural resource on the site.

Community Liaison Officer

3.2.13 As secured through a requirement in Schedule 2 to the Draft DCO, a Community Liaison Officer (CLO) will be appointed prior to construction commencing (and will continue in this role through until the date of final

commissioning of the Proposed Development) as a formal forum for local issues to be raised. The CLO will be appointed to lead communication with local communities and act as the primary point of contact should there be any queries or complaints. These roles and responsibilities may be shared (where required) having regard to the phase or development stage of the construction of the Proposed Development. For further details on the responsibilities of the CLO, see Section 3.6 Communication and Community Engagement of this OCEMP.

Agricultural Liaison Officer

3.2.14 An Agricultural Liaison Officer (ALO) will be appointed prior to construction commencing (and will continue in this role until the date of final commissioning of the Proposed Development). They will be the dedicated point of contact for ongoing engagement about practical agricultural operations, land and soil matters with landowners, occupiers and their agents during the construction phases. The ALO's role will include:

- Arranging meetings with landowners, occupiers or their agents, where considered necessary, to minimise disruption where possible to existing farming regimes and timings of activities.
- Undertake site inspections during construction to monitor the implementation of the soil handling and storage measures, which will be detailed within the detailed Soil Management Plan which is secured by requirement and is based upon **Appendix 14.4 Outline Soil Management Plan (OSMP) (Document Ref: 6.3 ES Vol.2, 6.3.95).**

3.3 Training and Site Rules

3.3.1 All site-based staff will be responsible for the following:

- Following good practice and systems of work to avoid adverse / detrimental effects on the environment;
- Undertaking tasks in accordance with their training; and
- Reporting environmental concerns or incidents to supervisors.

3.3.2 The Principal Contactor will ensure (through appropriate training and site briefings) that all employees demonstrate an appropriate awareness of local sensitivities (e.g. location of residents / businesses), expected code of conduct and a working knowledge of the legislation, codes of practice and guidance relevant to the activities in which they are engaged.

3.3.3 A set of Site Rules will be developed that incorporate environmental control where applicable and will be posted in an appropriate manner that is visible to all staff and visitors.

Site Induction

3.3.4 Site induction and toolbox talks will be undertaken to introduce all Site personnel to the site-specific environmental considerations, environmental risks and requirements, and controls and emergency procedures. This will include important environmental controls associated with the day-to-day operation (e.g. boundary control, housekeeping, waste management and the

emergency procedures). A full register of induction attendance shall be maintained onsite.

3.3.5 The Principal Contractor shall ensure that site briefings and Toolbox Talks (TBT) are regularly undertaken to equip staff with the necessary level of knowledge to conform to the relevant environmental control procedures and to advise of changing circumstances as work progresses. Examples of such TBTs are:

- Working at Height;
- Buried Services;
- Unexploded Ordnance (UXO);
- Control of Substances Hazardous to Health (COSHH);
- Manual Handling;
- Safe Digging Techniques; and
- Asbestos Awareness.

3.3.6 Records of training content, attendance and review schedules will be maintained onsite.

Environmental Induction

3.3.7 A general environmental induction will be developed to introduce all Site personnel to the environmental issues associated with the Site, important environmental controls, energy saving and general emergency procedures as part of the wider Site induction referred to in the section above. A full register of induction attendance will be maintained onsite.

3.3.8 The Applicant will ensure that all relevant environmental documentation is communicated to the Principal Contractor and the PEM. The Applicant is responsible for setting the standard for environmental management onsite and will report any environmental concerns and respond appropriately to incidents.

3.3.9 Where required, specialist training relating to certain environmental aspects will be developed and delivered to key members of the Site team throughout the construction of the Proposed Development.

3.3.10 Task-specific TBT and Method Statement briefings on environmental issues relating to the construction works will be conducted as the works progress. A full register of toolbox talks or method statement briefing attendance will be maintained onsite.

3.3.11 Evaluation of sub-contractors will be conducted initially through assessment of the approved supplier / sub-contractor questionnaire prior to appointment to conduct any sub-contracted works. The Applicant and / or Principal Contractor will undertake this evaluation and include review of quality and environmental credentials. The Curriculum Vitae (CV) of all specialist staff will be submitted for approval.

3.4 Health and Safety

3.4.1 The Principal Contractor will be committed to maintaining the highest standards of health, safety and environmental (HSE) management throughout the construction phase. All members of the Principal Contractor team will be

appropriately trained in health and safety matters and will hold the relevant environmental certifications for the works being carried out onsite. HSE responsibilities will be clearly communicated to all parties involved in the Proposed Development.

3.4.2 Each appointed sub-contractor will prepare a comprehensive Construction Phase Safety, Health, and Environment (SHE) Plan prior to commencing works. This plan will include arrangements for:

- Ensuring the safety of construction staff, visitors and the public in the vicinity of the Site;
- Emergency procedures, including emergency access arrangements;
- Providing appropriate training and information to all personnel; and
- Ensuring adequate welfare facilities are in place.

3.4.3 The SHE Plan must be reviewed and approved by the Principal Contractor and the Applicant before construction begins, and recorded within the detailed CEMPs. Regular audits of sub-contractor HSE performance will be conducted by the Principal Contractor and / or the Applicant. Procedures and processes will undergo periodic internal reviews by the EPM and Principal Contractor to ensure continual improvement.

3.4.4 All accidents and incidents must be reported by sub-contractors to the Principal Contractor and the Applicant within 48 hours of occurrence.

3.4.5 The Principal Contractor will also implement a certified Environmental Management System (EMS)[1] in accordance with BS EN ISO 14001. The EMS will set out:

- The primary environmental aspects of the construction works and how these will be managed, as identified in the **Environmental Statement (Document Ref: 6.2 ES Vol.1)**;
- Staff competence, training and awareness requirements and how these are achieved and maintained;
- Processes for managing auditing and management reviews;
- Record-keeping arrangements; and
- The procedures to be implemented to ensure ongoing compliance with the measures set out in the detailed CEMP(s).

3.4.6 The EMS and all associated management plans will be regularly reviewed, audited and updated by the Principal Contractor to ensure they remain relevant, effective and aligned with the construction activities.

3.5 Stakeholders

3.5.1 There are several key stakeholders who will be engaged prior to and throughout the construction phase of the Proposed Development. These include (but not limited to) the following:

- Environment Agency;
- Natural England;

[1] British Standards Institute. BS EN ISO 14001:2015 – TC Environmental management systems. Requirements with guidance for use. Available at https://knowledge.bsigroup.com/products/environmental-management-systems-requirements-with-guidance-for-use?version=tracked

- Historic England;
- Internal Drainage Board (IDB);
- Lincolnshire County Council (LCC);
- North Kesteven District Council (NKDC); and
- Boston Borough Council (BBC).

3.6 Communication and Community Engagement

3.6.1 A robust communication plan is crucial to implement construction mitigation measures effectively and manage environmental impacts during construction. The Site Manager (SM), in collaboration with the Applicant and supported by the Project Environmental Manager (PEM) and the Principal Contractor will be responsible for the liaison on environmental matters with statutory and non-statutory authorities. All correspondence related to environmental issues will be documented through written communication, emails or Confirmation of Verbal Instruction (CVI).

3.6.2 The Principal Contractor will establish and oversee community engagement either through a community liaison officer and / or a Community Engagement Plan (CEP), which will outline the approach to engaging with the local community. This plan and any community liaison will be managed by an appointed Community Liaison Officer (CLO), who will be responsible for addressing concerns and resolving complaints. Steps will be taken to inform neighbouring property occupiers, nearby communities, Public Rights of Way (PRoW) users and businesses in advance of construction activities. A formal complaints procedure will be developed as part of the CEP, ensuring complaints are received, recorded, and responded to in a timely manner under the supervision of the CLO.

3.6.3 Additional mitigation will be developed as required and tailored to potential complaints regarding the influx of workers affecting services, such as local pubs, restaurants and shops. Community perception will be gathered through the CLO related to the impact of worker influx and additional mitigations will be considered. If necessary, these could be as following:

- Updating the Code of Conduct for workers to encourage workers to limit use of services to Sleaford, where there is more capacity to accommodate additional customers; and
- Partnering with local shops, restaurants and coffee shops, where practical, such as the Heckington co-op or Heckington Windmill Café, to arrange product deliveries to the Proposed Development

3.6.4 Further to the above, the CLO's role will also be to manage community expectations. Engagement with potentially affected communities will be inclusive, aiming to reach the most vulnerable members of the local community, especially in villages closest to the Solar Array Area, where most construction workers will be concentrated.

3.6.5 For temporary closures of PRoWs, signs or posters will be installed on relevant PRoWs. Additionally, local walking groups, relevant parish councils and district councils will be notified about any temporary footpath closures by the CLO.

3.6.6 Suppliers working with or for the Principal Contractor will have their environmental responsibilities managed, monitored and reported through the application of method statements. The Principal Contractor will also ensure full co-operation in auditing suppliers' safety and environmental procedures.

3.6.7 The Project Environmental Manager (PEM) will provide advice to the Site Manager (SM) on external communications with regulatory bodies, the public, and other stakeholders regarding environmental matters. Key business information (e.g. project overview, budget and finances, schedules and deadlines, contractual and legal status, resource, risk management, *etcetera*) performance against targets and the effectiveness of method statements will be shared with the Management Team during periodic meetings. Communication with Site operatives will occur through TBT or daily task briefings.

3.6.8 Regular communication with the Applicant and Principal Contractor (PC) regarding environmental impacts will take place during fortnightly progress meetings. These meetings will include discussions on monitoring results, incidents, complaints, progress updates and the status of licence applications. Performance against environmental objectives and targets will also be reviewed during these sessions.

3.6.9 To facilitate effective communication, a full contact list with names, job titles and contact numbers will be prepared and maintained. Onsite communication will primarily be conducted via radios or mobile phones where permitted.

3.7 Site Security

3.7.1 The Site security measures implemented as part of the construction site set-up will follow the findings of a site-specific security assessment and recommendation measures. The measures are expected to include (but are not limited to) the following:

- High-perimeter fencing/hoarding;
- Mounted internal-facing closed circuit television (CCTV) systems will likely be deployed around the perimeter and construction compounds;
- Lighting would be in the form of mobile lighting towers, used where natural light is unable to reach (e.g. sheltered or confined areas) and during core working hours (Monday - Friday: 07.00 - 19.00 and Saturdays 08.00 - 13.00).
- Lights would be fitted with downward directional fittings to minimise light spill. Lights would be directed into the DCO Order limits, not towards the boundary.
- Minimum lighting levels that ensure health and safety requirements.
- Restricting mounting heights of all external light fittings and limiting the tilt on any fittings to avoid upward spillage of light, along with use of rear shields where required.
- Immobilisation of plant / equipment during non-working hours within designated areas, with keys kept in a secured location;
- Removal or securing of fuel storage containers and hazardous materials;
- Training of staff on relevant security and compliance measures;
- Only authorised personnel will be permitted onsite;

- All visitors will enter through the main access to the Site, report immediately to the Site Manager (SM) and will be required to sign-in and out to ensure that the SM is aware of the number of people onsite in the event of an emergency;
- Visitors will be required to undergo induction training, wear necessary Personal Protective Equipment (PPE) (e.g. safety helmet, hi-visibility attire and safety footwear) and will be accompanied by representatives onsite at all times; and
- All entrance and exit gates into the Site and all storage areas will be secure at all times.

3.7.2 In addition, to site-specific security measures, it is anticipated that consultation with neighbouring residents and local crime prevention officers will be progressed to discuss onsite security and preventative measures before developing security measures within the detailed CEMP.

3.7.3 The Principal Contractor will secure the Site perimeter using suitable fencing (as appropriate) that will be erected in accordance with proposed construction site phasing to ensure any and all active areas of construction are secure before any construction work commences. This will be installed as part of the site set-up and will remain in place throughout the duration of the construction phase.

3.7.4 It should be noted that the high-perimeter post and wire deer fencing / hoarding will be designed so to provide suitable level of security for the Site and to also provide an element of noise control, but so that it minimises effects to the visual amenity of the surrounding area.

3.7.5 Following the installation of the security fencing, the Principal Contractor will be responsible for:

- The maintenance of the security fencing;
- Installation and maintenance of site information boards containing contact details, community helpline and high-level of construction phase programme;
- Installation and maintenance of notices detailing the hazards present across the Site.

3.8 Fire Prevention

3.8.1 The Principal Contractor and all sub-contractors will ensure that all activities progressed during the construction phase are undertaken in compliance with the Regulatory Reform (Fire Safety) Order 2005 and that all necessary measures will be taken to minimise the risk of fire. The Principal Contractor will also comply with any applicable .

3.8.2 Fire prevention facilities, such as fire detection and alarm systems, controlled storage areas for flammable materials / chemicals, physical fire barriers, emergency routes must be present, signposted and accessible at all compound areas and storage facilities. Firefighting equipment, such as portable fire extinguishers, fire hose, fire blankets, emergency lighting and signage, and PPE must be present onsite at all times as per any applicable health and safety requirements.

3.8.3 The following measures will be in place in order to minimise the risk of fire across the Site:

- All designated work areas will be non-smoking;
- Designated smoking areas will be provided at all temporary construction compound areas and will be equipped with containers for smoking waste. These will be located away from the Site boundaries that are adjacent to neighbouring land (i.e. the woodland areas); and,
- Open fires will be prohibited onsite at all times.

3.9 Emergency Preparedness

Incident Management Plan (IMP)

3.9.1 The Principal Contractor will develop, review and maintain an overarching Incident Management Plan (IMP) throughout the construction phase. This will be developed in consultation with the local authority emergency planning officer, emergency services (including the fire service) and the Environment Agency (EA) for flood-related risks. The IMP will be included in the detailed CEMP(s).

3.9.2 The IMP will detail information regarding potential risks from construction activities. Spill containment materials / spill response equipment (e.g. spill kits, absorbent materials, oil booms *etcetera*) will be clearly defined and exact locations across the Site will be detailed in the IMP.

3.9.3 Procedures outlined in the IMP will be implemented to respond to any emergency incidents that may occur during the construction phase. The procedures will ensure compliance with the requirements of the relevant legislation and / or guidance and to avoid or mitigate against any significant environmental impacts.

Roles and Responsibilities

3.9.4 Headed by the relevant Project Environmental Manager (PEM), the chain of command during an emergency response will be established and agreed by the relevant parties involved before commencement of the construction work. In the event that the PEM is unavailable or unable to co-ordinate the emergency response, responsibility shall be transferred to the next person in the chain of command.

3.9.5 Responsibilities outlined in the IMP will be appropriately delegated across working areas when construction occurs simultaneously in multiple locations.

3.9.6 Sub-contractors working on the Site will be subject to their own emergency response procedures, subject to review and approval by the Principal Contractor.

Communication and Emergency Contacts

3.9.7 The emergency contact details, including 24-hour personnel information, will be clearly displayed at appropriate locations around the Site where all staff can see them.

3.9.8 The emergency procedures detailed in the IMP will be tested by the PEM and / or appointed person(s) within the SHE Team through desktop review of

emergency scenarios with key staff to identify gaps and clarify responsibilities, partial or full scale simulation drills, agency co-ordination involving local emergency services to ensure communication and response mechanisms work seamlessly before commencement of construction work. The results will be reported to the PEM. Examples of procedures include the following:

- The names, 24-hour contact details of, and the quickest transport route to all emergency response personnel and emergency services;
- The procedures for reporting and documenting an emergency incident;
- Personnel responsibilities during an emergency incident; and
- The location of onsite information on hazardous materials and spill containment materials.

3.9.9 A list of any and all nearby residential properties, downstream abstractions and other sensitive receptors that could be affected by an environmental incident will be detailed in the IMP and will be reviewed, compiled and maintained by the Principal Contractor and / or appointed person(s) within the SHE Team.

Environmental Incident Reporting

3.9.10 Environmental incidents will be recorded by the Principal Contractor and reported within the IMP. Each incident report will include (but not limited to) the following details:

- Nature of spill / leak / incident;
- Time / date;
- Exact location;
- Type of material released (if applicable);
- Approximate volume released (if applicable);
- Actions taken to prevent contamination (if applicable);
- Individuals reported to; and
- Lessons learnt.

3.9.11 Lessons learnt will be fed back to Site staff through safety and environment briefings and used by the Project Environmental Manager (PEM) / co-ordinator to amend procedures and the IMP (and any other relevant plans) accordingly.

3.9.12 A Pollution Prevention and Control Method Statement (PPCMS) will be developed along with the detailed CEMP, and will be prepared and will outline measures designed to protect the quality of surface water resources from adverse effects and avoid any changes of level or volume that could increase the likelihood of downstream flood risk or reduce the water resources available to a water dependent receptor.

3.9.13 Flood risk emergency response measures will be outlined in the Emergency Response Plan that will be developed in the detailed CEMP. This will account for a broad range of topics, including all construction activities located within Flood Zones 2 and 3, areas vulnerable to surface water and groundwater flooding, and other flood risk sources, such as sewer flooding and reservoir flooding. The PEM will be responsible for maintaining the plan and ensuring all site operatives are suitably briefed.

3.9.14 These plans will be prepared and undertaken by the Principal Contractor as part of compound management. The Principal Contractor will ensure that records are taken of where relevant spill kits, bunds and associated equipment are located to ensure emergency containment are available, as well as contingencies for other emergency scenarios.

3.10 Utilities

3.10.1 There are a number of utility operators at the Site, with infrastructure present either within or adjacent to the DCO Order Limits. These include (not exhaustive) the following:

- National Grid Electricity Transmission (NGET):
  - Overhead cabling (400kV);
  - Overhead cabling (132HV);
  - Overhead cabling (33kV);
  - Overhead cabling (11kV);
  - Underground cabling (132HV);
  - Underground cabling (33 kV); and
  - Underground cabling (11kV).
- Anglian Water:
  - Main water;
  - Water Recycling Centres (WRCs);
  - Mains sewer pipes and sewer pumping stations; and
  - Water decommissioned.
- Cadent Gas Ltd:
  - Medium pressure; and
  - Low pressure.
- BT Limited:
  - BT Tel. aerial; and
  - BT Tel. duct.

