# EAST YORKSHIRE SOLAR FARM

**East Yorkshire Solar Farm**

**EN010143**

## Framework Construction Environmental Management Plan

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# East Yorkshire Solar Farm

## Framework Construction Environmental Management Plan

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Prepared for:

East Yorkshire Solar Farm Limited

Prepared by:

AECOM Limited

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# 1. Introduction

## 1.1 Introduction

1.1.1 This document provides the framework for the Construction Environmental Management Plan (CEMP) for East Yorkshire Solar Farm (hereafter referred to as 'the Scheme'), in relation to an application for a Development Consent Order (DCO) for the construction, operation (including maintenance), and decommissioning of the Scheme.

1.1.2 A DCO would provide the necessary authorisations and consents for the Scheme which comprises a solar photovoltaic (PV) electricity generating facility with a total capacity exceeding 50 megawatts (MW), and an export connection to the national grid at National Grid's Drax Substation and is therefore classified as a Nationally Significant Infrastructure Project (NSIP) under Sections 14(1)(a) and 15(2) of the Planning Act 2008 (Ref. 1~~Ref. 1~~).

1.1.3 The aim of this Framework CEMP is to provide a clear and consistent approach to the control of construction activities. This document does not address operational or decommissioning activities, which would be subject to separate environmental management plans and procedures (**Framework Operational Environmental Management Plan (OEMP) [EN010143/APP/7.8]** and **Framework Decommissioning Environmental Management Plan (DEMP) [EN010143/APP/7.9]**).

1.1.4 An Environmental Impact Assessment (EIA) has been undertaken for the Scheme and an Environmental Statement (ES) has been prepared in accordance with the Infrastructure Planning (EIA) Regulations 2017 (EIA Regulations) (Ref. 2~~Ref. 2~~). In accordance with the requirements of the EIA Regulations, the ES contains the assessment of the likely significant effects on the environment that may be caused during the construction of the Scheme and describes a range of 'industry standard' or best practice mitigation measures. This Framework CEMP outlines these construction mitigation measures and sets out the monitoring activities designed to ensure that such mitigation measures are carried out.

1.1.5 A detailed CEMP will subsequently be produced for the Scheme by the appointed contractor(s) following grant of the DCO, when the detailed design of the Scheme is known, in accordance with Requirement 11 of the DCO (see the **Draft DCO [EN010143/APP/3.1]**). Compliance with the contents of the detailed CEMP is intended to provide a systematic approach to environmental management so that environmental risks are identified, incorporated in all decision-making and managed appropriately. Detailed construction techniques and supporting Risk Assessment Method Statements (RAMS), which would outline further mitigation requirements based on the measures discussed in the detailed CEMP and any supporting appendices, will be produced by the contractor.

1.1.6 The detailed CEMP will be prepared in accordance with this Framework CEMP and would be approved by the appropriate planning authorities in advance of starting the construction works. This document therefore

provides the likely structure of the detailed CEMP and some outline information relevant to it.

1.1.7 It is noted that multiple detailed CEMPs may be prepared, approved, and implemented for specific works, for example separate CEMPs may be prepared for the Solar PV Site and the Grid Connection Corridor. The detailed CEMP(s) will be a live document updated throughout the construction period as required, for example to reflect changes in legislation or contact details.

1.1.8 The key elements of this Framework CEMP are:

a. An overview of the Scheme and associated construction programme;

b. Prior assessment of environmental impacts (through the EIA);

c. Proposed design and other mitigation measures to prevent or reduce potential adverse environmental effects;

d. Monitoring and reporting of effectiveness of mitigation measures;

e. Corrective action procedure; and

f. Links to other complementary plans and procedures.

1.1.9 In summary, this Framework CEMP identifies how commitments made in the ES will be translated into actions and includes a process from implementing the actions through to the allocation of key roles and responsibilities.

1.1.10 The appointed contractor(s) will be responsible for working in accordance with the environmental controls documented in the Framework CEMP, pursuant to the DCO. The overall responsibility for implementation of the CEMP(s) will lie with the appointed contractor(s) as a contractual responsibility to the Applicant, as the Applicant is ultimately responsible for compliance with the Requirements of the DCO.

1.1.11 This Framework CEMP has been designed with the objective of compliance with the relevant environmental legislation and mitigation measures set out within the ES.

1.1.12 Any additional construction licenses, permits, or approvals that are required will be listed in the detailed CEMP(s), including any environmental information submitted in respect of them.

## 1.2 The Applicant

1.2.1 The Applicant (East Yorkshire Solar Farm Limited) is a wholly owned subsidiary of BOOM Developments Limited who specialise in non-subsidised solar and battery storage projects. BOOM Developments Limited was founded in 2020, and the name BOOM is an acronym for Build Own Operate Maintain. This reflects the organisation's intentions to be involved in sustainable energy projects from day one right the way through to operation.

1.2.2 Further information on BOOM Developments Limited can be found in **Chapter 1: Introduction, ES Volume 1 [EN010143/APP/6.1]** and the **Funding Statement [EN010143/APP/4.2].**

1.2.3 The DCO Application is submitted to the Planning Inspectorate, with the decision of whether to grant a DCO to be made by the Secretary of State for

Department for Energy Security and Net Zero (hereafter referred to as the 'Secretary of State') pursuant to the Planning Act 2008 (Ref. 1~~Ref. 1~~).

## 1.3 The Site and the Scheme

1.3.1 The Order limits are shown on **Figure 1-2, ES Volume 3 [EN/010143/APP/6.3]** and represent the maximum extent of land to be acquired or used for the construction, operation (including maintenance), and decommissioning of the Scheme. This includes land required for temporary and permanent uses. The 'Site' is the collective term for all land within the Order limits.

1.3.2 The Site comprises approximately 1,276.5 hectares (ha) of land, centred on National Grid Reference SE 756 330. It is located between the hamlet of Gribthorpe and villages of Spaldington, Brind and Willitoft. The nearest town is Howden approximately 1.6 kilometres (km) away at the closest point.