3.10.2 The Principal Contractor will maintain up-to-date records from all relevant utility providers and ensure awareness of the precise locations of existing utilities across the Site. Where construction works may potentially affect utility providers, the Principal Contractor is responsible for contacting those providers prior to the commencement of works and preparing detailed method statements for progressing the works, as well as ensuring compliance with the protective provisions for the protection of statutory undertakers set out in Schedule 11 to the **Draft DCO (Document Ref: 3.1).**

3.10.3 Before undertaking any excavation activities, the Principal Contractor must ensure that appropriate utility and service clearance procedures are followed in accordance with PAS 128:2022[2] (or any applicable guidance in force at the time the construction works take place).

[2] British Standards Institute. PAS 128 Underground utility detection, verification and location. Specification. Available at https://knowledge.bsigroup.com/products/pas-128-underground-utility-detection-verification-and-location-specification?version=standard.

3.10.4 As per paragraph 3.10.2, above, all utilities infrastructure at the Site will be confirmed by the Principal Contractor prior to any affecting works occurring. Consultation will be undertaken with the respective utility operators, as appropriate, and any works near to any utility assets / infrastructure will accord with the relevant best working practices, guidance and regulations.

3.10.5 The primary assets of focus at the Site are expanded upon, below.

Protection of the assets of Anglian Water Services

3.10.6 All works will be planned and executed to ensure the protection of an Anglian Water Services (AWS) underground and surface assets within the project area. This includes, but is not limited to, water recycling centres, mains sewer pipes, sewer pumping stations, and all mains water pipes. The locations of AWS assets potentially affected by the project have been identified in the Book of Reference (APP-044) and the draft statement of ground (APP-284). These will be used to inform detailed protection and mitigation measures, ensuring that sensitive infrastructure is safeguarded during all phases of construction.). These will be used to inform detailed protection and mitigation measures, ensuring that sensitive infrastructure is safeguarded during all phases of construction.

3.10.7 Measures will be implemented in accordance with the Protective Provisions included in the Draft Development Consent Order, Schedule 11, Part 3 for the Protection of Anglian Water Services Limited (APP-039).

3.10.8 Where construction works intersect with AWS assets, specific measures will be taken to prevent damage from plant and machinery, including the use of protective barriers, mats, or encasements, and restrictions on machinery weight and movement over sensitive areas. Vibration monitoring and controlled compaction methods will be employed to minimize the risk of impact on underground utilities. Regular inspections and monitoring will be undertaken to ensure that protective measures remain effective throughout the construction period.

3.10.9 Continuous 24/7 access to an AWS asset will be maintained throughout the construction phase. Where project activities intersect with AWS infrastructure, appropriate mitigation measures will be implemented to avoid disruption of water supply and wastewater services.

3.10.10 All measures will be developed and implemented in close consultation with AWS, in alignment with the Protective Provisions (APP-039) and any bilateral Statement of Common Ground. Updates to the detailed CEMP will reflect any agreed changes to access, protection measures, or operational requirements identified during any ongoing/future discussions with AWS.

National Grid Electricity Transmission plc

3.10.11 There are several existing infrastructure assets within the Order Limits held by National Grid[3] Electricity Transmission plc, for example:

- Substation: Bicker Fen 400kV Substation and associated overhead-underground apparatus, including cables.

[3] Includes infrastructure previously operated by Western Power Distribution limited prior to absorption by parent company, National Grid.

- Overhead Lines: 4ZM 400kV Bicker Fen–Spalding–Northwest Burton.
- Overhead Line: 4ZM 400kV Bicker Fen–Walpole–West Burton.

3.10.12 National Grid advises that no permanent structures are to be built directly beneath its overhead lines. If structures are proposed in these areas, statutory electrical safety clearances of no less than 5.3 m to the lowest conductor must always be maintained. Below-ground works must not adversely affect the foundations of any National Grid assets, and any changes to ground levels near overhead or below-ground infrastructure must be preceded by consultation with National Grid.

3.10.13 Plant, machinery, equipment, or scaffolding must not encroach within 5.3 m of any National Grid conductors, accounting for conditions of maximum 'sag' and 'swing'. Overhead line profile drawings must be obtained before any equipment traverses or works near these assets. Landscaping features beneath or near National Grid overhead assets are to consist of slow- and low-growing tree and shrub species to maintain statutory safety clearances.

3.10.14 All construction activities must comply with National Grid Group Technical Guidance Note 287[4] (or any equivalent guidance in force at the point at which construction is undertaken), which provides third-party guidance for working near National Grid Electricity Transmission equipment, with specific considerations for solar farm developments.

3.10.15 As appropriate, works will also reflect 'Health & Safety Executive Guidance HSG47: Avoiding Danger from Underground Services' and 'Health & Safety Executive Guidance GS6: Avoiding Danger from Overhead Power Lines'.

National Gas Transmission plc

3.10.16 The Proposed Development is situated within the consultation zone of a major accident hazard pipeline (MAHP) asset, as determined by the Health and Safety Executive (HSE). Following consultation with the HSE in December 2024, the MAHP asset was identified as National Gas Transmission plc (7 feeder Hatton / Gosberton) ref no. 6910. It is expected that the access route from the A17 to the South Forty Foot Drain will cross the MAHP asset.

3.10.17 Emergency procedures would be established through consultation with the pipeline operator, HSE and relevant authorities. Prior to commencement of the construction phase, the Principal Contractor will to liaise with HSE and National Grid Gas plc to ensure that the MAHP asset is sufficiently protected, and to agree any further mitigation measures that may be required to ensure that there are no residual health and safety concerns.

3.11 Unexploded Ordnance (UXO)

3.11.1 A detailed unexploded ordnance UXO risk assessment has been obtained and indicates a low risk to the Proposed Development. The **Detailed UXO Risk Assessment** is presented at **Appendix 5 of the Ground Conditions Desk Study (Document Ref: 6.3 ES Vol.2, 6.3.102 Appendix 17.1)**. The Principal Contractor will review the content of the risk assessment and satisfy

[4] 8589935533-TGN 287_Third party guidance for working near NGET equipment.pdf

themselves of its conclusions. As a minimum, the Principal Contractor will implement the following recommendations:

- Site specific explosive ordnance safety and awareness briefing / toolbox talk (TBT) to all site operatives involved in intrusive works; and
- Relevant site operatives undertake the Site Specific Safety Instructions (SSSI) Training Course.

3.12 Best Practice Measures

3.12.1 In addition to the technical assessments presented in the **Environmental Statement Volume 1 (Document Ref: 6.2)** submitted as part of the DCO application, the following documents, legislation, industry standards and codes of practice will also be used to inform the safe working procedures and best practice measures that will be implemented during the construction phase (or any equivalent standards, codes of practice, *etcetera* that are in force at the point at which construction is undertaken):

- Construction Industry Research and Information Association (CIRIA) Report C811: Environmental Good Practice on Site[5];
- Defra's Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, 2009[6];
- BS 5228-1:2009, BS 5228-2:2009+A1 2014 'Code of practice for noise and vibration control on construction and open sites'[7];
- BS 42020: 2013 'Biodiversity: Code of Practice for Development'[8];
- BS 5837: 2012 'Trees in relation to design, demolition and construction. Recommendations'[9];
- BS 3882: 2015 'Specification for topsoil and requirements for use'[10];
- BS 3998:2010 'Tree work. Recommendations'[11];
- BS 3936:1992 'Nursery stock – Specification for trees and shrubs'[12];

[5] Construction Industry Research and Information Association (CIRIA). Environmental good practice on site guide (fifth edition) (C811). Available at: https://www.ciria.org/ci/iCore/Store/StoreLayouts/Item_Detail.aspx?iProductCode=C811&Category=BOOK
[6] Department for Environment, Food, and Rural Affairs (DEFRA). Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. Available at: ~~https://assets.publishing.service.gov.uk/media/5b2264ff40f0b634cfb50650/pb13298-code-of-practice-090910.pdf~~https://assets.publishing.service.gov.uk/media/5b2264ff40f0b634cfb50650/pb13298-code-of-practice-090910.pdf
[7] British Standards Institute. BS 5228-1:2009+A1:2014. Code of practice for noise and vibration control on construction and open sites – Noise. ~~Available at https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-noise?version=standard~~Available at https://knowledge.bsigroup.com/products/code-of-practice-for-noise-and-vibration-control-on-construction-and-open-sites-noise?version=standard
[8] British Standards Institute. BS 42020:2013. Biodiversity. Code of practice for planning and development. Available at ~~https://knowledge.bsigroup.com/products/biodiversity-code-of-practice-for-planning-and-development?version=standard~~https://knowledge.bsigroup.com/products/biodiversity-code-of-practice-for-planning-and-development?version=standard
[9] British Standards Institute. BS 5837:2012. Trees in relation to design, demolition and construction. Recommendations. Available at ~~https://knowledge.bsigroup.com/products/trees-in-relation-to-design-demolition-and-construction-recommendations?version=standard~~https://knowledge.bsigroup.com/products/trees-in-relation-to-design-demolition-and-construction-recommendations?version=standard
[10] British Standards Institute. BS 3882:2015. Specification for topsoil. Available at ~~https://knowledge.bsigroup.com/products/specification-for-topsoil?version=tracked~~https://knowledge.bsigroup.com/products/specification-for-topsoil?version=tracked
[11] British Standards Institute. BS 3998:2010. Tree work. Recommendations. Available at ~~https://knowledge.bsigroup.com/products/tree-work-recommendations?version=standard~~https://knowledge.bsigroup.com/products/tree-work-recommendations?version=standard
[12] British Standards Institute. BS 3936-1:1992. Nursery stock - Specification for trees and shrubs. Available at ~~https://knowledge.bsigroup.com/products/nursery-stock-specification-for-trees-and-shrubs?version=standard~~https://knowledge.bsigroup.com/products/nursery-stock-specification-for-trees-and-shrubs?version=standard

- UK Forestry Standard[13]; and
- BS 6031:2009 'Code of Practice for Earthworks'[14].

3.12.2 The references to industry / best practice and guidance provided within this OCEMP should not be considered an exhaustive list and any subsequent updates to best practice and guidance referenced will be considered when the detailed CEMP(s) is (are) prepared for approval.

3.12.3 The principles in the Considerate Constructors Scheme (CSS) will be considered to assist in reducing pollution and nuisance from the Proposed Development, which involves employing best practice measures that go beyond statutory compliance.

3.13 Unanticipated Ground Conditions

3.13.1 A general watching brief for evidence of contamination will be undertaken during the construction phase. If visual / olfactory evidence of contamination is encountered, construction activities in the area will cease and a suitably qualified and experienced geoenvironmental consultant will be contacted. The relevant local planning authority will be notified of the incident and depending on the nature and extent of the contamination, the EA may also be consulted to ensure appropriate regulatory oversight.

3.13.2 Under the direction of the geoenvironmental consultant, the area of concern will be examined. If required, samples of potentially contaminated material will be taken and analysed at an accredited laboratory to determine if the material meets the required criteria to be protective of human health and the environment. The results will be discussed with the ~~Environment Agency~~EA and / or relevant planning authority, as appropriate.

3.13.3 Pending the laboratory results of the samples, the extent of the potential contamination will be delineated where practicable. It may be appropriate to separately stockpile arisings of potentially contaminated material on low permeability membrane to prevent leaching. Dust suppression and stockpile management (e.g. sheeting) will be provided as necessary to minimise airborne emissions and/or leachate generation from soils affected by contamination.

3.13.4 Material deemed unsuitable for reuse within the project will be removed from the Site and either disposed of to appropriate landfill or treated at a soil treatment centre to facilitate reuse (where appropriate).

3.13.5 Upon receipt of the laboratory results, the results will be screened against suitable generic assessment criteria and assessed in accordance with the Land Contamination Risk Management (LCRM) guidance. If concentrations above the criteria are encountered, the findings of the assessment will be used to determine the risks and the appropriate course action.

[13] UK Forestry Standard – Technical Guidance. Available at: ~~https://assets.publishing.service.gov.uk/media/651670336a423b0014f4c5c0/Revised_UK_Forestry_Standard_-_effective_October_2024.pdf~~https://assets.publishing.service.gov.uk/media/651670336a423b0014f4c5c0/Revised_UK_Forestry_Standard_-_effective_October_2024.pdf

[14] British Standards Institute. BS 6031:2009. Code of practice for earthworks. Available at ~~https://knowledge.bsigroup.com/products/nursery-stock-specification-for-trees-and-shrubs?version=standard~~https://knowledge.bsigroup.com/products/nursery-stock-specification-for-trees-and-shrubs?version=standard

3.13.6 Should contamination be identified, piling activities will be conducted in-line with a risk assessment prepared in accordance with Environment Agency guidance documents 'Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution ~~Prevention'[15] and 'Piling Into Contaminated Sites[16]'~~Prevention.'[17] ..In addition, any piling risk assessments prepared under these guidelines will be submitted to the EA and relevant planning authority.

3.13.7 The findings of the sample testing will be included within the Principal Contractor's (and any other relevant contractor's) health and safety risk assessment and method statement for the construction works. This will include instruction to maintain a watching brief during the works for evidence of contamination and, where necessary, site briefings and toolbox talks (TBT) relating to the contamination encountered and the implementation of such measures as appropriate use of Personal Protection Equipment (PPE) and dampening stockpiles of excavated material to prevent dust generation.

3.13.8 Where required, a remediation strategy will be prepared by the Principal Contractor which will then be submitted to and approved by Lincolnshire County Council's (LCC) Environmental Protection Team~~.~~ and the Environmental Health Teams for the relevant planning authorities. In line with best practice, the remediation strategy will also be submitted to the EA .

3.13.9 Following the completion of remediation works, a verification report will be produced. This report will include data collected during the remediation process and will demonstrate that the agreed measures have been successfully implemented. The verification report will be submitted to the relevant local planning authority and the EA, where appropriate.

3.13.10 Construction activities in the affected area will only recommence once the remediation strategy has been implemented and verified, and formal confirmation has been received from the relevant planning authority and, where applicable, the EA. This ensures that all risks associated with the contamination have been appropriately mitigated and that the Site is safe for ongoing works.

~~3.13.9~~3.13.11 Contingency procedures will be in place for the eventuality that unexpected contamination is encountered during construction. These will comprise a 'stop protocol', testing and risk assessment, followed by the implementation of any remediation or additional protection measures identified to be necessary by this process.

3.13.12 The 'stop protocol' is a formalised contingency procedure that builds upon the general watching brief and contamination response steps outlined in Sections 3.13.1 to 3.13.8. Whilst those earlier steps describe the process for identifying and managing suspected contamination, the stop protocol specifically refers to the immediate cessation of construction activities in the affected area, followed by a structured sequence of actions including site isolation, engagement of a geoenvironmental consultant, targeted sampling and

~~[15] CIRIA. (2006). Control of water pollution from linear construction projects Technical Guidance (C648). CIRIA; London.~~
~~[16] Environment Agency, (1999). REP NC/99/73 Piling and penetrative ground improvement methods on land affected by contamination: guidance on pollution prevention. Environment Agency; Bristol.~~
[17] **CL:AIRE (2025).** *Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention*. ISBN: 978-1-905046-51-5. Available at: https://claire.co.uk/phoca-download/1-publications-library/22-important-industry-documents.html?download=1042:piling-guidance.

analysis, and implementation of any necessary remediation or protection measures. This protocol ensures a consistent and documented response to unexpected contamination events, and provides a clear escalation pathway beyond routine contamination monitoring.

Asbestos

~~3.13.10~~3.13.13 Owing to the identification of asbestos during archaeological trenching works, in accordance with good standard working practice, there will be a requirement for a watching brief for further asbestos during any pre-construction or construction work that involves ground disturbance.

~~3.13.11~~3.13.14 Compliance with relevant health and safety legislation, including measures specific to the risks of land contamination and ground gas to be specified as part of contractor(s) risk assessment method statements. This will include the use of appropriate Personal Protective Equipment (PPE) and statutory health and safety compliance (e.g. compliance with the Confined Spaces Regulations 199726 in relation to ground gas risks from working in trenches) to minimise the potential risks associated with encountering expected and / or unexpected contamination or ground gas. This embedded measure will include compliance with The Control of Asbestos Regulations 201227 and associated industry guidance for the application of these regulations to work with soil. This will ensure that any unexpected asbestos finds are identified, assessed and dealt with correctly.

4. Pollution Prevention

4.1 Introduction

4.1.1 Most pollution incidents are avoidable through careful planning of construction / excavation operations, responsible waste management and suitable anti-pollution measures to reduce the risk of spillage, along with simple precautions to deal with any potential spillages. The costs of cleaning up a pollution incident can be very high and the consequences of a prosecution for environmental offences are likely to be serious.

4.1.2 It is an offence to (accidently or deliberately) permit or cause pollution to the hydrological environment, including all surface water, groundwater and wetlands. Surface water refers to all inland waters (other than groundwater), such as lakes, rivers, drains, estuaries and coastal water. Wetlands refer to particular areas of ground where the ecological, chemical and hydrological characteristics are attributed to frequent inundation or saturation by water.

4.1.3 Pollution will be minimised and controlled through Pollution Prevention and Control Method Statement (PPCMS) that will be developed along with the detailed CEMP.

4.1.4 This section has been prepared in-line with industry standard pollution prevention guidance, such as the Guidance for Pollution Prevention (GPP) documents, to avoid direct and / or indirect contamination of identified geo-environmental receptors present across or nearby the Proposed Development.

4.1.5 It is noted that, although prepared by the Scottish Environment Protection Agency (SEPA), the Northern Ireland Environment Agency (NIEA) and Natural Resource Wales (NRW), GPP provide a relevant and effective source of best practice information and are widely used and accepted within the construction industry.

4.2 Silt

4.2.1 ~~Table 4.1~~Table 4.1 provides guidance for managing silty / sediment-laden waters that can arise from excavations, earthworks, exposed ground, stockpiles, plant, wheel washing and Site roads. Adequate provision will be made for dealing with silty / sediment-laden water within site working plans.

Table 4.1 Potential Sources of Silt and Control Measures

ISSUE	REQUIREMENTS
Water containing silt	No silty and sediment-laden water will be pumped directly into a river, stream, surface water drain or to land without prior treatment. Treatment options include (but are not limited to) settlement tanks, use of flocculants, silt fencing and silt socks. All required Environment Agency permits will be applied for ahead of the start of construction.
Water entering excavations	Use cut-off ditches to prevent entry of clean surface water from entering excavations and well point dewatering or cut-off walls / drains for groundwater. The corner / low point of the excavation can be used as a pump sump. Personnel or plant will not be allowed to disturb water in excavations. Minimise the time excavations are open and try to avoid excavation works in forecasted heavy or prolonged rainfall, where possible.
Exposed soil and material stockpiles	Minimise the amount of exposed ground and soil stockpiles. Covering stockpiles with a suitable geotextile, seeding longer term stockpiles and the use of silt fences at the base of stockpiles may be useful in reducing silt levels in runoff water.
Dusts and mud from roads	Site roads / access tracks to be regularly cleaned (e.g. road sweeper for tarmacked roads) brushed or scraped and kept free from dust and mud deposits. Vehicles and plant are required to be cleaned prior to entering and exiting the construction area. This is particularly important if vehicles are using onsite watercourse crossings or working near water. All cleaning of vehicle and plant must be cleaned away from the water in dedicated vehicle washing areas to prevent potential pollutants entering the surface water system. The spread of dust and sediment will be controlled through fine water spraying of access tracks, stockpiles and working area (if required). Vehicles and plant will be regularly serviced in accordance with manufactures guidelines, monitored and inspected to ensure the Site cleaning protocols are adhered to.

Wheel washes and plant washing facilities	Use of a wheel wash that will be constructed securely with no overflow, with the effluent contained for proper treatment and disposal in accordance with regulatory body guidelines.
Discharging to watercourse of any pumped clean water from dewatering or over pumping operations	Care will be taken when using powerful pumping equipment as disturbance / erosion of receiving water body (i.e. riverbed and bank) could occur and may produce silty / sediment-laden water.

4.3 Concrete and Cement

4.3.1 Where onsite concrete production is to be utilised (e.g. in the construction of temporary compound areas, foundations, *etcetera*), careful initial siting of concrete mixing facilities is vital. A settlement and recirculation system for water reuse will be considered.

4.3.2 Whilst alkaline water generation from cement base systems is unavoidable, all precautions will be taken to minimise concrete or cement-derived products enter a water body or drain.

4.3.3 Table 4.2, below, details management procedures for concrete and cement, which will be managed through a local containment system specific to concrete creation.

Table 4.2 Managing Concrete and Cement

POTENTIAL POLLUTION SOURCE	CONTROL MEASURES
Washing out and cleaning of concrete batching plant or ready-mix lorries	Carried out in a contained area as far from watercourses as practical (referred to as the wash-down area). All washout areas to be signposted. All plants contaminated with concrete to be cleaned in designated washout areas. Washout will not be allowed to enter into any drain or watercourse. Concrete washout area will be regularly inspected. The washout area will be doubled bunded, lined with an impermeable barrier (e.g., plastic-lined pits or containers) to contain the slurry and designed to facilitate removal of wet and solid concrete / cement washout water.
Storage and disposal of water containing concrete	Concrete wash water must be stored securely to prevent escape and restrict access by unauthorised persons. Prior to treatment or reuse, water should be contained using impermeable settling tanks, engineered lagoons, or leakproof skips, with all storage systems maintaining a minimum freeboard of 10% of their total capacity in all storage systems to avoid overtopping. No more than 30 cubic metres of concrete-contaminated wastewater should be stored in any single location on the construction site at any time. Approved

POTENTIAL POLLUTION SOURCE	CONTROL MEASURES
	treatment systems—such as filtration, settlement lagoons, or physical dewatering—must be used, or the water must be legally discharged or transported off-site for appropriate treatment and disposal. Before any discharge, the necessary approvals must be obtained~~, including consent from the sewerage undertaker for foul sewer discharge~~ , a water discharge activity permit for surface water, or a groundwater activity permit. Records must be kept demonstrating that all discharges of concrete-contaminated water to groundwater, surface water, or sewer systems are carried out lawfully.
Concrete spills during site transportation	Concrete loads must be managed to avoid spillages with load selected based on vehicle type, slump of concrete and prevailing ground conditions. Before departing from batching plants, concrete transport vehicles should be inspected for leaks and unsecured chutes. On-site, tools and pipes used for concrete transport must be covered or placed in spill trays to minimise the risk of contamination.
Disposal of concrete washing water in the event of spillage	In the event of a concrete spill, workers must stop the source immediately and contain the spill using absorbent materials, sandbags, or barriers to prevent it from reaching drains, soil, or watercourses. Water should be allowed to settle and evaporate or be solidified using approved products designed specifically for concrete-contaminated water prior to removal or transfer from the construction Site. The use of chemicals or flocculants other than those intended for solidifying concrete-contaminated water is not permitted. Hardened concrete must be removed using hand tools, and all resulting waste should be disposed of in accordance with environmental guidelines. All spills, regardless of size, must be promptly reported to the Site Manager or Project Environmental Manager (PEM) to ensure appropriate follow-up actions are taken.
Silane (trialkoxy isobutyl silane) is used to protect concrete structures against chlorides	Silane is highly damaging to the aquatic environment and rigorous containment measures will be implemented especially considering the proximity of watercourses.
Alkalinity monitoring and documentation	Regularly test the captured water to determine its pH level, which helps to identify when the treatment is necessary. Records will be maintained by the PEM (or suitably qualified Site staff) of pH tests, treatment process and disposal actions. This is vital for demonstrating compliance with environmental standards and for identifying opportunities to improve practises.

POTENTIAL POLLUTION SOURCE	CONTROL MEASURES
Neutralisation	If the water is too alkaline it shall be treated using neutralising agents to lower the pH to acceptable levels before any potential discharge or use.
Reuse and recycling	Whenever possible, alkaline wash water will be recycled for subsequent mixing or cleaning tasks. This will minimise waste and reduce the risk of environmental contamination.
Training and standard operating procedures	Ensure that all personnel are trained in handling alkaline water and understand the procedures for its containment treatment and disposal.

4.4 Wastewater

4.4.1 Liquid wastes pertaining to runoff from material storage areas and from wet methods of preparation should never be released directly into surface waters or surface waters drains without prior approval from the relevant regulatory bodies. Table 4.3, below, details associated risks and management of wastewater from construction materials and methods.

4.4.2 Similarly, the direct discharge of such wastes into the groundwater should be prevented unless explicitly permitted by the relevant regulatory bodies. Control measures to mitigate ground water contamination are given in paragraph 6.11.20.

Table 4.3 Wastewater Control Measures

POTENTIAL POLLUTION SOURCE	CONTROL MEASURES
Surface washing	The most efficient method of containing generated waters is by a vacuum attached to the spray nozzle.
Wastewater used for pressure washing	To be contained and the resultant waste managed.
Dewatered from conduits / ducts may be contaminated with silt, oil or other substances	To be contained and the resultant waste managed.
Uncontrolled releases and spillages	Implementation of the site emergency response plan

4.5 Pollutant Containment

4.5.1 Water pollution will be minimised and controlled through method statements and risk assessments of construction activities that will follow construction industry best practice guidance.

4.5.2 Most pollution incidents are avoidable. Careful planning of construction / excavation operations, responsible waste management and suitable anti-pollution measures reduce the risk of spillage, along with simple precautions

to deal with any potential spillages. The costs of cleaning up a pollution incident can be very high and the consequences of a prosecution for environmental offences are likely to be serious. Any work carried out in or near watercourses or over the underlying aquifers will be regarded as high risk.

4.5.3 All personnel onsite will be made aware of all the best practice measures and will be instructed to implement them.

Plant and Spill Containment

4.5.4 Containment measures to ensure spill control will be implemented for Site plant vehicles. All plant will be well maintained to limit leakage from engines or hydraulic systems. Pumps and other similar equipment will be placed on drip trays or plant nappies with refuelling undertaken following strict procedures for spill control.

4.5.5 This includes (but is not limited to) the following:

- Refueling of vehicles and other plant to only be carried out within a designated area or, where that is not possible, under the supervision of a suitably qualified and trained Site foreman. All refuelling, oiling, and greasing will take place above drip trays / plant nappy or on an impermeable surface that provides protection to ground and away from drains. Vehicles will not be left unattended during refuelling.
- Only well-maintained equipment and vehicles to be permitted onsite. The earthworks contractor / plant and equipment contractor will provide inspection certificates of the plant / equipment's suitability and will regularly inspect and check plant and vehicles throughout the project to ensure that they remain fit for purpose.
- Any item of plant that leaks fuel or oil onto any surface will be considered unfit for use and will be repaired immediately or removed from Site.
- Any spillages of contaminating liquids or other materials will be immediately reported to the Site Manager.
- Stocks of oil absorbent materials will be kept onsite to deal with small spillages.
- Appropriate bunding to at least 110% of the volume stored will be used for any fuel or chemical container onsite, ensuring containment at source to prevent spillage.
- All wash down of vehicles and equipment will take place in designated areas and wash water will be prevented from passing untreated into watercourses, and will comply with best guidance and available.
- Drip trays / plant nappies will be placed below static mechanical plant.
- A spill kit is to be made available onsite and appropriate to the volume of fuel stored at any given point.

Vehicle/Fuel Containment

4.5.6 All fuels will be stored in fully bunded lockable fuel tanks within the Site compound area and the plant storage area. Fully bunded lockable mobile fuel bowsers will be utilised to distribute fuel to plant working onsite. A designated fuelling area will be set-up where plant will be refuelled.

4.5.7 Fuel / oil spillage kits will be available both at refuelling areas and within each item of operational plant. All plant operators will be fully trained on the emergency application of these kits should an accidental spillage occur.

4.5.8 Weight load indicators are fitted to HGVs to prevent overloading. Fuel tankers and roll on-off bins cannot operate when overloaded. Vehicles such as flatbed trucks, trailers or low loaders cannot be fitted with weight loaders.

4.5.9 Prior to commencing the works, the Principal Contractor will utilise the most appropriate methods to minimise mud and debris from Site being deposited onto public highways in-line with the dust management measures implemented (e.g. a temporary wheel wash facility) that is considerate of the drainage measures of the detailed CEMP.

Chemicals and Material Storage for Spill Containment

4.5.10 Chemicals and other construction materials will be stored and contained in areas where they will not be easily mobilised to reach water courses. Procedures for the use of specific materials will be developed to reduce the risk of accidental release and ensure that water quality is appropriately protected, using bunds to ensure containment and appropriately separating chemicals onsite using GPP principles.

4.5.11 A combination of material characterisation and removal, where appropriate, prior to stockpiling and construction control measures would be employed onsite in order to ensure that the risk to off-site receptors is minimised as far as is practicable.

4.5.12 Adequate access arrangements will be made to provide suitable entry to a material storage compound, with chemicals, oils and fuels stored on an appropriate bund.

4.5.13 All hazardous materials will be used, stored and transported in a safe manner. All personnel and contractors involved with hazardous materials handling will be made aware of the associated environmental hazards and risks and will be appropriately trained in routine activities and emergency actions / responses.

4.5.14 An up-to-date list of any hazardous materials onsite will be prepared, specifying their location. The Project Environmental Manager (PEM) / co-ordinator will regularly review this.

4.5.15 All hazardous materials will be kept in adequate conditions of containment, within controlled areas and securely protected from contact by non-authorised personnel, including trespassers and vandals. The quantities of hazardous material stored at any one time will be minimised.

4.5.16 Control of Substances Hazardous to Health (COSHH) assessments will be held onsite for all hazardous materials. These advise on the type of storage required for the chemicals (e.g. bunded areas, storage of flammable products in locked cabinets) to prevent reactivity and containment in the event of a leak / spill.

4.5.17 Storage bottles or tanks containing or transporting hazardous materials will be above ground and will have leakage / spill identification and controls in place. Leaking or empty drums or other containers will be immediately removed from the Site.

4.5.18 Aboveground tanks, drum storages and pipelines that contain hazardous materials will have properly designed secondary containment. The primary storage container itself will be of sufficient strength and structural integrity to ensure that (in normal circumstances) it is unlikely to leak or burst.

4.5.19 All hazardous materials will be used in-line with the manufacturers' instructions. The correct quantity of chemicals will be used and, where possible, less hazardous alternatives considered.

4.5.20 All hazardous materials will be used and stored within drip trays to prevent contamination. Drip trays / plant nappies underneath portable plant, such as generators, will also be used.

4.5.21 Any disposal of product or empty product containers will be in accordance with waste management legislation and related COSHH sheets.

Other Source Containment Measures

4.5.22 Further preventative source containment measures include:

- Any water that has come into contact with contaminated materials will be disposed of in accordance with the Water Resources Act 1991 and the Water Industry Act 1991 (if disposed to suitable licenced facility) to the satisfaction of regulatory bodies sewerage provider and local authority as applicable.
- The use of water for dust suppression may also increase runoff quantities during construction and any excavation of soil could have an impact on both surface and groundwater quality. This volume is expected to be minimal and, in the event of any contamination, is to be managed onsite using appropriate dust prevention measures to prevent any water contamination.
- Containers of contaminating substances will be leakproof and kept secure to prevent spills and vandalism.
- List I and List II substances (Dangerous Substances Inventory) will be restricted in use during construction.
- Where possible, carrying out regular inspections of discharges, drainage systems, collection ditches, interceptors and watercourses to ensure that they are in good order as part of Site management.

4.5.23 The completed works as designed should present minimal risk of impacts to the hydrological environment. The status quo in terms of the drainage system is to be retained as far as possible to preserve the greenfield runoff rate. No active maintenance of the drainage system is planned in-line with current practices.

4.5.24 The SuDS features created during the construction phase will need to be maintained, as needed. Within Section 8.8 SuDS Management and Maintenance of **Appendix 11.1 Flood Risk Assessment (Document Ref: 6.3, ES Vol.2, 6.3.81)**, Table 14. Operation and Maintenance Requirements for Swales lists maintenance requirements and frequencies. The maintenance requirements will be included within the detailed CEMP(s) during the detailed design stage.

Spill Kit Provisions

Locations

4.5.25 Suitably sized stocked spill kits will be maintained at set locations across the Site. Spill kit locations will include, but are not limited to, the following:

- Stores;
- Adjacent to all fuel storage and refuelling facilities;
- All mobile plant;
- All static plant with oil or fuel requirements;
- In close proximity to work areas;
- At the Site entrance; and
- At the Site Office.

Inspections

4.5.26 Periodic inspections of the contents and location of spillage kits will be conducted by the Site Manager to ensure that the kits are suitable and complete, with appropriate Personal Protective Equipment (PPE) available in the same location(s). The contents of the spillage kit will be variable, dependent on the type, quantity and location of the potential substance that may be spilled. Any defects that are identified during the inspections of spillage kits shall be reported to the Principal Contractor and immediately resolved.

Environmental Emergency and Spill Procedures

Emergency Control

4.5.27 An Environmental Emergency Control Plan (EECP) would be prepared in advance of construction. This will set out the procedures to be adopted in case of any environmental events with regards to reporting and clean-up. **An** ‘environmental event’ is defined for the Proposed Development as an event that is likely to cause or has caused pollution to water resources, contamination to ground or abnormal emissions to air. Criteria to determine the significance of an event (i.e. low, medium or high) along with examples will be provided in the detailed CEMP.

Spill Procedures

4.5.28 In the event of an onsite spill from transport, construction or other development associated activities, a site-wide emergency spill procedure will be followed.

4.5.29 The ‘Source, Pathway, Receptor’ model will be considered and efforts made by Site staff to ensure that spills are prevented from entering pathways.

4.5.30 A sufficient volume of spill kits (containing spill granules, bunds and containment equipment) will be available on the Site and staff will be trained in how to use them effectively to ensure that materials are contained and can be safely removed from Site via an appropriately licenced waste contractor.

4.5.31 As part of auditing, a ‘spill drill’ will take place onsite, checking that staff members are aware of how to find, operate and contain a spill onsite using Site equipment and further measures to be taken if needed.

4.5.32 In the event of a minor spill, containment will occur using on site spill equipment. This will be removed by using an appropriately licenced waste contractor.

4.5.33 In the event of a major spill occurring that could contaminate the nearby water course or other receptors in the area beyond the capability of Site containment, the local authority will be informed and an appropriate contractor used to support the removal and containment of spilled material in order to prevent contamination.

4.6 Incident Review

4.6.1 Once the spillage incident has been appropriately dealt with and the area impacted is remediated to a point where it is under no further immediate risk to the environment or human health and safety, the spill shall be recorded. The Site Manager and / or Project Environmental Manager (PEM) shall formally record any environmental incident. Near misses shall be recorded by the health and safety personnel.

4.6.2 Upon recording, the SHE Director or appointed person within the SHE Team shall investigate the environmental incident to establish the root of the causation and ensure any corrective action required is undertaken in order to prevent any potential spillage of the same or similar nature reoccurring. Any takeaway lesson shall be fed back into the project via toolbox talks (TBT), training, briefings and bulletins, where relevant.

4.7 Training

4.7.1 All personnel working onsite shall be trained with respect to the environmental control plan. This includes contractors and sub-contractors. Training on the application and use of spill kits and clean-up will be provided by the Site Manager or nominated persons with appropriate knowledge to all persons undertaking work where the risk assessment(s) identify the possibility for environmental harm on the first occasion before work and at intervals deemed necessary by the Site Manager. The details of training, including a signed attendance sheet shall be recorded and maintained onsite.

4.8 Consent Register

4.8.1 A register detailing potential / anticipated, granted and discharged environmental permits, consents and licenses that are required as part of the construction phase of the Proposed Development will be developed as part of the detailed CEMP(s) and maintained and updated by the Principal Contractor.

4.8.2 The Consent Register will include information relating to each potential and granted environmental permit / other consent and will include (but not limited to) the following:

- Permit / consent deciding authority;
- Permit / consent name and reference identification (ID);
- Permit / consent status;
- Law / Regulations dictating requirement for permit / consent;
- Brief description of works requiring permit / consent;
- Documentation and requirements for permit / consent;
- Permit / consent time schedule; and
- Discharge requirements of permit / consent.

4.8.3 At the time of developing the detailed CEMP(s) for approval in accordance with the relevant requirement in Schedule 2 to the **Draft DCO (Document Ref: 3.1)**, it is expected that the Consent Register will be completed based upon anticipated permits / consents required and will detail the documentation / evidence required to obtain the permit / consent, the member of the Project Team best placed to obtain, be responsible for and discharge, and the estimated date for obtaining the permit / consent.