1.3.3 The 'Site' includes the following elements:

a. The Solar PV Site which includes the Solar PV Panels and supporting solar PV infrastructure, including the two 33 kV/132 kV Grid Connection Substations;

b. The Grid Connection Corridor includes the area outside of the Solar PV Site within which the 132 kV cabling linking the Grid Connection Substations to the National Grid Drax Substation will be laid;

c. The Interconnecting Cable Corridor includes the area outside of the Solar PV Site and Grid Connection Corridor which will contain the 33 kV cabling linking the Solar PV Areas to the Grid Connection Substations;

d. Ecology Mitigation Area includes the area of land in the north-east of the Site which is to be managed to provide good quality habitat for overwintering and migratory bird species; and

e. Site Accesses includes additional land required to facilitate access to the Site, such as new access routes or measures to provide better visibility splays.

1.3.4 The Order limits straddle the boundary between East Riding of Yorkshire Council and North Yorkshire Council. The Solar PV Site, Ecology Mitigation Area and Interconnecting Cable Corridor are solely located within the administrative area of East Riding of Yorkshire Council. The Grid Connection Corridor and Site Accesses are located within the administrative areas of East Riding of Yorkshire Council and North Yorkshire Council.

1.3.5 The detailed CEMP will include (as relevant) plans showing the land within each administrative area and the Order limits, including construction compound areas.

1.3.6 Further details of the Site and the Scheme are presented in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]** and the **Outline Design Principles Statement [EN010143/APP/7.4]**. The Outline Design Principles Statement sets out the maximum parameters which will be met by the Contractor and Applicant**.**

# 2. Construction Environmental Management

## 2.1 Roles and Responsibilities

2.1.1 This section of the Framework CEMP sets out the key Contractor roles and responsibilities of parties involved in the construction of the Scheme. The detailed CEMP prepared by the appointed contractor prior to construction will confirm exact roles and responsibilities and include contact details for key members of staff. Clearly establishing roles and responsibilities is vital to ensure the successful construction of the Scheme, including the implementation of the detailed CEMP.

### Project Manager

2.1.2 The Project Manager is responsible for:

a. Coordinating the delivery of all elements of the Scheme including ensuring conformance with the CEMP and other management plans, as well as any incident investigation required;

b. Facilitating the dissemination of generic environmental requirements to the project team;

c. Overseeing the implementation and review of environmental procedures throughout the Scheme;

d. Monitoring the environmental performance of the Scheme through maintaining an overview of incidents, inspections and audits;

e. Ensuring that environmental considerations form an integral part of design and implementation of the works and to include environmental reviews as part of regular meetings;

f. Reviewing environmental matters with Safety, Health and Environment (SHE) Manager/ Advisor on a regular basis and as per Scheme requirements;

g. Liaising with Scheme SHE Manager on all environmental issues as appropriate;

h. Ensuring that all environmental incidents are reported to SHE Manager/ Advisor according to agreed procedures; and

i. Nominating individual project team members to support the Applicant in public relations and community liaison activities, including local community meetings.

### Site Manager/ Engineer

2.1.3 The Site Manager/ Engineer, working with the Project Manager is responsible for:

a. Understanding and implementing all environmental procedures as identified in the detailed CEMP, and ensuring that site operations function in compliance;

b. Reviewing risk assessments and method statements (RAMS) and/or Environmental Method Statements submitted by the Contractor prior to beginning new works activities;

c. Reviewing the Safety, Health and Environment (SHE) Plan, prepared and amended by the SHE Manager/ Advisor;

d. Reviewing and monitoring the implementation, and accuracy of, the CEMP;

e. Conducting incident investigation in the event of an incident or near miss being reported by any worker or member of site management staff during site walkovers or inspections;

f. Monitoring of Contractor compliance with plans and procedures;

g. Liaising with the emergency services;

h. Conducting regular site inspections;

i. Reviewing applications for environmental consents and permits in line with the Project Manager; and

j. Notifying the SHE team (and/ or local authority) when a variation in working time may cause impact upon local residents or upon a local authority consent.

## Safety, Health and Environment Manager

2.1.4 The SHE Manager working with the Project Manager is responsible for the following safety, health and environmental matters:

a. Providing site inductions and toolbox talks on safety, health and environmental matters and sensitivities to the appropriate staff prior to works being undertaken;

b. Preparing, reviewing and updating the SHE Plan;

c. Assisting the Project Manager and Site Manager/ Engineer in reviewing and approving RAMS and/or Environmental Method Statements;

d. Ensuring the RAMS/ Environmental Management Plans (EMPs) are implemented, ensuring compliance with procedures and legislation. Checking all documents for Duty of Care[1] requirements, including:

i. Weekly routine audits of the Contractor's compliance with the CEMP – site activities and record keeping;
ii. Monitoring or inspection of site activities in response to incidents, breaches of the CEMP or complaints received from a third party;
iii. Inspections of works to ensure that environmental mitigation measures incorporated into the design have been implemented;
iv. Implementing corrective mitigation measures where proposed mitigation results in effects over and above those within any DCO Requirement, or license;

[1] The Environmental Protection (Duty of Care) Regulations 1991 (Ref. 4~~Ref. 4~~), place a Duty of Care on 'any person who imports, produces, carries, keeps, treats or disposes of controlled waste or, as a broker, has control of such waste'. The Waste Duty of Care: code of practice (Ref. 5) sets out practical guidance on how waste duty of care requirements are to be met.

v. Delivering toolbox talks on environmental matters and sensitivities to the appropriate staff prior to works being undertaken.

e. Ensuring Duty of Care with respect to all waste generated on the Site;

f. Preparing site specific mitigation plans in consultation with statutory consultees (in line with the Stakeholder Communications Plan) to ensure works can proceed in accordance with all environmental commitments and legislation;

g. Providing technical advice on the implementation of the CEMP including changes to legislative requirements and best practice;

h. Undertaking regular site inspections/ walkovers to ensure construction practice is compliant with best working practices and approved RAMS/ Environmental Method Statements. Between the SHE Manager and Ecological Clerk of Works (ECoW) environmental inspections will be undertaken daily. The SHE Manager/ Advisor will have the authority to stop work where non-compliant working is observed;

i. Reporting any health and/or safety incidents to Site Management as per a defined reporting procedure (to be defined in the detailed CEMP);

j. Providing health and safety advice to construction managers;

k. Attending all construction progress meetings and providing updates on safety, health and environment performance of construction works. Also ensuring regular discourse with project site staff and subcontracted companies on environmental issues;

l. Monitoring weather forecasts and receiving Environment Agency flood alerts to allow works to be planned and carried out accordingly to manage extreme weather conditions, such as storms and flooding;

m. Investigating environmental complaints (in line with agreed project procedures, and communication to be in line with the Stakeholder Communications Plan);

n. Being the day-to-day contact with relevant authorities and other regulatory agencies, such as the Environment Agency; and

o. In conjunction with the Applicant, liaise with government departments, local authorities and other statutory authorities on environmental matters. Obtaining consents and permits, as per project needs.

2.1.5 The Contractor will be able to split and merge roles, should for example it be preferable for the Environmental Manager to be a separate role to Health and Safety.

## Ecological Clerk of Works

2.1.6 An Ecological Clerk of Works (ECoW) will be appointed for the duration of the construction. The purpose of this appointment is to ensure that the ecological interests of areas that may be affected by the works are safeguarded. The ECoW will have the appropriate authority to review RAMS, oversee works, and recommend action as appropriate, including temporarily stopping works where non-compliant working is observed, for example to safeguard protected species and their habitats or where any other breaches of environmental legislation are likely to occur.

2.1.7 The ECoW will ensure the implementation of, and compliance with, the ecological provisions of the CEMP and the mitigation contained within the ES as well as licensing or other conditions imposed on the construction.

## Archaeological Clerk of Works (ACoW)

2.1.8 An Archaeological Clerk of Works (ACoW) will be appointed and will be responsible for monitoring the work undertaken by the Archaeological Contractor. Their role will include:

a. Liaison with the Contractor/Archaeological Contractor and monitoring of construction activities to ensure compliance with the OWSI/SSWSI and the CEMP;

b. Oversight of the archaeological programme (in conjunction with the Archaeological Contractor);

c. Being (alongside the Archaeological Contractor) the principal point of contact for the Curators; and

d. Organising and attend regular site meetings with Curators.

## Archaeological Contractor

2.1.9 An Archaeological Contractor will be appointed (by the Applicant or their Contractor) and will be responsible for the delivery of the archaeological mitigation programme, as set out in the **Overarching Written Scheme of Investigation (OWSI) [EN010143/APP/8.23]**. This responsibility will include:

a. All on-site and off-site works, including preparation of Site-Specific Written Scheme(s) of Investigation (SSWSI) for each site or operation;

b. Reporting and publication;

c. Oversight of the archaeological programme (in conjunction with the Archaeological Clerk of Works); and

d. Being (alongside the Archaeological Clerk of Works) the principal point of contact for the Curators[2].

## The Land Officer

2.1.10 The Land Officer is responsible for:

a. Discussing/ agreeing with landowners and tenants all conditions relating to access, including fencing, gates, access to severed land, stock relocation, reinstatement, drainage, security and the complaints handling procedure with local landowners;

b. Liaison between the Contractor, landowners/ tenant farmers, other stakeholders and appointed land officer supplier;

c. Being the first point of contact for any individuals, or agents of people, with interest in land and for all land related matters;

[2] Curators are the local planning authority archaeologists for East Riding of Yorkshire Council and North Yorkshire Council, as well as representatives of Historic England (including, but not limited to, the Inspector of Ancient Monuments, the Inspector of Historic Buildings and the Regional Science Advisor).

d. Dealing with all matters relating to compensation claims or losses, and complaints, from those with land interests arising as a result of the Scheme; and

e. Attending all construction progress meetings.

2.1.11 This role may be supported by an Agricultural Liaison Officer (ALO, or similar), employed to provide local landowners and those with land-related interests information regarding daily construction activities. The ALO will also assist on activities listed above.

## Traffic Safety and Control Officer

2.1.12 If not undertaken by a named member of the Contractor's SHE team, a Traffic Safety and Control Officer (TSCO) may be appointed for the duration of the construction of the Scheme to act as the main point of contact and undertake the following duties in relation to traffic management:

a. Ensure that works are being carried out in accordance with the Construction Traffic Management Plan (CTMP);

b. Check all Traffic Management drawings for compliance prior to issue;

c. Manage applications for any required temporary Traffic Regulation Orders in relation to any required road closures, one-way restrictions or partial blocking of the highway, or implementation of temporary speed limits; applications for the introduction of temporary traffic lights, or other notification to the Local Highways Authority;

d. Ensure sufficient resource is available to maintain Traffic Management on the Site;

e. Investigating and managing traffic related complaints (in line with agreed project procedures);

f. Monitor the Traffic Management schemes and layouts to ensure their effectiveness and safety to workers and public; and

g. Implement, manage and develop the measures set out within the detailed Construction Traffic Management Plan (CTMP) and continue to monitor them during construction.

## Community Liaison Officer

2.1.13 If not undertaken by a named member of the Contractor's project team, a Community Liaison Officer will be appointed for the duration of the construction of the Scheme to act as the main point of contact (see section 2.14).

## Site Security

2.1.14 Site Security is responsible for mobilising site emergency contacts in the event of an out of hours incident occurring.

## All Other Project Staff

2.1.15 All other project staff will be expected to:

a. Understand and implement procedures relevant to their role as laid out in the detailed CEMP;

b. Conduct their work with a view to reducing the environmental impact of the Project and to raise any environmental concerns with Site Engineer/ Manager or SHE Team; and

c. Report all environmental incidents to Site Manager or SHE Team as soon as possible.

2.1.16 An environmental incident response team is to be identified. They will be trained and competent to attend environmental incidents and provided with appropriate equipment to deal with any reported incident.

## 2.2 Construction Programme

2.2.1 Subject to obtaining the necessary consents, construction is anticipated to commence in 2025, with a target of being completed ready for operation in 2027. Construction of the Grid Connection Cables is anticipated to require 12 months, whereas construction of the solar farm will require an estimated 24 months, with operation therefore anticipated to commence in 2027.

~~2.2.1~~2.2.2 A schedule detailing the sequencing of the construction works which are the subject of the CEMP will be provided with the detailed CEMP.