4.8.4 An anticipated list of consents has been prepared to support the application available in **Other Consents and Licences (Document Ref: 5.4)**.

5. Waste Management

5.1.1 Activities during the construction phase will have regard to the Safe Management Of Waste To Protect Human Health And The Environment As Required Under Waste Duty Of Care Legislation (Section 34 of the Environmental Protection Act 1990).

5.1.2 There will be areas dedicated to the storage of waste and recycling materials generated during the construction phase. The area will be clearly signed, and separate skips / bins will be provided for various types of material to be recycled. Arrangements will be made for waste to be collected and replaced regularly or as and when they are at capacity.

5.2 Legislation

5.2.1 Waste is defined by Article 1(a) of the European Waste Framework Directive (EWFD) (The European Parliament and the Council of the European Union, 2008) as "*any substance or object (in the categories set out in Annex I) which the holder discards or intends to discard or is required to discard*".

5.2.2 The legal definition of waste also covers substances or objects that fall outside of the commercial cycle or out of the chain of utility. In particular, most items that are sold or taken off-site for recycling are defined as waste, as they require treatment before they can be resold or reused. In practical terms, waste includes surplus earthworks materials and soil, scrap, unwanted surplus materials, packaging, recovered spills, office waste and damaged, worn-out, contaminated or otherwise spoiled plant, equipment and materials.

5.3 Duty of Care

5.3.1 The Duty of Care for waste management is set out under Section 34 of the Environmental Protection Act 1990 and the Waste (England & Wales) Regulations 2011 (as amended). This requires anyone who produces, imports, keeps, stores, transports, treats or disposes of waste to take all reasonable steps to ensure that the waste is managed properly. Anyone in possession of waste must take all reasonable steps to:

- Prevent unauthorised or harmful deposit, treatment or disposal of waste;

- Prevent a breach (failure) by any other person to meet the requirement to have an environmental permit or a breach of a permit condition;
- Prevent the escape of waste;
- Ensure that waste is transferred to an authorised person; and
- Provide an accurate description of the waste when it is transferred to another person by using a compulsory system of Waste Transfer Notes (WTN) that control the transfer of waste between parties.

5.3.2 Failure to comply with the Duty of Care requirements is a criminal offence and could lead to prosecution.

5.4 Waste Transfer Notes

5.4.1 The relevant sub-contractors removing waste from the Site will be required to have a valid Waste Carriers Licence if transporting waste and will ensure that an appropriate Duty of Care process is followed for Waste Transfer Notes (WTN). The Duty of Care process is specified in the Waste Duty of Care Code of Practice (2016), with any hauliers issuing Duty of Care notes and completing them correctly with both the sub-contractor and Waste Disposal / Treatment information, as required.

5.4.2 The Site Manager and any relevant delegated authority will be required to ensure that wastes leaving the Site are assigned the correct European Waste Code (EWC), ensuring the waste is appropriately classified and treated or disposed of by a permitted / exempt facility. Wherever possible, the Waste Hierarchy (see Figure 5.1) will be followed in accordance with the Waste (England & Wales) Regulations 2011.

5.4.3 Skips containing non-inert waste (i.e. putrescible waste) will be stored within covered skips.

5.4.4 Hazardous waste, if produced, will be stored in such a way as to avoid contamination of water or other contamination (e.g. covered battery boxes for waste batteries or sealed drums for oil and associated waste). In the case of defective solar panels or batteries, these will be stored under cover, removed from the Site and treated as a hazardous waste if they are unable to be repaired.

5.4.5 Hazardous wastes, if produced at the Site, will be stored onsite in a suitable manner and collected by a licensed carrier who will complete a relevant Hazardous Waste Consignment Note and issue a corresponding copy to the Site Manager (SM). The Contractor will keep this on record as part of the Considerate Constructor Site File, in-line with their obligatory Duty of Care requirements.

5.5 Supporting Documentation

5.5.1 A bespoke Waste and Recycling Strategy (see **Appendix 17.2 Waste and Recycling Strategy (Document Ref: 6.3, ES Vol.2, 6.3.103)** has been developed for the Proposed Development, outlining best methods of managing waste considering national and local policy aspects. This sets out appropriate considerations for waste management, as well as measures for

the treatment / disposal of apparatus (if required) to be removed (including as part of later decommissioning works), alongside measures to be considered during site preparation, access route preparation, earthwork management and other construction waste management.

5.5.2 A Site Waste Management Plan (SWMP) will be prepared alongside the detailed CEMP(s) and will set out how waste generated during the construction phase will be appropriately managed. These details will be generally in accordance with the principles set out in the **Waste and Recycling Strategy (Document Ref: 6.3, ES Vol.2, 6.3.103)** and the Waste Hierarchy using the following approach: reducing the amount of waste generated, encouraging reuse / recycling waste where possible and removing remaining waste to an appropriate management facility.

5.5.3 A number of waste facilities (e.g. Veolia's Grantham Transfer Station or Mid UK Recycling's facilities, near Grantham) have been identified within the region that provide plentiful capacity for the anticipated levels of construction waste, secondary commercial and industrial waste produced, as well as capacity for any hazardous wastes (e.g. WEEE[18], plaster) produced through the construction process.

5.5.4 All the above measures will ensure the prevention of contamination and that waste is segregated and separated so that recovery and reuse can be maximised throughout the waste hierarchy by using appropriate waste containers and treatment methods.

5.5.5 The Waste (England & Wales) Regulations 2011 place a duty on all persons who produce, keep or manage waste to apply the 'Waste Hierarchy' in order to minimise waste production at every stage of a development. The Waste Hierarchy requires anyone managing waste to consider, firstly, waste prevention, preparing for reuse and recycling, followed by waste recovery methods (e.g. energy recovery and, lastly, waste disposal).

5.5.6 The Waste Hierarchy is presented, below.

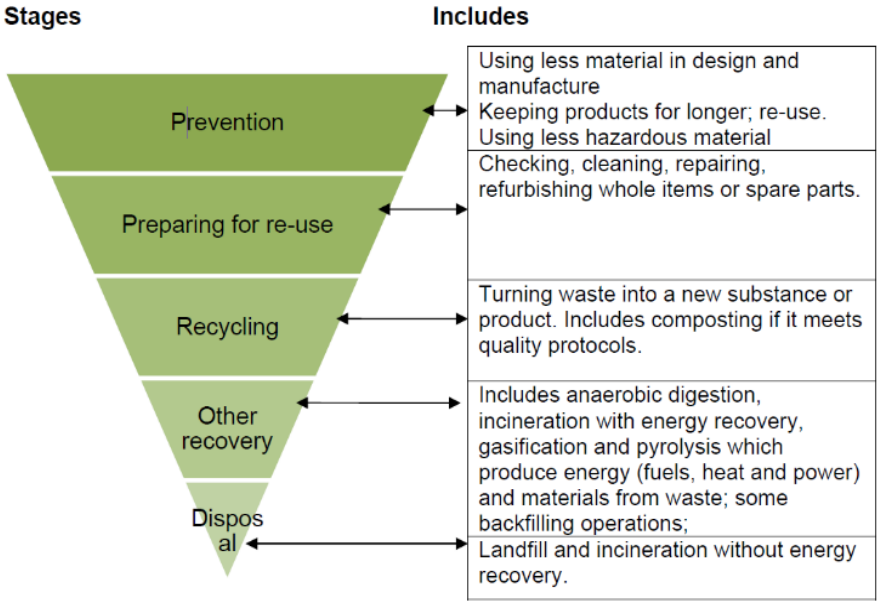

Figure 5.1- Waste Hierarchy

[18] Waste Electrical and Electronic Equipment (WEEE).

5.5.7 The Proposed Development will seek to minimise the impact on the natural environment from materials required for construction. This will be achieved through minimisation of waste generation and repurposing of available materials, whether available onsite or created during construction.

5.5.8 Optimising materials for recycling and reuse onsite will include the following:

- Designing the construction Site for effective material storage and segregation and;
- Establishing recovery targets and recording the volume of materials reused onsite.

5.5.9 The detailed CEMP(s) will take into consideration the waste management protocols within the Waste Hierarchy, such as reusing any construction and excavation waste onsite wherever possible. Potential secondary uses for construction waste include using it as aggregate in building construction, landscaping and road construction.

6. Environmental Mitigation and Management

6.1 Introduction

6.1.1 This section of the OCEMP sets out the mitigation and management measures that will be included as a minimum in the detailed CEMP(s). It also identifies where monitoring is proposed to assess the effectiveness of the mitigation measures implemented.

6.2 General Site Housekeeping

6.2.1 To reduce the likelihood of an environmental incident occurring, the following housekeeping measures will be implemented during the construction phase:

- Excavations will be reinstated as soon as practicable once construction works are complete and reinstated in an ‘as-dug’ manner to ensure that natural hydrological conditions are restored as far as reasonably practical;
- Removal or stopping and sealing of drains and sewers taken out of use;
- No discharge of site runoff to ditches, watercourses, drains, sewers or soakaways without the agreement of the appropriate authority;
- Maintenance of wheel-washing facilities or other containment measures;
- All fuel, oils and other polluting substances to be securely stored in suitably bunded containers on impermeable surfaces. The total quantity and range of potential pollutants to be used onsite is anticipated to be small. Static machinery and plant would, where practicable, have integral drip trays of 110% of the capacity of the fuel tank.

- Cement / concrete mixes will be calculated to ensure that sufficient quantities are supplied (without needing to dispose of any excess), and that the cement / sand mix ratio will be monitored for consistency and suitability;
- Pouring of concrete for foundations will take place within well shuttered pours to prevent egress of concrete from the pour area;
- Pouring of concrete or cement bound sand during adverse weather conditions will be avoided, wherever possible;
- The use of less intrusive noise alarms that conform with relevant safety requirements (e.g. broadband reversing warnings or proximity sensors) to reduce the requirement for traditional reversing alarms;
- Storage of materials and stockpiling to be located outside the fluvial floodplain (i.e. Flood Zone 3~~) (where practical~~), flood storage areas ~~and areas known~~. Where it is not feasible to ~~be at risk~~locate stockpiles outside of ~~surface water flooding;~~Flood Zone 3, floodplain compensation will be required;
- Furthermore, the placing of stockpiled materials within the floodplain will not be undertaken during periods of prolonged wet weather;
- Stockpiled materials will not be located in areas known to be at risk of surface water flooding. Where this is not feasible, Excavated materials will be placed to ensure a 1 m gap is provided at 10 m intervals for any linear stockpiles that intersect existing overland flow routes.
- Strip soils and vegetation during dry conditions, where reasonably practical;
- Use of track mats to prevent unnecessary soils compaction, damage to vegetation and / or erosion;
- All plant, vehicles and machinery will be inspected regularly for leaks;
- Refuelling would be undertaken in a designated refuelling areas (see Section 4.5 Pollutant Containment);
- Management of staff congregating outside the Site prior to commencing or leaving work;
- The use of loudspeakers and similar communication devices in a less disruptive manner; and
- Limiting the visual intrusion of construction sites through hoarding, where possible and as far as reasonably practicable.

6.2.2 Depending on the final design of the Bespoke Access Road within the Bespoke Access Corridor and the Cable Route within the Cable Route Corridor, the following PRoWs may be temporarily affected during construction (see **Chapter 15 Socio-economics (Document Ref: 6.2, ES Vol.1, 6.2.15)** and **Figure 15.3 Public Rights Of Way Within And Around The DCO Order Limits (Document Ref : 6.4 ES Vol. 3, 6.4.79)**):

- LL|Heck|12/1;
- LL|Heck|14/1, connecting Courtrow Farm and Star Fen Farm;
- LL|Heck|2/4, connecting Heckington with Heckington Fen;
- LL|GtHa|3/1, connecting Poplar Farm with Great Hale Drove;
- LL|GtHa|2/1, connecting Great Hale with White House and White House Farm through Great Hale Drove;
- LL|GtHa|1/1, circa 30 m from cable corridor border and unlikely to be affected;

- LL|GtHa|1/2, connecting Great Hale with Broadhurst Farm;
- LL|LHal|4/1, sharing 1120 m of a similar connection with LL|GtHa|1/2, but south of river Beck and continuing till the Old Forty Foot Bank (Track), c.2180 m in total;
- LL|Bick|1/1, bridleway, connecting Ferry Farm with Swineshead Bridge and Eau End Farm and River Farm;
- LL|Bick|2/1, connecting Northorpe Farm with Cowbridge Road and Londhedge Drove leading to Bicker Gauntlet, to the south of the Sub-station and unlikely to be affected by the final cable route design;
- LL|Ewer|10/1;
- LL|KkLT|5/1 connecting two agricultural fields; and
- LL|KkLT|4/2 running between Asgarby and Kirkby la Thorpe.

6.2.3 The PRoWs that will be affected by the construction of the Bespoke Access Road will be temporarily closured during the construction of the Bespoke Access Road and then subject to managed crossing points (see **Appendix 2.2: Bespoke Access Road Construction Method Statement (Document Ref: 6.3 ES Vol. 2, 6.3.5)** for details). The PRoW that will be affected by the construction of the Cable Route will be temporarily closured during the construction of the Cable Route, only (see **Appendix 2.1: Bespoke Access Road Construction Method Statement (Document Ref: 6.3 ES Vol. 2, 6.3.4)** for details).

6.2.4 Standard pollution prevention guidance (PPG) will be adhered to during the construction phase to avoid direct and / or indirect contamination of identified ecological receptors present across or nearby the Proposed Development as outlined in the Section 4 of this OCEMP report. The measures will be developed as part of the detailed design and will be set out within the detailed CEMP(s) and will include:

- Adopting and adhering to industry approved working practices at all times;
- Avoiding the use of chemicals (e.g. strong acid or alkaline substances) harmful to wildlife wherever possible;
- Working and storing materials away from sensitive features and watercourses, and within appropriately surfaced and bunded areas (as required);
- Using dust suppression measures as appropriate; and
- Keeping sufficient mitigation equipment (e.g. spill kits) available and in the event of an incident immediately removing all contaminated soil to prevent runoff to watercourses.

6.2.5 The mitigation and monitoring measures for each respective environmental topics are outlined, below.

6.3 Socio Economic

6.3.1 Along with the measures presented in this OCEMP regarding community liaison and engagement (see Section 3.6 on Communication and Community Engagement), mitigation for potential Socio-Economic impacts during construction are discussed in **ES Chapter 15 Socio-Economic (Document Ref: 6.2 ES Vol.1, 6.2.15)**.

6.4 Climate Change

6.4.1 The management of climate change impacts during construction has been addressed through the design of the Proposed Development, as summarised in **ES Chapter 12 Climate Change (Document Ref: 6.2 ES Vol.1, 6.2.12).**

6.5 Glint and Glare

6.5.1 As outlined in **ES Chapter 13 Glint and Glare (Document Ref: 6.2 ES Vol.1, 6.2.13)**, there is a slight risk of reflections from steel mounting structures prior to mounting the panels on top. The surface area of the steel is considerably smaller than that of the panels. Furthermore, the time between the installation of the mounting structures and the mounting of the panels will be minimised so as to limit the chance of reflections. As a result, the risks are limited and not expected to cause significant glint and glare effects.

6.6 Landscape & Visual

6.6.1 As detailed within Section 6.6 Assessment of Effects within **Chapter 6 Landscape & Visual (Document Ref: 6.2 ES Vol.1, 6.2.6),** the construction phase is likely to result in landscape and visual effects as a result of the direct loss and change to the landscape as part of the construction activities.

6.6.2 The following activities have been identified as having the potential to give rise to effects on landscape receptors during the construction phase:

- Vegetation removal and soil stripping;
- Creation of temporary access tracks;
- Movement and activity associated with construction works and traffic;
- Excavation and the introduction of temporary material stockpiles; and
- Construction works associated with the introduction of energy infrastructure within the Solar Array Area; and
- Construction works associated with the introduction of the Bespoke Access Road.

6.6.3 The following activities have been identified as key effects on visual amenities during the construction phase:

- The construction and presence of temporary construction compounds and material storage areas; and
- Works associated with the introduction of energy infrastructure, including the presence and movement of vehicles and machinery.

6.6.4 The following receptors have been identified as having the potential to experience significant adverse visual effects during the construction phase:

- Residents of Property Group R1; Ewerby Thorpe Farm and Ewerby Thorpe Lodge;
- Residents of Property Group R2; Howell Fen Farmhouse, Asgarby Barns and Westmorelands Farm;
- Residents of Property R4; Gashes Barn;

- Residents of Property Group R5; Star Fen Farm, The Bungalow, Star Fen Cottage, Windward, Berrick Cottage, Decoy Farm;
- Residents of Property Group R9; including, Crow Lane Farm, White House, Broadhurst Farm;
- Residents of Property R10; White House Farm;
- Residents of Property R11; Poplar Tree Farm;
- Residents of Property R12; Villa Farm;
- Residents of Property Group R15; Meadow View, Dovecote Farm, Cozee Cottage, Highland House, Gauntlet Bridge Farm, Fen Lodge, Crow Hall;
- Residents of Property Group R20; Crown Cottage and Keepers Cottage;
- Residents of Property Group R6. Courtrow Farm, The Paddocks, Winkhill;
- Residents of R7 Hall Farm
- Residents of Property Group R13. Kingtree Lodge, Cowbridge Farm;
- Residents of Property Group R14. Butlers, Acorn Lodge, Milldrain Lodge
- Residents of Property Group R18. Garwick Farm, Strawberry Cottage, Bramble Cottage, White House, Fen House;
- Recreational receptors using the PRoW Network adjacent to the River Slea;
- Recreational receptors using the Bridleway Ewer/1103/1;
- Recreational receptors using the PRoW network to the east of Great and Little Hale;
- Recreational receptors using the PRoW network to the north west of Heckington;
- Recreational receptors using Public Footpath Bick/2/1;
- Recreational receptors using the PRoW network to the west of Asgarby Lane;
- Recreational receptors using the PRoW network to the east of Asgarby Lane;
- Transport receptors using Black Drove/Ferry Lane/Halfpenny Toll Lane; and
- Transport receptors using Howell Fen Drove.
- Transport receptors using the A17;
- Transport receptors using the minor road network adjacent to and crossing the southern extent of the Cable Route Corridor including Tileban Lane and Bicker Drove;
- Transport receptors using A153;
- Transport receptors using Asgarby Lane; and
- Transport receptors using Heckington Lane/Halfpenny Toll Lane.