## 2.3 Working Hours

2.3.1 The core working hours are defined as:

a. Monday to Friday 07.00 to 19.00 (daylight hours permitting);

b. Saturday 07.00 to 13.00 (daylight hours permitting); and

c. No Sunday or Bank Holiday working unless crucial to construction (for example Horizontal Directional Drilling (HDD) which must be a continuous activity etc.) or in an emergency.

2.3.2 Emergency working may extend beyond the times quoted above timescales. For these purposes, "emergency" means a situation where, if the relevant action is not taken, there will be adverse health, safety, security or environmental consequences that in the reasonable opinion of the undertaker would outweigh the adverse effects to the public (whether individuals, classes or generally as the case may be) of taking that action.

2.3.3 Working hours may be shortened if working would necessitate artificial lighting and therefore the working day will be shorter in the winter months. It is not possible to avoid working in the winter period due to the length of construction programme. However, cabling and groundworks will be prioritised during the drier summer months where practicable.

2.3.4 As an exceptional activity, trenchless cable installation via HDD or similar techniques may require 24-hour working, particularly to cross the railway to limit disruption to rail services. The relevant Local Planning Authority will be notified in advance of any proposed 24 hour working or working otherwise proposed outside of the core working hours identified above.

2.3.5 Additionally, quiet non-intrusive works such as the installation of solar PV panels 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. Quiet non-intrusive works are works that do not give rise to elevated levels of

noise. These comprise a variety of activities that do not require the use of loud power tools or machinery, including (but not limited to) administrative tasks, toolbox talks with construction staff, installation of PV panels, electrical testing, commissioning and site inspection.

## 2.4 Landscape and Ecology

2.4.1 The **Framework Landscape and Ecological Management Plan (LEMP) [EN010131/APP/7.14]** provides a framework for delivering the landscape strategy and the successful establishment and future management of proposed landscape works associated with the Scheme. It sets out the short and long-term measures and practices that will be implemented by the Applicant to establish, monitor and manage landscape and ecology mitigation and enhancement (biodiversity net gain) measures embedded in the design. The latter will be achieved through habitat creation over and above that used for habitat mitigation.

2.4.2 Whilst there is inherently a crossover between the Framework LEMP and this document (Framework CEMP), this document aims at capturing all construction related mitigation. Mitigation by design and Scheme evolution is secured in the **Design Principles Statement [EN010131/APP/7.4]** and **Framework LEMP [EN010143/APP/7.14]**.

## 2.5 Control of Noise

2.5.1 Where on-site works are to be conducted outside the core working hours, it is intended that the Applicant will voluntarily apply for Section 61 consent under the Control of Pollution Act 1974 (Ref. 3~~Ref. 3~~), and the Contractor will comply with any restrictions agreed with the relevant planning authorities through that process, in particular regarding the control of noise and traffic. Compliance with these noise limits will ensure adverse effects are unlikely. Abnormal or emergency construction traffic movements may occur outside of normal working hours. In the event of these occurrences, specific noise mitigation measures will be put in place to reduce potential noise impacts at nearby noise sensitive receptors.

### Acoustic barriers

2.5.2 Temporary/mobile acoustic barriers will be used to screen sensitive receptors where noise levels from construction activity may result in significant disturbance. Acoustic barriers are proposed for the following circumstances:

a. Where cable laying activities are required to take place within 15 m of a sensitive receptor;

b. Where night-time HDD works are required to take place within 200 m of a sensitive receptor; and

c. Where HDD works are required to cross the River Ouse, River Derwent and watercourse DE53 due to ecological receptors (otter) (HDD3, HDD5 and HDD6).

2.5.3 Further details on the control of construction noise are presented in **Table 7** and **Table 3~~Table 3~~** in in relation to otter.

## 2.6 Control of Light

2.6.1 Construction works will generally be limited to daylight hours only, with focussed task specific lighting provided where this is not practicable, for example at those HDD locations requiring night-time working. Within construction compounds task specific and fixed 'general' lighting may be required in winter periods (early mornings and up to 19.00 hrs for general workforce) to meet safety requirements. Additionally, mobile lighting, such as torches, would be used by the roving security teams during their regular checks and 'emergency' visits (if an alert is triggered).

2.6.2 Outside of core working hours Passive Infra-Red (PIR) controlled lights (motion sensors) will be used at construction compounds and at welfare areas. The closed circuit television (CCTV) system will also use Infrared (IR) lighting to provide night vision functionality meaning that no visible lighting will be needed for the security system.

2.6.3 During construction all works (cable installation and within the Solar PV Site) will be restricted to daylight hours except HDD drilling operations (currently identified at Rivers Ouse and Derwent, Featherbed Drain, A63, unnamed drain (DE53), Drax Cooling Discharge Pipe, entry into Drax substation and the Hull – Selby Railway), unless directed by authorities or areas requiring road closures. Within construction compounds and at welfare areas, *etc*., motion activated security lighting will be employed outside of core hours. Task specific and fixed 'general' lighting may be required in winter periods (early mornings and up to 7 pm) to meet safety requirements. Additionally, mobile lighting, such as torches, would be used by the security teams during their regular checks.

2.6.4 Lighting will be directional with care to minimise potential for light spillage beyond the site particularly towards houses, live traffic, and habitats, and will be designed with reference to the Institute of Lighting Professionals Guidance Notes (in particular GN08/23 Bats and Artificial Lighting at Night (Ref. 6~~Ref. 6~~) which was produced in collaboration with the Bat Conservation Trust, and GN-1: Reduction of Obtrusive Light (Ref. 7~~Ref. 7~~)) in so far as it is reasonably practicable.

2.6.5 This includes the implementation of measures such as:

a. Lights installed will be of the minimum brightness and/ or power rating capable of performing the desired function;

b. Light fittings will be used that reduce the amount of light emitted above the horizontal (reduce upward lighting);

c. Light fittings will be positioned correctly, inward facing and directed downwards;

d. Direction of lights will seek to avoid spillage onto neighbouring properties, highways or waterways;

e. Direction of lights will seek to avoid spillage onto neighbouring terrestrial or aquatic habitats for example to avoid potential impacts to migrating and spawning fish; and

f. Passive Infra-Red (PIR) controlled lights (motion sensors) will be used except where temporary focussed task specific lighting is required.

2.6.6 Where the use of security cameras is required, no visible lighting will be needed as Infrared (IR) lighting will be provided by the CCTV/security system to provide night vision functionality for CCTV.

## 2.7 Traffic Management

2.7.1 Traffic management mitigation measures are set out in the **Framework Construction Traffic Management Plan (CTMP) (Appendix 13-5, ES Volume 2 [EN010131/APP/6.2]**). This will be updated to a detailed CTMP prior to construction and agreed with the relevant highways authorities, as secured via DCO Requirement 13 (**Draft DCO [EN010143/APP/3.1]**).

2.7.2 It is noted that the movement of Heavy Good Vehicles (HGV) on the public highway has been reduced as far as is practicable. All HGV (trucks and lorries) will travel along the public highway to one of Construction Compounds A, B, D or E (see **Figure 2-4, ES Volume 3 [EN010131/APP/6.3]**). From here materials will be transferred to smaller tractor-trailers similar to the agricultural vehicles currently using the road network, for onward transport to point of need. Trailers are anticipated to be approximately 12 m in length. There would be no HGV movements into Construction Compound C, only tractor-trailers (to and from Construction Compound B) using the access created off Rowlandhall Lane.

2.7.3 To reduce site traffic on local roads, it is proposed to utilise internal routes through the Solar PV Areas where practicable as the primary route for deliveries and staff movements. **Figures 13-3 and 13-4** (**ES Volume 3 [EN010131/APP/6.3]**) show the indicative HGV routeing for the Scheme and the roads likely to be used to access the Site.

2.7.4 During construction, the appointed contractor will ensure that the impacts from construction traffic on the local community (including local residents and businesses and users of the surrounding transport network) are minimised, where reasonably practicable, by implementing the measures set out in the detailed CTMP.

2.7.5 If there is mud or debris on the construction site and a risk of this being tracked out by vehicles onto the public highway, wheel cleaning facilities will be used by vehicles prior to exiting the Site. For loads unable to use a fixed wheel wash, it is anticipated that localised wheel washing would be set up to cater for these individually and as required to ensure no detrimental effect to the highway.

2.7.6 Vehicle swept path analysis has been conducted on HGV routes where pinch points have been noted using the largest vehicle assumed to utilise the roads (maximum legal articulated vehicle). Abnormal Indivisible Loads (AIL) vehicles have also been analysed along these routes to ensure safe journeys along the road network. The vehicle swept paths also demonstrate that construction vehicles will be able to turn in/out of the proposed site accesses.

## 2.8 Off Site Delivery Routes

2.8.1 The **Framework CTMP** (**Appendix 13-5, ES Volume 2 [EN010131/APP/6.2]**) provides details of the designated routes for HGV

movements and worker car movements. It also details measures designed to reduce travel during peak hours on the local road network.

## 2.9 Parking Provisions

2.9.1 The temporary construction compounds (shown as Construction Compound Areas A to E on **Figure 2-4, ES Volume 3 [EN010143/APP/6.3]**) will include the location and size of parking provisions on-site, loading and unloading areas for plant and materials, storage areas, wheel washing facilities and construction traffic management measures, as set out in the detailed CTMP. It will also include a description of any laydown areas or contractor welfare areas.

2.9.2 Parking provision will also be provided at the operations and maintenance hub at Johnson's Farm.

## 2.10 Recovery, Recycling and Disposing of Waste

2.10.1 The contractor will separate the main waste streams on-site, prior to transport to an approved, licensed third party waste facility for recovery, recycling or disposal.

2.10.2 A Site Waste Management Plan (SWMP) will be prepared by the contractor, which will provide a waste estimate, and specify key responsibilities, reporting and auditing requirements and waste recovery targets. The SWMP will be based on the Framework SWMP submitted with the ES and finalised with specific measures to be implemented prior to the start of construction, in accordance with a DCO Requirement.

2.10.3 Waste Duty of Care will be followed for all waste generated on Site. All waste to be removed from the Site will be undertaken by fully licensed waste carriers and taken to suitably licensed waste facilities and managed in line with the requirements of the Waste (England and Wales) Regulations (2011) (Ref. 9~~Ref. 9~~) and the Hazardous Waste Regulations (2005) (Ref. 8~~Ref. 8~~) or as amended). The Scheme will apply the waste heirarchy, in priority order; prevention, preparation for reuse, recycled, other recovery and disposal.

## 2.11 Security

2.11.1 Site security during construction will be managed by the Contractor(s). The erection of the Solar PV Site Perimeter Fencing will be the first stage of construction activities and therefore security fencing will be in place throughout the duration of the construction period. Any storage of materials will be kept secure to prevent theft or vandalism. A safe system for accessing the materials storage areas would be implemented by the contractor(s).

2.11.2 Temporary closed-circuit television (CCTV) will be installed at strategic locations during construction (until the permanent system is installed) – for example to monitor construction compounds and accesses into the Solar PV Site. The CCTV will use thermal imaging and Infrared (IR) lighting to provide night vision functionality meaning that no visible lighting will be needed for security.

## 2.12 Responding to Environmental Incidents and Emergencies

2.12.1 Prior to construction, the Contractor will develop an Emergency Response Plan in consultation with the relevant local authority emergency planning officer, emergency services including the local fire service, as well as the Environment Agency in relation to responding to flood warnings and events.

2.12.2 The plan will detail the procedures for responding to incidents (such as spills, leaks or generation of silt laden runoff so as to prevent pollution) and emergencies (such as flooding) on site, and any reporting.

## 2.13 Good Practice

2.13.1 The Contractor will be required to be a member of the Considerate Constructors Scheme (CCS), which will assist in reducing pollution and nuisance from the Scheme, by employing good practice measures which go beyond statutory compliance.

## 2.14 Public Communication and Liaison

2.14.1 Prior to commencing works on site, the Contractor will develop and implement a Stakeholder Communications Plan that includes community engagement and will detail a complaints procedure. In line with the Stakeholder Communications Plan, a display board will be installed on-site, and a website will be set up. These will include contact details for the Site Manager or alternative public interface with whom nuisance or complaints can be lodged, and the head or regional office contact information. A logbook of complaints will be prepared and managed by the Site Manager or nominated representative.