Mitigation Measures

6.6.5 An Outline Landscape and Ecological Management Plan (OLEMP) has been submitted as part of the DCO application (**Appendix 6.7 Outline Landscape and Ecological Management Plan (Document Ref: 6.3 ES Vol.2, 6.3.19)**. This OLEMP provides an overview of the approach and information on the management of the landscape and ecological resource and proposed mitigation measures.

6.6.6 The obligation to prepare the detailed LEMP(s), and have this/these approved by the relevant planning authority, is secured through a requirement in Schedule 2 to the Draft DCO (Document Ref: 3.1). The detailed LEMP(s) will be developed from the principles set out in this OLEMP as it/they must be substantially in accordance with this OLEMP. The LEMP(s) will include information on establishment and long-term operational management of the landscape and ecological resource. The LEMP(s) will also describe the long-term management of ecological habitats required to achieve biodiversity net gain units.

6.6.7 The landscape mitigation measures shown in **Figure 6.31 Landscape Strategy Plan (Document Ref: 6.4, ES Vol.3, 6.4.42)** will be secured by compliance with **Appendix 6.7 Outline Landscape and Ecological Management Plan (Document Ref: 6.3, ES Vol.2, 6.3.19).** These documents will be used as the basis to develop a suite of documents during detailed design to ensure the long-term management of the landscape and ecological elements of the Proposed Development.

6.6.8 The following key proposed mitigation measures are anticipated to be further refined during the detailed design stage of the Proposed Development:

- Temporary fencing will be used to demarcate important and protected habitats and vegetation in accordance with industry standard guidance during the construction stage;
- The use of hoarding will be considered where visual screening is required for residential properties, the PRoW network and recreational areas;
- Work compounds, access tracks, haulage routes and material storage areas, will be located away from sensitive landscape and visual receptors where practicable;
- Lighting associated with construction works will be designed, positioned and directed to prevent or minimise light spill and pollution both in relation to nearby residential receptors and more widely across the Study Area.
- Land temporarily impacted by works to divert utilities will be reinstated to its former condition and composition upon completion, as far as reasonably practicable; During construction, stockpiles and materials will be carefully placed and organised to minimise visual impact, maintain a tidy appearance and limit the visible area of disturbed ground;
- Vehicle movements will be restricted to the practicable minimum and construction activities will be confined to normal working hours (wherever possible) to reduce disruption;
- Existing vegetation to be retained will be safeguarded through the establishment of tree protection zones that will be clearly fenced to prevent encroachment into root protection areas (RPA);
- Any vegetation lost during construction, including trees, hedgerows or other valuable habitats, will be replaced (though not necessarily in the same location) and enhanced through proposed compensatory planting and seeding measures in accordance with the landscaping strategy;

- Construction and security lighting will be shielded where possible and directed downwards in order to minimise light pollution. Additionally:
    - *The level of lighting adopted will be kept to a minimum and to be sufficient for safe site operations and for emergency purposes, only;*
    - *Infrared, movement sensor security lighting would be used at night;*
    - *Temporary lighting will utilise directional fittings to minimise outward light spill and glare; and*
    - *Lighting will be directed towards the middle of the construction and compound areas rather than towards the boundaries.*
- Where possible and as far as reasonably practicable, temporary hoarding will be installed (where necessary) to provide screening for residential properties and Public Rights of Way (PRoW) during construction.

6.6.9 In addition to the above, the potential for adverse impacts will be minimised as far as possible through the application of method statements, best practice and industry standards including the following (or equivalent documents in force at the time construction occurs):

- BS 5837:2012, Trees in Relation to Design, Demolition and Construction; and
- Landscape Institute's Infrastructure Technical Guidance Note 04/20 (Ref 10-4)[19].

Monitoring

6.6.10 Monitoring requirements are outlined in the OLEMP, **Appendix 6.7 Outline Landscape and Ecological Management Plan (Document Ref: 6.3, ES Vol.2, 6.3.19)** which will be used to inform the detailed during detailed design these requirements will be used to inform the LEMP(s) developed during detail design. This document will set out the role of key personnel including the Project Environmental Manager (PEM). The PEM will ensure that the construction phase is progressed in accordance with the measures set out within the detailed LEMP(s). In addition, establishment of appropriate vegetation protection measures and areas for removal will be inspected by the PEM or suitably qualified sub-contractor to ensure compliance with the Arboricultural Method Statement and Tree Protection Plans to be outlined within the detailed LEMP. The Project Environmental Manager (PEM) or suitably qualified sub-contractor will also monitor the implementation of the landscape mitigation planting in order to ensure that best practice is being followed, and the planting is implemented in accordance with the detailed design.

6.7 Ecology

Background

[19] Landscape Institute. Technical Guidance Note- 04/2020: Infrastructure. Available at https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2018/01/LI-Infrastructure-TGN-FINAL-200924.pdf

6.7.1 The ecological assessment identified a number of key sensitive ecological features that may experience adverse effects during the construction phase, including:

- The Wash (RAMSAR and Special Protection Area (SPA));
- The Wash and North Norfolk Coast (Special Area of Conservation (SAC);
- Wilsford & Rauceby Warrens (Site of Special Scientific Interest (SSSI));
- All Local Wildlife Sites (LWS) withing 2km;
- Coastal and Floodplain Grazing Marsh and Grassland Habitat;
- Standing Water Habitat;
- Linear Water Features Habitat; and
- Species across the Site, including invertebrates, great crested newts, reptiles, wintering and breeding birds, water voles, otters, bats, badgers and fish species.

6.7.2 The following receptors have been identified as experiencing potentially significant adverse effects during the construction phase, as assessed within **Chapter 7 Ecology (Document Ref: 6.2 ES Vol.1, 6.2.7)** of the **Environmental Statement (Document Ref: 6.2 ES Vol.1)**:

- The Wash (RAMSAR and SPA): Very low to low adverse (significant) effect. The effects are considered to be temporary;
- Great Crested Newt: Low adverse (significant) effect. The effect is considered to be temporary;
- Winter and Breeding birds: Low adverse (significant) effect. The effect is considered to be temporary;
- Bats: Medium adverse (significant) effect. The effect is considered to be temporary; and
- Water Voles and Otters: Low adverse (significant) effect. The effect is considered to be temporary.

Mitigation Measures

6.7.3 This section outlines the measures to be implemented to prevent pollution incidents, minimise effects on ecology from noise and vibration, prevent and minimise dust creation and air pollution. Precautionary working method statements will be produced and implemented.

6.7.4 The detailed LEMP(s) will provide a series of agreed mitigation measures to be implemented during the construction phase, including the retention and establishment of habitat areas and species-specific enhancement measures to protect species such as hedgehog, badgers, dormouse, bats, birds, and reptiles.

6.7.5 Buffers from key habitat features are to be established to ensure design maintain appropriate distance from receptors. The following buffers have been used wherever possible:

- A minimum 15 m buffer around woodlands;
- A minimum 5 m buffer around watercourses;
- A minimum 5 m buffer between working areas and hedgerows;

- A minimum 5 m offset from all infrastructure (including fencing) from bank top of all riparian boundaries and watercourses;
- All trees within hedgerows and individual trees – protected by clearly defined root protection areas, concordant with the requirements for each individual tree;
- A minimum 9 m buffer from waterbodies; and
- Badger setts subject to 30 m buffer.

6.7.6 In general, the following measures will be implemented to minimise the potential impacts resulting in disturbance or habitat loss through construction land take and subsequent activities:

- Construction activities will be confined to normal working hours (wherever possible) to reduce disruption;
- Vegetation clearance will be undertaken at an appropriate time of year where possible, outside of breeding and nesting seasons;
- Measures to prevent pollution incidents, minimise effects on ecology from noise and vibration, prevent the spread of invasive species, and to prevent and minimise dust creation and air pollution will be adopted.
- Precautionary working method statements will be produced and implemented, as outlined in **Chapter 7 Ecology (Document Ref: 6.2 ES Vol.1, 6.2.7)**;
- Fencing will be implemented during construction. For areas that are to be used to provide habitat for ground nesting birds, secure fencing will ensure the area is protected from a number of predators;
- Where construction vehicles are required to pass over the water bodies, vehicles / plant will be cleaned away from the water in dedicated vehicle washing areas to prevent potential pollutants entering the surface water system, before crossing over the water body. The spread of dust and sediment will be controlled through fine water spraying of water routes. Regularly service, monitor and inspect vehicles, plant and machinery; and
- Plant and machinery will have dedicated refuelling areas, with drip-trays used routinely and spill kits available.

Pre Project Planning

- Pre-construction surveys will be undertaken to support the baseline survey findings in **Chapter 7 Ecology (Document Ref: 6.2 ES Vol.1, 6.2.7)** and to comply with relevant wildlife legislation, as well as to provide an update on the presence and location of any invasive and non-native species;
- The pre-construction surveys will include an update survey for otters. If they are found the appropriate mitigation will be developed which may include application for a European Protected Species Licence
- All pre-construction surveys will inform the production of a Biosecurity Management Plan, which will be prepared to support the detailed CEMP and set out procedures to ensure that no invasive species are brought onto the Site;
- A security perimeter fence will be implemented during the construction phase will include gaps to allow mammals that may use woodland habitats (e.g. badger and hedgehog) to pass underneath at

predetermined points. Areas outlined for ground nesting birds will not include such gaps in order to prevent mammals eating chicks or eggs.

- The Principal Contractor will apply for and hold a European Protected Species (EPS) mitigation licence prior to construction works if required, given the nearby great crested newt populations and their conservation status / habitat in which they are found. As part of the application process, it is envisaged that further surveys will be undertaken to inform the licence application.
- Upon receipt of an EPS mitigation licence, it is anticipated that the required mitigation measures will include (but not be limited to) fencing around working areas and enhancement of existing ponds to provide more waterbodies suitable for breeding. These will be decided throughout the license process and agreed with Natural England; and
- If the pre-construction surveys identify evidence of water voles within the ditches to be crossed within the Cable Route Corridor, a licence will be sought from Natural England to allow the works to progress, which may be subject to confirmation of additional mitigation and a works programme by Natural England.

Impact Avoidance

Great Crested Newts

6.7.7 Further surveys are planned prior to construction to inform a final licence application to Natural England. The mitigation proposed within the licence will include appropriate timing and methods to cut vegetation within 500 m of known great crested newt ponds. New refugia will be created to enhance the receptor sites for any great crested newts moved from the Proposed Development construction areas. The details of the works will be confirmed within the detailed LEMP(s). Where required, temporary fencing will be erected to keep great crested newts out of working areas. The final details of these proposals will be decided throughout the licence process and agreed with Natural England. A draft licence has been approved by Natural England.

Bats

6.7.8 There will be limited night-time construction activity. This will reduce impacts to foraging / commuting bats, which will not be subject to lighting impacts other than for a short period potentially during spring / autumn when bat activity at dusk may overlap with end of day and start of day working.

6.7.9 Temporary 'crossings' for bats will be placed in the gaps in hedgerows at night to maintain a commuting corridor.

Birds

6.7.10 Where practical, vegetation clearance will be undertaken at an appropriate time of year (outside of the breeding season for birds). Clearance of sensitive vegetation will be avoided during the nesting period (i.e. March to August, inclusive). Where vegetation clearance is not practical outside the nesting bird period, habitats will be checked for the presence of any nests by a suitably qualified ornithologist and the Ecological Clerk of Works (ECoW) prior to vegetation removal. If active nests are found, appropriate buffer zones (to be advised by the suitably qualified ornithologist / ECoW) will be put in place and the area monitored until the young birds have fledged.

6.7.11 A variety of artificial nesting and roosting boxes will be installed in existing woodland areas, on retained individual trees and on existing trees within hedgerows. Final locations of the boxes will be agreed with Natural England and provided in the detailed LEMP(s). Habitat piles will also be created and sited across target areas, such as in proximity to waterbodies and woodlands, to provide habitats for amphibians, reptiles and invertebrates.

6.7.12 ~~Temporary construction buffer zones~~An Ecological Clerk of Works (ECoW) will ~~be set up~~monitor the area around ~~locations used by~~construction works for overwintering lapwing and gadwall ~~and lapwing; populations of which~~. When present in flocks that form a significant proportion of the SPA ~~population.~~ populations of lapwing or gadwall, temporary construction buffer zones will be set up around the flock. These buffer zones will apply from November to February~~, covering the land within 60 m of known areas used by these species.~~ .

Fish including Eels

6.7.13 Prior to any instream works, a pre-works habitat assessment will be undertaken by a suitably qualified ecologist to identify suitability for fish and sensitive aquatic species such as European eel and Spined loach.

6.7.14 Where habitats are confirmed, appropriate site-specific mitigation will be implemented. If trenchless watercourse crossing methods (e.g. HDD) are utilised, there would be no anticipated impact on fish / eel due to the cable infrastructure being directed under the watercourse and therefore the crossing will not affect the bed, channel or flow of the watercourse.

6.7.15 The method for individual trenched watercourse crossing construction will depend on the width and channel composition of the watercourse. A construction method statement will be developed, which will specify the crossing method and water management for each watercourse crossing. For trenched crossing types there are two main ways to manage water to create dry working area; entire damming of the watercourse and overpumping or the use of cofferdams to partially isolate the channel.

6.7.16 Depending on the findings of pre-works habitat assessment, if fish / eel are identified at a watercourse crossing location, the construction method statement will specify how fish / eel will be managed. There are various methods to achieve this including but not limited to: the use of filters on intake pumps to prevent harm; licensed fish rescue under supervision of the ECoW; trapping-out for fish / eels from the working area but the use of cofferdams; and treatment of sediment of water discharges downstream of the working area (e.g. settlement tanks, silt fencing, siltsock, strawbales etc.).

~~6.7.15~~6.7.17 Post-construction monitoring will be undertaken (where applicable) to confirm recovery, and remedial measures will be implemented if significant ecological degradation is observed. These measures will be developed into detailed method statements by the Contractor and secured within the detailed CEMP.

Monitoring

~~6.7.16~~6.7.18 The Ecological Clerk of Works (ECoW) will be responsible for the monitoring of habitats and species and for ensuring that all construction works

are undertaken in accordance with the species licences and / or relevant method statements. The detailed LEMP(s) will include the requirements for the monitoring and maintenance of created habitats.

6.8 Cultural Heritage

Background

6.8.1 The construction phase of the Proposed Development is anticipated to result in temporary adverse effects in respect of the historic landscape character types and the following archaeological and heritage assets:

- Iron Age and Medieval archaeological remains;
- Car Dyke along the eastern boundary of the Solar Array Area;
- Romano-British archaeological remains;
- Possible ring ditches or barrows and possible settlements; and
- Church of St Andrew, Asgarby, a Grade I Listed Building.

Mitigation Measures

6.8.2 The following elements of mitigation have been assumed as part of the assessment, either forming an integral, committed and deliverable part of the scheme design or a construction practice that will be included within the DCO application.

6.8.3 The design of the Proposed Development has been carefully considered with regards to heritage assets and includes buffer areas to increase the distance between from the Site and local heritage assets.

6.8.4 It is anticipated that trial trenching or an archaeological watching brief (monitoring and recording during the strip of topsoils), strip, map and record or another appropriate method of archaeological investigation will be required prior to the construction works. This would be secured by DCO requirement, likely in the form of a Written Scheme of Investigation (WSI) and subject to agreement with Lincolnshire County Council (LCC).

6.8.5 An Archaeological Mitigation Strategy has been prepared (see **Appendix 8.11 Archaeological Mitigation Strategy (Document Ref: 6.3 ES Vol.2, 6.3.74)**) for submission with the DCO application. This is a 'live' document and will be progressed prior to commencement of construction works to further understand the process for mitigation either by design or record and demarking known areas of impact.

Monitoring

6.8.6 The Archaeological Mitigation Strategy will detail the requirements for the monitoring and recording maintenance of known archaeological and heritage assets across the Site identified through assessment and evaluation with agreement by LCC.

6.9 Access and Traffic

Background

6.9.1 During construction, traffic flows on the A17 are anticipated to increase by 0.9%, with heavy goods vehicle (HGV) traffic rising by 1.2%. This will result in a negligible adverse magnitude of change to traffic flows, with no significant effects to driver delay, accidents or safety. Estimated construction traffic is as follows:

- Typical daily traffic (Annual Average Weekday Traffic): 51 HGV movements, 23 Light Goods Vehicle (LGV) / Minibus movements and 163 staff car movements per day;
- Worst case / peak construction year (Annual Average Weekday Traffic): 82 HGV 35 LGV / Minibus movements and 307 staff car movements per day; and
- Worst case / peak construction month (Average workday daily flow): 130 HGV, 44 LGV / Minibus movements and 332 staff car movements per day.

Mitigation Measures

6.9.2 **Appendix 9.4 Outline Construction Traffic Management Plan (OCTMP) (Document Ref: 6.3 ES Vol.2, 6.3.57)** details the proposed construction traffic routes and the safe working procedures for all construction traffic, which will be implemented in order to minimise the potential impacts resulting from construction traffic and transport.

6.9.3 Detailed CTMP(s), including a detailed Delivery Management Plan (DMP), will be prepared prior to the commencement of construction and will set out suitable measures to safely manage and monitor construction traffic, ensuring that highway safety and the free flow of traffic on public highway is maintained.

6.9.4 Mitigation measures to be implemented include the following:

- Principal construction access to the Site will be from the A17, with a left-in/left-out arrangement, via a Bespoke Access Road;
- Construction compounds will be utilised to store construction materials / equipment and facilitate effective delivery management;
- Suitable points of access will be provided for construction vehicles to accommodate swept paths and designed with adequate visibility, with any supporting improvements to take place within the highway boundary and / or the Order Limits (if required);
- A Delivery Management Plan (DMP) will be implemented as part of the detailed CTMP, which will set out suitable measures to safely manage and monitor construction traffic, ensuring that highway safety and the free flow of traffic on public highway is maintained;
- An Abnormal Loads DMP will be implemented as part of the detailed CTMP and will include information relating to rail crossings, bridges and underpasses. All abnormal load movements are regulated by National Highways and will be subject to separate agreement with the police and relevant highway authorities;
- A Construction Staff Travel Plan will be implemented as part of the detailed CTMP(s) to minimise the impacts of construction staff travel to/from the Site and to maximise the use of shared transport;
- Sufficient protection/ separation distances will be provided between existing PRoWs and construction routes (where necessary); and

- Managing areas where the proposed construction routes cross any existing PRoWs or local access roads by maximising visibility between construction vehicles and other users (pedestrians and road users) and implementing traffic management.

6.9.5 As per **Chapter 11 Water Resources and Flood Risk (Document Ref: 6.2 ES Vol.1, 6.2.11)**, where the access tracks are oriented parallel to the dominant flow direction, transverse drains will be constructed (where appropriate) in the surface of the access track to convey runoff into adjacent drainage ditches. This will help prevent the tracks from acting as a preferential flow path for surface runoff.

6.9.6 Where access tracks are oriented perpendicular to the dominant flow direction, the trackside drainage will include a lateral drainage channel cut along the uphill side of the track to intercept the natural runoff and shallow throughflow and this will be conducted under the track at regular intervals through cross drainage pipes. The trackside drains will be broad and shallow with moderate gradients to prevent scouring.

6.9.7 There is a Major Accident Hazard Pipeline (MAHP) that crosses the DCO Order Limits within the Cable Route Corridor. The Triton Knoll access road passes over the pipeline. Construction traffic accessing Compound 5, Compound 6 and Bicker Fen National Grid Substation will cross the MAHP. The worst-case estimate of daily traffic crossing this route, assuming works at both compounds and the National Grid Substation is undertaken simultaneously, comprises 32 HGV movements and 10 staff minibus movements. This is likely to be less than maximum daily flows during the Triton Knoll substation project for which the access road is designed.

6.9.8 A small number of movements will be abnormal loads for the delivery of cable drums to the Cable Route compounds. The total gross weight of these loads is 78 tonnes, but the load per axle line of the cable drum vehicles is less than 11 tonnes and not materially different to a conventional 44 tonne HGV. The Triton Knoll access road is highly likely to be of sufficient construction to convey these loads safely across the pipeline as it has been utilised in the past by construction traffic, including abnormal loads. Due diligence will be undertaken by the Cable Route contractor to ensure conveyance methods for all equipment and materials are suitable for the present condition of the road, and for suitable mitigations such as carriageway repair and strengthening be introduced in the unlikely event that axle loads exceed the design capacity of the road.

Monitoring

6.9.9 **Appendix 9.4 Outline Construction Traffic Management Plan (OCTMP) (Document Ref: 6.3 ES Vol.2, 6.3.57)** sets out specific control measures for materials being delivered to include covered skips / trailers / trucks to limit debris falling on the road and any hazardous materials removed from Site are to be exported according to the materials waste codes and by suitably licensed approved waste carriers.

6.9.10 The detailed CTMP will also incorporate a DMP, an abnormal load DMP and a Construction Staff Travel Plan. These plans will include mechanisms for local residents to raise any issues with the construction team.

6.9.11 A monitoring system will be implemented to record the route of all HGVs travelling to and from the Proposed Development to record any non-compliance with the agreed routing plan / delivery hours and to communicate any issues to the relevant suppliers to ensure the correct routes and times are followed.

6.9.12 Road condition surveys pre-construction and post-construction will be progressed to identify any defects that arise to the highway's assets / verges during the construction phase of the Scheme for reinstatement. The extent of these surveys is outlined in **Appendix 9.1 Transport Assessment (Document Ref. 6.3 ES Vol.2, 6.3.76)** and will be agreed with Lincolnshire County Council (LCC) at part of the detailed CTMP.

6.9.13 A dedicated point of contact for traffic issues will be appointed by the Principal Contractor.

6.10 Noise & Vibration

Background

6.10.1 An assessment was carried out to identify the potential effects of noise and vibration from the construction phase of the Proposed Development on the following 8 Existing Sensitive Receptors (ESR(s)):

- The Farm Kitchen Limited, Thorpe Road, Ewerby Thorpe, Sleaford NG34 9PR;
- Ewerby Thorpe Lodge;
- Austhorpe Top House, Sleaford NG34 9PR;
- Copperhill Kennels Cattery;
- Cooks Farm House, Ewerby Waithe, Sleaford NG34 9PS;
- Gashes Barn, Ewerby Waithe, Sleaford, NG34 9PS;
- West Grange, Howell, Sleaford NG34 9PT; and
- Fen Farm Sleaford NG34 9PU.

6.10.2 During the construction phase of the Proposed Development, noise and vibration are likely to be generated through activities associated with site preparation, plant installation and cable laying.

Mitigation Measures

6.10.3 The construction works will follow the guidelines in BS 5228-1 & -2:2009 (or any equivalent guidance in force at the time of the construction works) and the following measures will be implemented to minimise impacts and maintain noise levels within permissible limits, as specified in the guidelines:

- All plant and machinery will be regularly maintained to control noise emissions, with particular emphasis on lubrication of bearings and the integrity of silencers;
- A programme of all works will be distributed by Community Liaison Officer (CLO) to all identified sensitive receptors in the area and updated as the Proposed Development progresses;
- Broadband reversing alarms will be used instead of tonal alarms;

- Site staff will be made aware if they are working adjacent to a residential area and advised to avoid all unnecessary noise due to misuse of tools and equipment, unnecessary shouting and radios;
- As far as possible, the carrying out of more than one noisy operations simultaneously in close proximity to the same existing sensitive receptor will be avoided;
- Site works will take place within the core working hours imposed by Lincolnshire County Council (LCC), where possible;
- Ensure engines will be turned-off, when possible;
- Should construction activities need to be carried out during night-time hours, this will be discussed and agreed with the relevant local authority in advance; and
- Where noise and vibration levels have the possibility to exceed the threshold of significant adverse effect, bespoke monitoring will be undertaken at the any affected existing sensitive receptors to ensure that levels are not exceeded.

Monitoring

6.10.4 Where complaints are received, it is recommended that a combination of unattended and attended measurements are undertaken at a representative location. Measurements will be undertaken in accordance with BS 5228-1 and BS 5228-2. The Site visits shall be conducted during working hours for either weekdays or weekends, as agreed. Monitoring reports / memos shall be produced and submitted to the Applicant within a week of each visit, detailing the results of the noise and vibration measurements.

6.10.5 Daily Site checks will include regular observations and checks across the Site to ensure that best practicable means (BPM) are being employed at all times. These checks will be undertaken periodically throughout the construction phase to capture monitoring information in a range of scenarios. Site observations and checks will be logged and any remedial actions recorded. Indicative checks will include the following:

- Compliance with hours of working;
- Presence of mitigation measures (e.g. engines doors closed, airlines not leaking and Site hording in place);
- Number and type of plant; and
- Compliance with agreed working methods.

6.10.6 A detailed Construction Noise Monitoring Scheme will be developed in the detailed CEMP(s).

6.11 Water Resources and Flood Risk

Background

6.11.1 Regionally, the Site lies within the ~~Environment Agency's~~EA's 'Black Sluice Internal Drainage Board (IDB), draining to the South Forty Foot Drain Water Body' catchment and within the Black Sluice IDB area. On a local scale, the Site is split between two surface water catchments: Heckington Eau and South Forty Foot Drain Catchment. Within these catchments there are a number of Main Rivers and Ordinary Watercourses, and IDB drains, that are within the

Site. There are three Local Wildlife Sites (LWS) downstream of the Site with hydro-ecological significance. These are the Old Forty Foot Drain to South Forty Foot Drain, Old Forty Food Drain and Broadhurst Drain East. There are no registered private water supplies within 2km of the Site.

6.11.2 Superficial deposits vary across the Site from those with no groundwater resources (Tidal Flat Deposits) to those considered to be locally important aquifers (Glaciofluvial Ice Contact Deposits and Sleaford Sand and Gravel). The bedrock geology is not considered to be a groundwater resource.

6.11.3 Parts of the Site are considered to be at risk of flooding. There are 16 licensed surface water abstraction locations downstream of the Site that have been considered in **Chapter 11 Water Resources and Flood Risk (Document Ref: 6.2 ES Vol.1, 6.2.11)**.

6.11.4 Potential effects on the water environment are those that may change the hydrological and hydrogeological flow regime and those that may cause pollution and a degradation in water quality.

6.11.5 The Flood Risk Assessment (FRA) (see **Appendix 11.1 Flood Risk Assessment (Document Ref: 6.3 ES Vol.2, 6.3.81)**) has found that the Solar Array Area, Cable Route Corridor and Bespoke Access Corridor are located within Flood Zones 1, 2 and 3. The risk of flooding to the Site from fluvial, surface water, groundwater and artificial sources varies across the Site. Eastern areas of the Site and southern portions of the Cable Route Corridor are located within Flood Zone 3 (i.e. high risk). These areas are also at risk of reservoir flooding. Areas of the Site are also at high risk of surface water flooding, with overland flow pathways extending through central areas of the Solar Array Area and sections of the access road and Cable Route Corridor. Western areas of the Site may also be susceptible to groundwater flooding.

Mitigation Measures

6.11.6 The Proposed Development will be undertaken in accordance with applicable guidance and codes of best practice. The following documents provide best practice industry guidance intended to prevent adverse impacts during construction:

- GPP1 Understanding your environmental responsibilities - good environmental practices[20];
- GPP2 Above Ground Oil Storage Tanks[21];
- GPP4 Treatment and disposal of wastewater where there is no connection to the public foul sewer[22];
- GPP5 Works and Maintenance In or Near Water[23];
- GPP6 Working at Construction and Demolition Sites[24];

[20] Guidance for Pollution Prevention. Understanding your environmental responsibilities – good environmental practices: GPP 1. Available at: https://www.netregs.org.uk/media/1898/guidance-for-pollution-prevention-1-2022-update.pdf
[21] Guidance for Pollution Prevention. Above ground oil storage tanks: GPP 2. Available at: https://www.netregs.org.uk/media/1890/guidance-for-pollution-prevention-2-2022-update.pdf
[22] Guidance for Pollution Prevention. Treatment and disposal of wastewater where there is no connection to the public foul sewer: GPP 4. Available at: https://www.netregs.org.uk/media/1887/guidance-for-pollution-prevention-4-2022-update.pdf
[23] Guidance for Pollution Prevention. Works and maintenance in or near water: GPP 5. Available at: https://www.netregs.org.uk/media/1418/gpp-5-works-and-maintenance-in-or-near-water.pdf
[24] Guidance for Pollution Prevention. Working at construction and demolition sites: GPP 6. Available at: https://www.netregs.org.uk/media/tsybv2y3/gpp6-working-on-construction-and-demolition-sites.pdf

- GPP8 Safe Storage and Disposal of Used Oils[25];
- GPP13 Vehicle washing and cleaning[26];
- GPP21 Pollution Incident Response Planning[27];
- GPP22: Dealing with spills[28];
- GPP26 Safe storage - drums and intermediate bulk containers[29];
- CIRIA C532 Control of Water Pollution from Construction Sites[30];
- CIRIA C750 Groundwater control - design and practice[31];
- CIRIA C753 The Sustainable drainage systems (SuDS) manual[32]; and
- CIRIA C786 Culvert, screen, and outfall manual[33].

6.11.7 The measures detailed in these guidance documents will limit the potential for disturbance or contamination of water resources and will be adopted.

6.11.8 The following measures take into account current good practice, legislation, regulations and guidance relevant to the water environment:

- A number of measures will be adopted to prevent and control the release of sediment; with the measures used dependent upon the situation encountered onsite. Examples of measures include surface water being directed across vegetated zones or through mesh fencing to capture sediment, as appropriate. Alternatives, such as sediment traps or settlement lagoons, may also be considered if the quantity of sediment-laden water is anticipated to be large. Maintenance measures would ensure that sediment control measures, drains and potholes would be regularly inspected and cleared / infilled / repaired;
- All fuel, oils and other polluting substances would be securely stored in suitably bunded containers on impermeable surfaces. The total quantity and range of potential pollutants to be used onsite is anticipated to be small. Static machinery and plant would, where practicable, have integral drip trays of 110% of the capacity of the fuel tank. The use of biodegradable oils and lubricants will also be used, where practicable. All plant, vehicles and machinery will be inspected regularly for leaks. Refuelling would be undertaken in designated refuelling areas;
- If field underdrainage is encountered, in the first instance, measures to avoid damage or disruption to the underdrainage system will be implemented, by micro-siting excavations. Where this is not practicable, field underdrainage would be diverted or replaced or such other solution required to alleviate flooding in consultation with the landowner. Field underdrainage will only be replaced / mended when damaged by Proposed Development and field underdrainage will be repaired to the same standard to its prior state;

[25] Guidance for Pollution Prevention. Safe storage and disposal of used oils: GPP 8. Available at: https://www.netregs.org.uk/media/1900/guidance-for-pollution-prevention-8-2022-update.pdf
[26] Guidance for Pollution Prevention. Vehicle Washing and Cleaning GPP 13. Available at: https://www.netregs.org.uk/media/1882/guidance-for-pollution-prevention-13-2022-update-v2.pdf
[27] Guidance for Pollution Prevention Pollution incident response planning: GPP 21. Available at: https://www.netregs.org.uk/media/1436/gpp-21-final.pdf
[28] Guidance for Pollution Prevention. Dealing with spills: GPP 22. Available at: https://www.netregs.org.uk/media/1643/gpp-22-dealing-with-spills.pdf
[29] Guidance for Pollution Prevention. Safe Storage of Drums and Intermediate Bulk Containers (IBCs): GPP 26. Available at: https://www.netregs.org.uk/media/1885/guidance-for-pollution-prevention-26-2022-updated.pdf
[30] Construction Information Research and Information Association (2001) C532 Control of Water Pollution from Construction Sites
[31] Construction Information Research and Information Association (2016) C750 Groundwater control - design and practice.
[32] Construction Information Research and Information Association (2015) CIRIA C753 The SuDS Manual
[33] Construction Information Research and Information Association (2019) C786 Culvert, screen and outfall manual

- Pollution incident response plans will be prepared for incorporation into the construction phase detailed CEMP and will identify the type and location of onsite resources (for example spill kits, absorbent materials and oil booms) available for the control of accidental releases of pollution and other environmental incidents. Cement / concrete mixes will be calculated to ensure that sufficient quantities are supplied (without needing to dispose of any excess). The cement / sand mix ratio will also be monitored for consistency and suitability;
- The time any excavation is open will be kept to a minimum to avoid ingress and removal of water;
- Where appropriate, temporary cut-off drains will be installed to prevent shallow throughflow entering excavations. Treated / clean water would be discharged downstream of the excavation and encouraged to infiltrate into the ground mimicking natural flow patterns;
- Excavations will be reinstated as soon as practicable once construction works are complete and will ensure that natural hydrological conditions are restored as far as possible;
- All new and upgraded access tracks, including those relating to the Bespoke Access Road, will be constructed with a suitable camber and will have a permeable, granular surface;
- Where the access tracks, including those relating to the Bespoke Access Road, are oriented parallel to the dominant flow direction, transverse drains will be constructed, where appropriate, in the surface of the access track to convey runoff into adjacent drainage ditches. This would help prevent the tracks from acting as a preferential flow path for surface runoff;
- Where access tracks are oriented perpendicular to the dominant flow direction, the trackside drainage will include a lateral drainage channel cut along the uphill side of the track to intercept the natural runoff and shallow throughflow and this will be conducted under the track at regular intervals through cross drainage pipes. The trackside drains will be broad and shallow with moderate gradients to prevent scouring;
- Where possible, storage of materials and stockpiling is to be located outside the ~~functional fluvial floodplain (Flood Zone 3a),~~1 in 100 year flood extent, flood storage areas and areas known to be at risk of surface water flooding;
- Where construction compounds are located in areas at risk of surface water and fluvial flooding, offices and welfare cabins will be raised above ground level where feasible to minimise impact on flood flows and floodplain storage
- Large sections of the trench associated with construction of the Cable Route are not to be exposed at any one time, thereby reducing the volume of material placed within the floodplain (1 in 100 year). Where linear stockpiles are placed within the 1 in 100 year flood extent or perpendicular to pluvial and/or fluvial flow pathways, they will be placed such that a 1m gap is provided at 10m intervals;
- Where open cut methods are used to install a cable across an Ordinary Watercourse or Main River that is actively conveying flow,

appropriately designed over pumping and/or diversion systems will be put in place to ensure continuity of flows;

- Works affecting watercourses or being undertaken within the 1 in 100 year floodplain will be limited during prolonged periods of wet weather or when flood warnings are in place to avoid increasing the risk of flooding to off-site areas;
- There will also be a 9 m buffer from all watercourses and waterbodies, within which there will be no new infrastructure that would impede access to the watercourse or waterbody. Activities that would occur within 5 to 9 m of watercourses and waterbodies include temporary (e.g. no longer than one month storage time) storage of construction materials and topsoil from cable trenches, access tracks, permissive footpaths and ecological enhancement;
- Pouring of concrete for foundations will take place within well shuttered pours to prevent egress of concrete from the pour area. the pouring of concrete or cement bound sand during adverse weather conditions will be avoided, where possible;
- Preference to strip soils and vegetation should only be carried out under the driest practicable conditions, this must take into account of prevailing weather conditions;
- Measures will be implemented to maintain water flows downstream of proposed watercourse crossings, with the crossings designed to prevent scour of the watercourse bed;
- Use of track mats to prevent unnecessary soils compaction, damage to vegetation, and/or erosion;
- Grass seeding after installation of panels to encourage grass regrowth;
- SuDS features will undergo regular maintenance and monitoring to ensure they are working effectively and not blocked; and
- A bentonite breakout plan or equivalent will be produced ~~and~~as part of the detailed CEMP and it will set out the response to a breakout of bentonite during construction The bentonite breakout plan will also include construction method statements for trenchless techniques (e.g. HDD) for watercourse crossings.