2.14.2 Any environmental complaints received will be investigated, with appropriate action taken and recorded, so that a full audit trail is available should the complainant raise the issue(s) with the local authority.

2.14.3 A Community Liaison Group will also be set up prior to construction and a Community Liaison Officer (or alternative) will be appointed to lead discussions with local communities during construction.

# 3. Management and Mitigation Plan

## 3.1 Purpose

3.1.1 This section of the Framework CEMP sets out the mitigation measures to be included as a minimum in the detailed CEMP(s). It also sets out monitoring requirements and the responsible party identified for each mitigation measure or monitoring requirement. This section will be updated and developed following consent as part of the preparation of the CEMP(s).

**Table 1. Climate Change**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Greenhouse Gas (GHG) emissions from construction traffic (including vehicles on site and transportation of materials) and end embodied emissions of materials and products.<br><br>Increased flood risk on-site due to climate change needing to be considered in the design.<br><br>Impact on workers – for example flooding and heatwaves. | Appropriate standard and good practice control measures will be included in the detailed CEMP, which will include:<br>• Adopting the Considerate Constructors Scheme (CCS) to assist in reducing pollution, including GHGs, from the Scheme by employing good industry practice measures which go beyond statutory compliance, such as no engine idling where practicable;<br>• Encouraging construction staff to use lower carbon modes of transport by identifying and communicating local bus and rail connections and pedestrian and cycle access routes to/from the Scheme and providing appropriate facilities for the safe storage of cycles;<br>• Implementing a **Framework CTMP** (**Appendix 13-5, ES Volume 2 [EN010143/APP/6.2]**) to reduce the volume of construction staff and employee trips to the Site;<br>• Liaising with construction personnel on the potential to implement staff minibuses and car sharing options;<br>• Switching vehicles and plant off when not in use and ensuring construction vehicles conform to European Union (EU) vehicle emissions standards for the types of plant and vehicles to be used;<br>• Conducting regular planned maintenance of the plant and machinery to optimise efficiency;<br>• Increasing recyclability by segregating construction waste to be reused and recycled where reasonably practicable; | None required. | The overall responsibility will be with the contractor.<br><br>SHE Manager to monitor weather forecasts and flood alerts.<br><br>Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • Designing, constructing and implementing the Scheme in such a way as to minimise the creation of waste;<br>• Preparing a detailed Site Waste Management Plan (SWMP) based upon the **Framework SWMP, Appendix 16-4, ES Volume 2 [EN010143/APP/6.2]**;<br>• Where practicable, maximising the use of alternative materials with lower embodied carbon such as locally sourced products and materials with a higher recycled content;<br>• Storing topsoil and other construction materials outside of the 1 in 100-year floodplain extent (Flood Zone 3), as far as reasonably practicable (noting that no development will occur within Flood Zone 3 Areas of the Solar PV Site);<br>• SHE Manager to monitor weather forecasts and Environment Agency flood alerts to allow works to be planned and carried out accordingly to manage extreme weather conditions, such as storms and flooding; and<br>• Health and safety plans developed for construction activities will be required to account for potential climate change impacts on workers, such as flooding and heatwaves. To include measures such as toolbox talks on training on dangers of extreme weather conditions. | | |

**Table 2. Cultural Heritage**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Potential for impact upon archaeological deposits.<br><br>Temporary impacts on the setting of heritage assets during construction associated with increased visual and noise intrusion. | Physical impacts to known heritage assets within the Order limits have been avoided by the Scheme design, where practicable.<br><br>Avoidance of the moated site east of Gribthorpe (MHU3206), a non-designated heritage asset. The asset is located in Ecology Mitigation Area 1g and will not therefore be physically impacted by the Scheme. An exclusion zone will be set up around the feature.<br><br>The planning of construction traffic routes and modes of transport has sought to reduce impacts to numerous receptors, including heritage assets.<br><br>One of the two principal routes for construction traffic will be the A63, to and from the direction of Selby to Construction Compound D (**Figure 2-4 and Figure 13-3, ES Volume 3 [EN010143/APP/6.3]**, will avoid creating potential impacts to heritage assets further to the east, around, and within, Howden.<br><br>Through the detailed CTMP, the routing of construction traffic through Howden, Wressle, Breighton, Gunby, Bubwith, Spaldington, Willitoft and Gribthorpe, will be prohibited. The overwhelming majority of designated heritage | None. | The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | assets surrounding the Solar PV Site are located within these settlements.<br><br>Two of the five temporary Construction Compounds (A and B) have been sited within Solar PV Areas, to avoid wider physical impacts than those required for the installation of solar PV infrastructure, where practicable.<br><br>The Order limits have been designed to avoid or minimise potential changes to the setting of designated heritage assets, including Grade I, Grade II* and Grade II listed buildings.<br><br>The external finish of infrastructure within Field Stations will be typically in keeping with the prevailing surrounding environment, to minimise the visual impact. External finish varies between manufacturers and colour would be confirmed during detailed design but is most often a grey or green painted finish. | | |
| Potential direct impacts on buried archaeological remains | Potential direct impacts on buried archaeological remains will be managed through a programme of additional mitigation which includes preservation in situ, archaeological investigation and recording, archaeological monitoring and a protocol for dealing with unexpected archaeological discoveries during construction. The guiding principles and methodology for the planning and implementation of the archaeological | Once the Overarching WSI is agreed, this document will establish the objectives for the historic environment works and set out the mechanisms for the appointed archaeological contractor to design the investigation, undertake evaluation, analysis, reporting and deposit the archive prior to construction. Works will be | The overall responsibility will be with the contractor and Archaeological Clerk of Works (ACoW). Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | mitigation will be set out in a Overarching Written Scheme of Investigation for Archaeological Mitigation, which will be agreed with the archaeology officers for East Riding of Yorkshire Council and North Yorkshire Council.<br><br>The Overarching Written Scheme of Investigation will include a requirement for site-specific Written Schemes of Investigation to be produced by the Applicant's Archaeological Contractor to achieve the mitigation measures. The Site-specific Written Schemes of Investigation will be agreed with the relevant local authority archaeology officer prior to the commencement of the archaeological works.<br><br>Archaeological mitigation works will focus primarily on the areas of Iron Age / Romano-British settlement archaeology (AEC006, AEC007, AEC008, AEC009, AEC010, AEC011) identified and characterised during the geophysical survey and archaeological trial trenching undertaken for the Scheme. | monitored against the overarching WSI. | |