6.11.9 For the interest of protection of Anglian Water Assets, the following mitigation will be put in place:

- The use of penetrating radar (CAT) before excavation to identify any unknown utilities will be undertaken;
- If assets are identified, they will be protected from damage. This will include signage about the asset to allow people to identify where the assets are;
- If assets are identified and are required to be crossed, ramps (if required, to be advised by the Principal Contractor) will be used to spread the load across the crossing point;
- Construction methods will take into account methods that will be incorporated into the design;
- The PEM or their nominated representative will supervise works around assets; and
- If during the detailed design phase it is identified that Anglian Water Assets are in close proximity to construction works, a Construction

Method Statement (CMS) would be prepared taking into account protection measures for that asset. Additionally, the detail design will include and incorporate the protection measures into the final design.

6.11.10 A number of measures will be adopted to prevent and control the release of sediment to be detailed in a Surface Water Management Plan (SWMP) to be produced by the Principal Contractor. The SWMP can be prepared alongside the detailed CEMP and will include (but not limited to):

- Specified maintenance measures to ensure that sediment control measures, drains and potholes would be regularly inspected and cleared / infilled / repaired;
- A dewatering strategy (if required) that details the procedures to be followed in order to removal encountered and / or captured waters within excavations; and
- SuDS will be developed and maintained throughout the Proposed Development. SuDS will be utilised within the Site to provide conveyance and storage for surface water runoff, as well as water quality treatment and enhancing biodiversity. SuDS mitigation includes use of swales and detention basins, which are to be monitored to maintain effectiveness.

6.11.11 In order to understand if an abstraction licence is required for dewatering excavations the source (precipitation or groundwater) of the water in the excavations will need to be established. This is to define if the water is wholly or mainly from groundwater. If less than 25 % of the water in the excavation is groundwater then an abstraction licence is not required. A water balance is required to determine if a licence is required where a groundwater source is thought to contribute between 26 to 75 % of the water in excavation. An abstraction licence is required when 75 % or more of the source water is from groundwater. For example, a lined excavation would contain 0 % groundwater and 100 % precipitation, therefore an abstraction licence is not required. Where an excavation is made above the groundwater table there would be no pathway for groundwater to enter the excavation, therefore any water in the excavation would be from precipitation meaning no abstraction licence would be required. An abstraction licence will be required when the excavation intercepts perched groundwater or is made below the water table.

6.11.12 Under the Water Abstraction and Impounding (Exemptions) Regulations 2017 Part 2, Regulation 5 ‘small scale dewatering in the course of building or engineering works’ there is an exemption for licensing if the following conditions can be made:

- the abstraction is made to in regard to building or engineering works for the purpose of dewatering from a sump or excavation;
- the abstraction or series of abstractions are temporary and in any event carried out over a period of less than six consecutive months beginning with commencement of the first abstraction;
- each abstraction does not cause or is not likely to cause damage to a conservation site or specific features in such a site;
- each abstraction does not cause or is not likely to cause damage to protected species; and

- either:
  - the water abstracted is immediately discharged to a soakaway; or
  - the volume of water abstracted is less than 100 cubic metres of water per day and there is no intervening use of that water before discharge.

6.11.13 Under the Water Abstraction and Impounding (Exemptions) Regulations 2017 Part 2, Regulation 6 'surface water abstraction in the course of building or engineering works' includes an exemption for the abstraction or series of abstractions of surface water in order to prevent interference with building or engineering works, if the following conditions are met:

- the abstraction or series of abstractions are temporary and in any event carried out over a period of less than six consecutive months beginning with the commencement of the first abstraction;
- each abstraction does not cause or is not likely to cause damage to a conservation site or specific features in such a site;
- each abstraction does not cause or is not likely to cause damage to protected species;
- the water abstracted is immediately discharged downstream of the building or engineering works.

6.11.14 As part of the works required for the detailed CEMP, further consideration of the need for abstraction licencing in regard to groundwater dewatering from excavations will be undertaken and will incorporate the finding of future ground investigations.

6.11.15 Under EA regulatory position statement (RPS) 261 temporary dewatering from excavations to surface water, the EA will not normally take enforcement action if the activity meets the description set out in the RPS, there is compliance with all the conditions set out in this RPS and the activity does not cause (and is not likely to cause) pollution of the environment or harm to human health. RPS 261 applies to short term, temporary discharge of uncontaminated water (wholly or mainly rainwater) from an excavation to surface water. The RPS does not apply to discharges to ground or groundwater. RPS 261 conditions are as follows:

The Principal Contractor must:

- discharge only uncontaminated, clean water;
- discharge only to surface water;
- discharge for no more than 3 consecutive months;
- plan how to minimise the level of contaminants such as silt entering the excavation;
- plan how to dispose of water that enters the excavation;
- plan not to use machinery in excavations while dewatering is taking place;
- minimise water entering the excavation, for example from rainfall, runoff, groundwater ingress or high water table;
- consider using sustainable urban drainage construction methods;
- have a method statement that minimises the risk of pollution;

- contact the EA if the discharge rate is more than 10% of the dry weather flow (Q95 low flow) rate of the surface water and dilution is low;
- keep records for 2 years that show compliance with the RPS and make these records available to the EA on request;
- must not discharge within, or less than 500 metres upstream of, a:
    - site of special scientific interest (SSSI);
    - special area of conservation (SAC);
    - special protection area (SPA);
    - site of community importance;
    - Ramsar site;
    - site in the process of becoming a SAC, SPA or Ramsar site ('potential SPA', 'possible SAC', 'candidate SAC', 'site of community importance' or a 'proposed Ramsar site');
    - marine conservation zone;
    - conservation site, such as an ancient woodland, or a local and national nature reserve; and
    - local wildlife site.

6.11.16 The Principal Contractor must not:

- discharge silty water containing fine or coarse suspended solids into surface water;
- discharge site drainage from surface areas such as haul roads, storage or working areas;
- pollute surface water;
- discharge water containing any chemical dosing agents, flocculants or coagulants;
- discharge from a site which is contaminated by oil, metals, hydrocarbons, solvents or pesticides or other polluting substances;
- discharge water that results in the spread of non-native invasive species, parasites or disease;
- cause flooding from surface water;
- cause erosion of the banks or bed of the receiving watercourse;
- discharge concrete wash water even if it has been treated; and
- discharge from a site with naturally elevated concentrations of substances which exceed environmental quality standards.

6.11.17 If these conditions of RPS 261 cannot be met an EA environmental permit will be required. In all cases, discharges must follow best practice guidelines (e.g. using settlement tanks or filtration) and may require consultation with the EA.

6.11.18 The pollution prevention measures, combined with sound construction practices, will help ensure that oils, fuels, solvents, and other potential contaminants used during construction do not enter the ground. This will prevent the formation of pollutant pathways to groundwater. Additionally, these measures will protect surface water bodies connected to groundwater from any adverse impacts.

6.11.19 To protect groundwater from both free-phase and dissolved phase contamination, all fuels, oils, and hazardous materials will be stored and handled in controlled conditions, including the use of bunded or double-skinned tanks, impermeable surfacing, and designated refuelling areas with

appropriate spill containment. Regular inspection, maintenance, and monitoring will be carried out, and spill kits will be available across the Site with trained staff to ensure rapid response.

6.11.20 If the presence of hydrocarbon in water in excavations is identified though either visual observation or water quality analysis, the contaminated water shall be pumped from the excavation to a bunded container and tankered offsite to an appropriately licenced waste facility for disposal.

6.11.21 Additionally, the following measures will be implemented as part of the effort to avoid groundwater contamination and protect the surrounding environment:

- Construction workers will be informed of the findings and the locations of sensitive receptors (onsite and downstream ground water abstractions) identified during groundwater investigations.
- Installation of impermeable membranes or liners beneath material stockpiles, refuelling areas, and chemical storage sites to prevent contaminant infiltration. Construct bunds using impermeable materials around hazardous substance storage to capture any spills.
- Avoiding uncontrolled pumping or dewatering that could lower groundwater levels or mobilise contaminants. Treat dewatering effluent before discharge and ensure all relevant permits are obtained.
- Storage of fuels, oils, and chemicals in bunded areas with impermeable bases. Implement spill prevention and response procedures, including staff training and provision of spill kits.
- Avoiding discharge of untreated wash water directly into soil or groundwater. Use designated washout areas equipped with containment and treatment facilities.
- Regularly inspection of containment systems for leaks or damage. Where there is a risk of contamination, monitor groundwater quality accordingly.
- Development and maintenance of an emergency response plan to manage accidental releases or spills that could impact groundwater.
- The Principal Contractor shall implement a ‘Permit to Pump’ procedure, this includes written approval from the PEM or nominated representative ahead of any removal of water from excavations, drains, lagoons etc. The permit to pump form shall include details of the following: pumping date, start and end time of pumping, where the water will be pumped to and from, condition of the water to be pumped (check for signs of contamination (presence of oil-sheen, discoloration, sediment, alkalinity etc)), and details of any proposed treatment. Copies of the permit to pump forms shall be keep onsite for the duration of the construction phase.

Monitoring

6.11.22 The Principal Contractor shall prepare and maintain a Water Monitoring Plan for the construction phase water monitoring. The Water Monitoring Plan shall include:

- water monitoring locations and a drawing showing the monitoring locations;
- visual and olfactory observations;

- water quality monitoring laboratory testing suite from a United Kingdom Accreditation Service (UKAS) accredited laboratory;
- frequency of monitoring; and
- reporting of results (internal reporting and if required to the relevant authority).

~~6.11.22~~6.11.23 SuDS features within the Order Limits will undergo regular monitoring and maintenance to ensure they are working effectively and not blocked. This will include (but not limited to) the following activities:

- Removal of litter and debris;
- Inspection of vegetation coverage;
- Inspection of inlets and facility surface for silt accumulation;
- Reseeding of areas of poor vegetation growth; and
- Removal and disposal of oils or petrol residues using safe standard practices.

6.11.24 Visual condition inspections of SuDS features shall be undertaken on a fortnightly basis by the Principal Contractor throughout the construction period. Where the Principal Contractor identifies that maintenance activities are required, they shall assign a priority rating:

- Immediate action required i.e. issues that present a risk harm or loss of life and / or significant risk of environmental harm. e.g. a fully blocked drain outlet when the EA have issued a flood warning.
- Action required within 72 hours i.e. issues that do not present an immediate risk of harm to life or the environment but have the potential to become a high risk in the foreseeable future. e.g. partially blocked drain while there is forecasted high or prolonged rainfall.
- Action required to be added to routine maintenance programme i.e. issues which do not present a risk of harm to life or the environment e.g. vegetation clearance in low trafficked area.

6.11.25 Owing to the low level of risk posed by the construction works, water quality monitoring will consist of visual and olfactory observations, plus *in-situ* testing using ~~hand held water quality meters.~~ handheld water quality meters. Water samples will also be collected and sent to a UKAS-accredited laboratory for chemical analysis, including testing for hazardous substances as outlined in the EA's guidance: *Surface water pollution risk assessment for your environmental permit*.[34]

6.11.26 To ensure the monitoring programme is capable of detecting variations in water quality due to seasonal changes and weather conditions, monitoring will commence at least six months prior to construction and continue throughout the construction and for six months post-construction (subject to landowner agreement for monitoring locations outside of the Solar Array Area). This pre-construction period of monthly monitoring will aim to capture a range of seasonal conditions, providing a baseline against which construction-phase data can be compared.

6.11.27 During the construction phase, the frequency of water quality monitoring will be monthly but will be increased in response to specific activities with a higher

[34] Environment Agency and Department for Environment, Food & Rural Affairs (2025) Guidance: Surface water pollution risk assessment for your environmental permit [online]. Accessed November 2025. Available at: https://www.gov.uk/guidance/surface-water-pollution-risk-assessment-for-your-environmental-permit

pollution risk. For example, sampling frequency will be intensified during periods of high concrete use, earthworks, or other activities with elevated potential for water contamination. This adaptive approach will ensure that the monitoring programme remains responsive to construction-related risks and provides robust data to support environmental protection measures.

6.11.28 Monthly monitoring will continue for six months following the completion of construction (subject to landowner agreement for monitoring locations outside of the Solar Array Area).

~~6.11.23~~6.11.29 Monitoring locations would include surface water locations, such upstream and downstream of watercourse crossings and or watercourse within the Solar Array Area. A plan showing the locations of these monitoring points will be included within the detailed CEMP when it is prepared.

~~6.11.24~~6.11.30 Any construction phase water monitoring requirements from licenses and permits will be incorporated into the construction phase detailed CEMP, with the detailed CEMP including measures to ensure compliance to any limits or reporting requirements.

6.12 Soils and Agricultural Land

Background

6.12.1 The Proposed Development will be sited on (arable) agricultural land and will result in a change to its agricultural potential over the lifespan of the project. Associated works, such as the creation of access tracks, Bespoke Access Road, On-site Substation and BESS will have a more direct and potentially permanent impact on the agricultural potential of the land.

Agricultural Land

6.12.2 Agricultural land may be subject to temporary loss as a result of the Proposed Development. The Site consists of agricultural land that has the following classifications (of which Grade 1, 2 and Subgrade 3a land is classed as Best and Most Versatile (BMV) agricultural land):

Solar Array Area

- Grade 2 (14.61 hectares (ha) 2.8%);
- Subgrade 3a (235.51 ha 49.5%); and
- Subgrade 3b (261.43 ha 44.6%) agricultural land.

Bespoke Access Corridor

- Grade 2 (16.60 ha 36.6%);
- Subgrade 3a (22.08 ha 48.6%) ; and
- Subgrade 3b (6.28 ha 13.6%) agricultural land.

Cable Route Corridor (provisional ALC grades)

- Grade 1 (28.18 ha 15.39%);
- Grade 2 (145.73 ha 79.57%); and
- Grade 3 (9.25 ha 6.28%), agricultural land.

6.12.3 Agricultural land is considered to be of medium to very high receptor sensitivity. During the construction phase, land within the Order Limits will

(where required) be removed from potential agricultural production. This impact is considered to be principally temporary with permanent land take limited to areas of built development. The construction phase activities are anticipated to result in a high magnitude of impact on agricultural land resulting in a major adverse (significant) effect from permanent loss of land.

Damage and Loss of Soil Resource

6.12.4 There is potential for damage and overall loss of the soil resource across the site from construction activities, such as vehicle trafficking and soil handling. A range of soil types have been found within the Site, resulting in varying receptor sensitivity from low to high. This was assessed as moderate sensitivity to account for the range of soils encountered. Accounting for the embedded mitigation measures secured through **Appendix 14.4 Outline Soil Management Plan (OSMP) (Document Ref: 6.3 ES Vol.2, 6.3.95)**, the construction phase may result in a low magnitude of impact on the soil resource, resulting in a minor adverse (not significant) effect with limited permanent damage to and loss of soil resource.

Mitigation measures

6.12.5 This application is supported by **Appendix 14.4 Outline Soil Management Plan (OSMP) (Document Ref: 6.3 ES Vol.2, 6.3.95)**, which outlines what will be included in the detailed SMP(s) that will be prepared prior to commencement of construction, the date of final commissioning and prior to the commencement of decommissioning.

6.12.6 By implementing the detailed SMP(s), it is anticipated that the impacts to soil resources would be minimal and that the Proposed Development will not result in a significant effect on soil resources. Owing to predominantly medium to heavy textured clay content of the soils present across each element of the Proposed Development the following measures will be adhered to:

- No trafficking / driving of vehicles / plant or materials storage to occur outside designated areas;
- No trafficking / driving of vehicles / plant on reinstated soil (i.e. topsoil or subsoil);
- Only direct movement of soil from donor to receptor areas (i.e. no triple handling and / or ad hoc storage);
- No soil handling to be carried out when the soil moisture content is above the lower plastic limit (where the soil is plastic);
- Soil handling must take account of the prevailing weather conditions, including:
    - In drizzle and / or intermittent light rain, handling can continue for up to four hours or until the soils enter a plastic state at which point operation must cease;
    - If there is heavy rain (e.g. heavy showers, slow moving depressions), handling must stop immediately;
    - If there is sustained heavy rainfall of more than 10 mm in 24 hours, soil handling must be suspended and not restarted until the ground has had at least a full day to dry, or an agreed soil moisture limit can be met; and

    - Soil shall not be handled or trafficked over / driven on immediately after heavy rainfall (or snow / hail) in a waterlogged condition, or when there are standing pools of water on the soil surface.
- It is proposed that, where possible, the work is phased so that construction elements involving soil trafficking, stripping, handling and formation of stockpiles is avoided during periods of the year where the soils are most likely to be in a wet state (i.e. December to March);
- The formation of long-term soil storage bunds will occur between March and October, where possible, in order to ensure that a vegetation cover can be established;
- Plant and machinery will only be used when ground or soil surface conditions enable their maximum operating efficiency;
- All plant and machinery will be maintained in a safe and efficient working condition;
- Low ground pressure (LGP) models or tracked vehicles will be used. This will greatly minimise the extent of compaction and / or intensity of the soil loosening required during Site restoration. Consequently, it will reduce the costs and potential delays due to the need for additional soil cultivation;
- Daily records of operations will be kept and Site and soil conditions will be maintained; and
- Avoidance techniques (e.g. precautionary hand pits prior to machine excavation) will be utilised to avoid damage to mapped underdrainage where practicable. Where this is not practicable, field drains will be diverted or replaced or such other solution (i.e. drains broken and the repaired) required to alleviate flooding in consultation with the landowner.

6.12.7 The detailed SMP(s) will take account of the following industry best practice guidance (or equivalent guidance in force at the time the construction works are undertaken) relating to soil management and handling:

- Institute of Quarrying's 2021 'Good Practice Guide for Handling Soils in Mineral Workings'[35]; and
- DEFRA's 2009 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites'[36].

Monitoring

6.12.8 In order to ensure compliance with the detailed SMP(s), Construction Method Statements (CMS) and detailed CEMP(s), the works will be monitored during soil handling activities; thereby ensuring that the soils are maintained in good condition permitting the continued, sustainable use of the soil resource. Daily records of soil conditions and operations will be undertaken and maintained to monitor and manage soil handling activities effectively.

6.13 Air Quality

Background

[35] Institute of Quarrying (2021) Good Practice Guide for Handling Soils in Mineral Workings. Available at: https://www.quarrying.org/soils-guidance
[36] Defra (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/716510/pb13298-code-of-practice-090910.pdf

6.13.1 A qualitative assessment has been carried out to consider the potential effects of construction of the Proposed Development on air quality for human health and ecosystems associated with construction traffic, construction plant emissions and construction dust and particulates.