**Table 3. Ecology**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| There is potential to introduce/spread invasive non-native species (INNS) within and beyond the Order limits during construction of the Scheme through vehicles/machinery and people. | Terrestrial and aquatic INNS have been identified within and in the vicinity of the Site through site survey and desk-based study. See **Chapter 8: Ecology, ES Volume 1 [EN01043/APP/6.1], Appendix 8-2, ES Volume 2 [EN01043/APP/6.2]** and **Appendix 8-3, ES Volume 2 [EN01043/APP/6.2]**.<br><br>Pre-construction surveys will be undertaken where required to provide an update on the presence and location of any INNS that could be impacted by the Scheme, the findings of which will inform the implementation of measures to prevent their spread.<br><br>A Biosecurity Plan will be produced prior to construction which will set out procedures to ensure that no invasive species are brought onto the Site, exported out of the Site or spread within it (e.g. Wildlife and Countryside Act 1981 (as amended) Schedule 9 species (Ref. 21~~Ref. 21~~). In the event that any future infestations of INNS are identified prior to and or during the development process, exclusion zones will be established around them, and a suitably qualified ecologist contacted for advice as required. Site / species specific method statements (or similar will be prepared as required). | Pre-construction site walkovers will be undertaken in advance of mobilisation/any potential advance works to re-confirm the ecological baseline conditions and to identify any new ecological risks, and any INNS present within the Site.<br><br>Ongoing monitoring of habitats and species will be undertaken throughout construction, over seen by an appointed ECoW of suitable qualifications and experience, or in charge of a team of appropriately qualified ecologists. The ECoW will have the appropriate authority to review RAMS, oversee works and recommend action as appropriate, including temporarily stopping works where non-compliant working is observed, for example to safeguard protected species and their habitats, or where any other breaches of environmental legislation are likely to occur. | ECoW.<br><br>The overall responsibility will be with the Contractor. Specific responsibilities will be confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| Potential for obtrusive glare and light spill to impact on ecology. | Controls on lighting/illumination to minimise visual intrusion and potential adverse effects on sensitive ecological features (e.g. water bodies, watercourses, woodlands, hedgerows and individual trees) will be implemented as far as reasonably practicable (detailed in section 2.6). | The SHE Manager / ECoW will undertake site checks as required, including of lighting. | SHE Manager and ECoW.<br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP. |
| Potential for spillages to enter watercourses and impact ecology and dust deposition on sensitive ecological features. | The design of the Scheme will comply with industry good practice and environmental protection legislation during both construction and operation and maintenance e.g. prevention of surface and ground water pollution, fugitive dust management, noise prevention or amelioration.<br>**Table 4** specifies mitigation requirements in relation to the prevention of spillages and water pollution.<br>Table 12~~Table 12~~ specifies mitigation requirements in relation to air quality (including dust emissions).<br>**Table 7** specifies mitigation requirements in relation to noise and vibration.<br>Prior to construction, the Contractor will develop an Emergency Response Plan (see also paragraph 2.12.1 and | The SHE Manager / ECoW will undertake site checks as required. | SHE Manager and ECoW.<br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | Table 4<br>~~Table 4~~).<br>No works will be undertaken within at least 10 m of watercourses and ponds (30 m of the River Ouse, River Derwent and Watercourse DE53),with the exception of where they need to be crossed by cables in either open trench or through HDD, or access tracks, where required. The HDD send and receive pits for the crossing of the River Ouse, River Derwent and Watercourse DE53 will be a minimum of 30 m from the watercourse edge and 10 m for other watercourses, as measured from the top of bank. This is considered sufficient to mitigate for potential hazards such as chemical and soils spills to avoid potential direct impacts to watercourses and any protected/notable species that use them. The detailed CEMP will also specify requirements for the safe storage of chemicals/other hazardous materials (e.g. fuel) reaching watercourses during flood events during construction. | | |
| Disturbance to species during HDD operations. | The Grid Connection Corridor crossings of the River Derwent Special Area of Conservation (SAC)/ Site of Special Scientific Interest (SSSI), River Ouse, DE53 and the Interconnecting Cable crossing of Featherbed Drain will be undertaken using HDD methods | None. | The overall responsibility will be with the contractor. Specific responsibilities will be |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | to lay cabling, therefore avoiding impacts to the in-channel and associated riparian habitats. All cables will be a minimum of 1.5 m below the bed of watercourses and a minimum of 5 m below the lowest surveyed point of the riverbed in the case of the River Ouse and River Derwent.<br><br>All cables will be installed a minimum of 1.5 m below the bed of watercourses (excluding the River Ouse and River Derwent). Cables will be installed by HDD a minimum of 5m below the lowest surveyed point of the bed of the River Ouse and River Derwent.<br><br>HDD activities beneath the River Ouse and River Derwent will avoid the core fish migration season of September to February and May where practicable, to avoid noise and vibration effects.<br><br>The HDD send and receive pits for the crossing of the River Ouse, River Derwent and unnamed drain DE53 will be a minimum of 30 m from the watercourse edge as measured from the top of bank.<br><br>Following detailed design in accordance with the Outline Design Principles Statement, specific details regarding where HDD is to occur in relation to SAC boundaries will be provided in the detailed CEMP, following | | confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | completion of the site-specific Hydraulic Fracture Risk Assessment (see **Table 4** below). A hierarchy of mitigation measures for HDD activities will ensure that where required, HDD activity noise effects (disturbance to species and habitats) will be reduced as far as reasonably practicable, as detailed in **Table 7**. This hierarchy includes (but is not limited to) the potential for the use of lower noise and vibration techniques and temporary acoustic fencing. | | |