6.13.2 The construction phase dust assessment recorded the following:

- Earthworks, construction, trackout activities associated with the construction phase are considered to result in medium to large dust emissions;
- The sensitivities of the closest identified receptors and areas susceptible to dust soiling are considered to be low to high;
- The calculated risk from dust soiling effects relating to construction works activities is classed as medium for earthworks and construction activities and low for trackout; and
- The risk of human health effects is classed as low for earthworks, construction and trackout activities.

Mitigation measures

6.13.3 The Non-Road Mobile Machinery (NRMM) of 36kW to 560kW used onsite during construction will comply with the latest emission standards in Regulation (EU) 2016/1628, and with the relevant type approval rules[37].

6.13.4 Construction impacts from dust-generating activities will be minimised through the implementation of best practice measures, in-line with the Institute of Air Quality Management (IAQM)[38] guidance on managing dust from construction.

6.13.5 Mitigation measures to be implemented include (but are not limited to) the following:

- The Site Manager (SM) will endeavour to position machinery and dust-generating activities away from receptors;
- Wheel washing facilities will be provided for construction plant and machinery to reduce dust and debris;
- Sub-contractors will, wherever reasonably practicable, prefabricate materials off-site prior to delivery;
- Where possible, procurement processes will aim to minimise multiple deliveries to reduce vehicle emissions and maintain local air quality. This can be achieved by implementing delivery scheduling, bulk purchasing and supplier consolidation, route optimisation, and ensuring that suppliers utilise regional distribution centres in order to reduce long haul trips;
- The Site Manager (SM) will endeavour to minimise cutting, grinding and sawing onsite. Where such activities are required, Site operatives will be required to spray water over the material as it is being cut;
- Cement, sand, fine aggregates and other powders will be sealed after use, with cleaning undertaken as necessary once materials dry; and
- For all activities involving the release of silica dust and persons carrying out sweeping activities, all Site operatives will be expected to be face fit tested and wear a suitable Face Fit P3 mask.

[37] Driver and Vehicle Standards Agency, Non-road mobile machinery: rules on type approval and engine markings, May 2023.
[38] IAQM Guidance (2024) https://iaqm.co.uk/wp-content/uploads/2013/02/Construction-Dust-Guidance-Jan-2024.pdf

6.13.6 A Dust Mitigation Plan (DMP) will be prepared in advance of construction as part of the detailed CEMP to ensure dust effects from these activities will be not significant. This may include (but not limited to) the following measures:

- Adopting and adhering to industry-approved best working practices throughout the construction phase;
- Avoiding dust-generating activities during windy conditions;
- Avoiding dry sweeping large areas;
- Using water-assisted dust sweeper(s) on the access and local roads to remove, as necessary, any material tracked out of the Site. This may require the sweeper being continuously in use;
- Ensuring vehicles entering and leaving the Site are covered to prevent escape of materials during transport;
- Implementing a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site (where reasonably practicable);
- Minimising vehicle movements and restricting vehicle speeds on the basis that the slower the vehicle speeds, the lower the dust generation;
- Ensuring there is an adequate area of hard surfaced road between the wheel wash facility and the Site exit, wherever the size and layout permits; and
- Locating access gates at least 10m from receptors, where possible.

6.13.7 The final design solutions will be developed with the input of the appointed Principal Contractor to maximise construction efficiencies, incorporate modern techniques and sustainable materials, and incorporate the Principal Contractor's specific expertise and experience.

Monitoring

6.13.8 Any dust and air quality complaints should be recorded and appropriate measures should be taken to identify causes and reduce emissions in a timely manner. Exceptional incidents that cause dust and / or emissions and the action taken to resolve the situation should be recorded in a logbook, such as the Incident Management Plan (as discussed in Section 3.9 of this OCEMP) and made available to the Local Planning Authority and / or relevant Environmental Health Officer (EHO) on request.

6.13.9 Regular visual inspection of dust generating activities and installation of real time dust monitoring devices where necessary is recommended. The frequency of Site inspections should be increased when activities with a high potential for dust generation are occurring and during extended periods of dry or windy weather. Inspection and maintenance of schedules should be maintained for construction vehicles, plant and machinery to minimise exhaust emissions.

6.14 Arboriculture

Background

6.14.1 An OLEMP, **Appendix 6.7 Outline Landscape and Ecological Management Plan (Document Ref: 6.3 ES Vol. 2, 6.3.19)** has been provided as part of the

application which sets out the proposed long-term management of the landscape and ecological elements of the Proposed Development. The OLEMP also includes the recommendations of the Arboricultural Impact Assessment (AIA), **Appendix 6.6: Arboricultural Impact Assessment (Document Ref: 6.3 ES Vol. 2, 6.3.18)** as a means of securing these measures.

6.14.2 Following the BS 5837:2012 tree survey that was undertaken by Wardell Armstrong, **Appendix 6.6 Arboricultural Impact Assessment (AIA) (Document Ref: 6.3 ES Vol.2, 6.3.18)** was prepared to assess the direct and indirect impacts of the Proposed Development layout design on trees and hedgerows. The mitigation, enhancements and working methods included within Appendix 6.6 will be used to inform an Arboricultural Method Statement (AMS) and Tree Protection Plans (TPPs) that will be prepared during the detailed design stage (i.e. post a decision to grant development consent) for the Proposed Development. The mitigation, enhancements and working methods included within Appendix 6.6 have also been incorporated into **Appendix 6.7 Outline Landscape and Ecological Mitigation Plan (OLEMP) (Document Ref: 6.3, ES Vol.2, 6.3.19)**, which will be refined to a detailed LEMP during the detailed design stage of the Proposed Development. The construction works will be undertaken in accordance with the AMS, TPPs and detailed LEMP.

6.14.3 **Appendix 6.6 Arboricultural Impact Assessment (Document Ref: 6.3 ES Vol.2, 6.3.18)** recorded that the proposed Solar Array Area development will necessitate the removal of six individual trees, one tree group, parts of another two tree groups and one hedgerow, and sections from a further ten hedgerows. The construction of the Bespoke Access Road within the Bespoke Access Corridor will result in the removal of a small section of one woodland and the removal of sections from five hedgerows. Except where such vegetation removal is required, the Cable Route installation works will be located outside of all trees and hedgerows root protection areas (RPA) (where feasible).

6.14.4 The exact footprint of the Cable Route within the Cable Route Corridor has yet to be finalised (this is to be confirmed during the detailed design stage of the Proposed Development) and the Cable Route could be placed anywhere within the Cable Route Corridor. Within Table 2.1 – Design Parameters in **Chapter 2 Proposed Development (Document Ref: 6.2, ES Vol.1, 6.2.2)**, the Cable Route dimensions are stated as circa 13km (from Solar Array Area to Bicker Fen Substation), with a 30m working width during construction. This equates to an area of 390,000m^2 (39 ha). With the 12m easement, the area reduces to 156,000m^2 (15.6 ha). The trench(es) for cable installation are to be 2m wide, which, with the 13km length, reduces the area to 26,000m^2 (2.6 ha).

6.14.5 The following list of locations with veteran and transitioning veteran trees has been identified (see **Appendix 6.6 Arboricultural Impact Assessment (Document Ref: 6.3 ES Vol.2, 6.3.18)** for more details):

- Solar Array Area- Three veteran trees (T73, T95, T190) and one transitioning veteran tree (T7);
- Bespoke Access Corridor - Six veteran trees (T007, T004, T010, T017, T018, T0029) were recorded during the survey. One (T017) of these is within the Bespoke Access Corridor, three (T002,T004,

T018) are located outside of the corridor, but are within influencing distance of the Bespoke Access Corridor (e.g. their crowns, RPAs and / or their veteran buffer zones extend within the Bespoke Access Corridor). The remaining two (T010, T029) are located outside of the Order Limit and do not influence the Bespoke Access Corridor.

- Cable Route Corridor - Seven individual veteran trees (T1028, T1048, T1124, T1170, T1171, T1172, T1173) and one veteran tree group (G1153) were recorded during the survey for the Cable Route Corridor. All these veteran trees are located outside of the Cable Route Corridor, but one veteran tree (T1124) is within influencing distance of the DCO Order Limits.

Mitigation

6.14.6 Prior to beginning construction work, the Contractor should consult **Appendix 6.6 Arboricultural Impact Assessment (Document Ref: 6.3 ES Vol.2, 6.3.18)**, **Figure 6.32 Vegetation Removal Plan (Document Ref: 6.6 ES Vol.3, 6.4.43), Appendix 6.7 Outline Landscape and Ecological Mitigation Plan (OLEMP) (Document Ref: 6.3, ES Vol.2, 6.3.19)** and the Arboriculture Method Statement (that is to prepared during the detailed design stage, post development consent being received) for the following:

- Complete list of, locations and specifications for trees, hedgerows and scrub to be removed;
- Complete list, locations and specifications for trees, hedgerows and scrub to be pruned;
- Proposed compensation measures;
- Complete list, locations and specifications for tree, hedgerow and scrub protection fencing Complete list, locations and specifications for ground protection measures within root protection areas ; and
- Reference to other method statements. (e.g. drainage management, ground engineering, construction).

6.14.7 A veteran buffer zone of 15 times their stem diameter or 5m beyond their crown spread (whichever is greater) has been allocated for each veteran tree, in accordance with the Government's Standing Advice 'Ancient Woodland, Ancient Trees and Veteran Trees: Advice for Making Planning Decisions.'[39]

6.14.8 Tree protection fencing shall be fit for the purpose of excluding construction activity and appropriate for the degree and proximity of work taking place. The Contractor will follow the suitable approaches to tree protection fencing contained within the Arboricultural Method Statements.

6.14.9 Site fencing will be utilised for tree and hedgerow protection, which shall be detailed within the Arboriculture Method Statement (that is to be prepared during the detailed design stage, post development consent being received). The Site fencing shall be erected at the specific locations that it is required, as detailed on Tree Protection Plans to be appended to the Arboricultural Method Statements , Heras tree and hedgerow protection fencing, and hedgerow post and wire protection fencing shall also be utilised to protected trees and hedgerows, which shall be installed in accordance with BS 5837 guidance,

[39] https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions Accessed 2023 and 2024.

prior to the commencement of construction activities, including the installation / construction of any required grounds works, temporary access tracks, permanent hard standing, sub-stations, solar PV arrays and associated other infrastructure. The Heras tree and hedgerow protection fencing, and hedgerow post and wire protection fencing shall be erected at the specific locations that it is required, the fencing, apart from the site fencing, shall only be retained for the duration of any affecting construction activities and / or dismantling works.

6.14.10 Any adjustment to fencing location(s) (for fencing that may affect root protection areas) will be agreed with the appointed Arboricultural Clerk of Works (ACoW) and supervised by an appointed ACoW or the Project Environmental Manager (PEM) or other suitably qualified person(s).

6.14.11 As per **Figure 6.31 Landscape Strategy Plan (Document Ref: 6.6 ES Vol.3, 6.4.42)** the planting of new trees / hedgerows planting will be undertaken at the Site to enhance visual amenity of the local landscape, enhance habitat for wildlife and provide screening.

6.14.12 **Appendix 6.6 Arboricultural Impact Assessment (Document Ref: 6.3 ES Vol.2, 6.3.18)** specifies areas where it is anticipated that tree pruning may be required, which must be undertaken by a competent and insured arborist (tree surgeon), working in accordance with British Standard 3998:2010 Tree Work – Recommendations.

6.14.13 The area behind the tree and hedgerow protection fencing shall be considered as a construction exclusion zone (CEZ). No development These shall take place within these CEZs, unless detailed in the Arboricultural Method Statement. The CEZ shall not be used for construction activities, storage of materials or pedestrian or vehicular access. Weatherproof notices will be posted at appropriate intervals on the fencing around these zones featuring clearly visible text with details of the CEZ being prohibited areas.

6.14.14 During inductions, all staff will be informed on their obligations and responsibilities for the protection of retained trees and hedgerows, including identifying and reporting in the event of any tree related problems occurring, whether actual or potential. Copies of approved and arboriculture method statements will be available onsite.

Monitoring

6.14.15 An appointed ACoW will monitor the tree protection measures and will undertake and supervise works within root protection area according to the Arboriculture Method Statement (that is to be prepared during the detailed design stage, post development consent being received). The frequency of the monitoring (based on the proximity and intensity of the construction works to trees and hedgerows) will be specified in a monitoring program that will be prepared to reflect the construction schedule and included within the Arboricultural Method Statement.

6.14.16 The appointed arboriculturist and / or Site Manager will maintain monitoring records to reflect the compliance of the work with agreed tree protection measures and guidelines specified in the **Appendix 6.6 Arboricultural Impact Assessment (Document Ref: 6.3 ES Vol.2, 6.3.18)**, **Appendix 6.7**

Outline Landscape and Ecological Mitigation Plan (OLEMP) (Document Ref: 6.3, ES Vol.2, 6.3.19) and the Arboriculture Method Statement (that is to prepared during the detailed design stage, post development consent being received). Any changes to the method statements or construction schedule that may impact trees will be immediately communicated to the Site Manager (SM) or Project Environmental Manager (PEM) and the ACoW.

6.14.17 Protection fencing and ground protection measures where used, will also be regularly checked for proper functioning by the appointed ACoW and any damages will be rectified immediately.

7. Complementary Management Plans

7.1.1 This **Outline Construction Environmental Management (OCEMP) (Document Ref: 6.3, ES Vol.2, 6.3.7 Appendix 2.4)** is part of a suite of complementary management plans that have been produced to support the application for the Proposed Development. These include the following documents:

- **Outline Battery Safety Management Plan (DBMP) (Document Ref: 7.2)**;
- **Appendix 2.5 Outline Decommissioning Environment Management Plan (DEMP), (Document Ref: 6.3 ES Vol.2, 6.3.8)**;
- **Appendix 6.7 Outline Landscape and Ecological Management Plan (OLEMP) (Document Ref: 6.3 ES Vol.2, 6.3.19)**;
- **Appendix 8.11 Archaeological Mitigation Strategy (Document Ref: 6.3 ES Vol.2, 6.3.74)**;
- **Appendix 9.3 Outline Construction Traffic Management Plan (OCTMP) (Document Ref: 6.3 ES Vol.2, 6.3.78)**;
- **Appendix 11.1 Flood Risk Assessment (Document Ref: 6.3 ES Vol.2, 6.3.81)**; and
- **Appendix 14.4 Outline Soil Management Plan (OSMP) (Document Ref: 6.3 ES Vol.2, 6.3.95)**.

7.1.2 Alongside the detailed CEMP, the above documents will also be advanced and expanded upon to create detailed versions prior to the construction phase commencing.

7.1.3 In addition, the following complimentary management plans and strategies will be produced along with detailed CEMP to support the construction of the Proposed Development:

- Surface Water Management Plan;
- Site Waste Management Plan;
- Arboricultural Method Statement;
- Construction Noise Monitoring Scheme; and
- Dust Mitigation Plan.

7.1.4 These complementary management plans will set out specific control measures necessary to deliver the principals detailed in the detailed CEMP(s).

8. Monitoring and Reporting

8.1 Monitoring

8.1.1 Monitoring and reporting will be undertaken for the duration of the construction phase in order to demonstrate the effectiveness of the measures set out in the detailed CEMP(s) and related construction controls and allow for corrective action to be taken where necessary.

8.1.2 As part of the monitoring process, the appointed Project Environmental Manager (PEM) will be present onsite throughout the construction period, including when new activities are commencing. The PEM will observe onsite activities and report any deviations from the detailed CEMP(s) in a logbook, along with the action taken and general conditions at the time. The Applicant will be informed of any deviations from the detailed CEMP(s) as soon as possible following identification of such issues. The PEM would also act as day-to-day contact with relevant local authorities and other regulatory agencies such as the ~~Environment Agency.~~EA.

8.1.3 During construction, the PEM will conduct walkover surveys to ensure all requirements of the detailed CEMP(s) are being met. Action from these surveys will be documented on an Environmental Action Schedule, discussed with the Site Manager (SM) for programming requirements and issued weekly for actioning.

8.1.4 The PEM will carry out formal inspections and audits to ensure the requirements of the detailed CEMP(s) are being met. The main monitoring tools are:

- Site visits and inspections;
- Physical monitoring (noise, vibration, and air pollution);
- Watching brief activities (i.e. ecology);
- Waste records; and
- Records of material import.

8.1.5 Details of monitoring, inspection and audits to be undertaken will be provided in the detailed CEMP(s). After completion of the works, the PEM will conduct a final review. The frequency of the inspections conducted by the PEM will be specified in the detailed CEMP(s).

8.1.6 Environmental key performance indicators applicable to the works will be measured and included in the progress reports to the Applicant as required. The parameters measured will include energy / fuel consumption and waste generation / management.

8.2 Documentation

8.2.1 The PEM will retain records of all monitoring, inspections and audits. These records will include:

- Results of routine Site inspections;
- Environmental surveys and investigations;
- Environmental Action Schedule;

- Environmental equipment test records;
- Licenses and approvals; and
- Corrective actions taken in response to incidents or complaints received from a third party.

8.2.2 The detailed CEMP(s) will be updated if it is necessary to include additional control measures, with a full review as required throughout the construction period. Existing control measures and mitigation will not be amended without prior agreement with the local planning authorities.

8.2.3 Document control will be in accordance with the Applicant's Quality Management System (QMS) (if implemented) and copies of all environmental audit reports, consents and licences will be maintained by the Project Environmental Manager (PEM) and held onsite for review at any time. The detailed CEMP(s) will be signed off by an appropriately qualified person(s) on completion of the construction works.

8.3 CEMP Review

8.3.1 Regular reviews of the detailed CEMP(s) will be conducted at predetermined intervals such as project milestones or in response to significant events like environmental incidents or changes in Site rules or governing Regulations.

8.3.2 The process will involve evaluating the effectiveness of mitigation measures, incorporating feedback from stakeholders, updating the detailed CEMP(s) to address new risks or changes in scope, and documenting all revisions to ensure they are communicated to relevant parties. Existing control measures and mitigation will not be amended without prior agreement with the relevant local planning authorities.