| Removal of vegetation present within the Site. | Vegetation clearance will be undertaken in advance of construction and at an appropriate time of year to avoid the nesting bird period and minimise incidental injuring or killing of reptiles and amphibians. Therefore, construction will avoid the nesting bird period (i.e. March to August inclusive) for vegetation clearance and, in areas suitable for reptiles, would be undertaken at an appropriate time of year, concordant with requirements for other species (such as nesting birds and brown hare).<br><br>Where vegetation clearance within the nesting bird period is unavoidable, vegetation will be checked for the presence of any nests by a suitably experienced ornithologist, prior to removal. If active nests are found, appropriate | None. | ECoW.<br><br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | buffer zones will be put in place and the area monitored until the young birds have fledged.<br><br>Vegetation with the potential to support reptiles will be cut in a phased approach, firstly cutting to 30cm (centimetres), then, following a period of no less than 24 hours, to 15cm and then to ground level, after another 24 hours Any habitat features which may conceal hibernating reptiles (e.g., log piles, rubble mound bunds, any other debris) will not be dismantled during winter months (i.e., between November and February) and will be conducted during the reptile active season (i.e., March (dependent on weather) to October) during warm weather conditions (i.e., above 5°C) to avoid killing or injuring potential hibernating reptiles. Checks for nesting birds listed under Schedule 1 of the WCA 1981 (as amended) (Ref. 21), especially barn owl (*Tyto alba*) and hobby (*Falco Subbuteo*) will be undertaken prior to construction (including the appropriate season prior to for monitoring purposes, and immediately prior to for vegetation clearance) and will be carried out where the Scheme intersects or passes close to suitable breeding habitats or known breeding locations for these species. If nesting Schedule 1 birds are found, a suitably qualified ornithologist will be consulted to advise whether a temporary | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | no disturbance buffer around the nest is required to avoid disturbance to Schedule 1 breeding species, the size of which will be determined by the species, stage of nesting and construction activity proposed. | | |
| Clearance or damage of habitat to facilitate construction – resulting in temporary or permanent reduction in habitat extent and potential direct and indirect effects on associated species. | The following measures will be implemented during construction to protect retained vegetation, designated sites, protected species and other areas of biodiversity value from disturbance, and damage:<br>• Where watercourses/ditches (not Main Rivers) are crossed by cabling works and open cut techniques are required, habitats that are temporarily lost will be reinstated after installation. Where small watercourses/ditches (not Main Rivers) are crossed for access, either temporarily during construction or permanently during operation, new crossings will be clear span and wide enough to avoid the loss of in-channel and riparian habitats. Tracks will be permeable, and localised SuDS, such as swales and infiltration trenches, will be used to control runoff if required. Habitats will be reinstated upon completion of the works, and allowed to re-vegetate naturally. For these crossings water flow would be maintained by damming and over-pumping, except where | Updated species surveys, including but not limited to bats, breeding and non-breeding (wintering) birds, otter, water vole and badger, would be completed as appropriate to re-confirm the status of protected species identified, to support protected species licence applications, if required.<br>Such surveys would be undertaken sufficiently far in advance of construction works to account for seasonality constraints and to allow time for the implementation of any necessary mitigation, prior to construction.<br>Additional surveys may be required during the advance works, site clearance and construction phase as advised by the Applicant's ecologist, based on the findings of the updated walkover and protected species surveys, or otherwise as identified as appropriate by the | ECoW.<br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | works are undertaken in the drier months and this is not necessary. To comply with the Eel Regulations, if over-pumping is required for the crossing of larger drains, a 2 mm diameter mesh screen will be fitted on the intake to prevent the entrapment of elvers.<br>• No new culverts will be created as part of the Scheme. Where upgrades are required to existing culverts, they will be extended by a maximum of 2 m and length-for-length equivalent watercourse enhancements will be required as set out in the Water Framework Directive Enhancement and Mitigation Plan to be prepared post-consent and prior to commencement of works. Where practicable, culverts extensions and any improved structure will be set 150mm (millimetres) below bed level to allow sedimentation and a naturalised bed to form, which will maintain longitudinal connectivity for aquatic fauna.<br>• Where the Grid Connection Corridor crosses the A63 and through the edge of the River Derwent SAC/SSSI, the Applicant has committed to prioritising options of cable installation using HDD which would avoid passing through the | Applicant or their appointed contractor.<br>Immediately prior to site clearance and the start of construction in each relevant part of the Site, further site walkover surveys would be undertaken by the ECoW (or ecologist) to confirm whether the risks remain as previously assessed and/or to confirm the correct implementation of impact avoidance measures (e.g. protected species stand-offs). The scope of the required walkovers would be defined on a case-by-case basis, in consultation with the project team, or other relevant statutory consultees as necessary, based on the specific risks | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | River Derwent SAC/ SSSI (routeing north of the SAC/SSSI and an HDD across the A63) unless unforeseen and engineering constraints/ground conditions are identified at detailed design stage making this option unachievable. The second option would involve open cut of the access track off the A63 and then HDD under the rest of the access track at the start of the SAC boundary and into the field to the north outside of the SAC boundary. The third preferred option would utilise careful excavation along the track and potentially a small loss of verge habitat north of the existing track when entering the field (beyond that required for site access) within the SAC/SSSI boundary. No works will be undertaken south of the existing access track within the SAC/SSSI.<br>• Vehicular access during construction along the existing track through the very edge of the River Derwent SAC would be managed. Along with ensuring the health and safety of road users this would also ensure that there would be no requirement for road widening / highway improvements at the junction with the A63 or for vehicles to progress along the track. The traffic management would also ensure that | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | trespass of vehicles onto the verge was avoided (as detailed in the **Framework CTMP** (**Appendix 13-5, ES Volume 2 [EN010143/APP/6.2]**). The access would require the construction of a temporary bell mouth in the verge habitat to the north of the existing access track when entering the field, which would be fully reinstated at the end of construction. It has been established that whilst the track and the verge habitat constitute site fabric, they are not functionally linked to qualifying habitat and species in the River Derwent SAC or of special interest/features for the SSSI.<br>• Tottering Lane, Gribthorpe Local Wildlife Site (LWS) lies within the Interconnecting Cable Corridor between Solar PV Area 1a and Solar PV Areas 1b and 1e. Wressle Verge LWS is located in both the Interconnecting Cable and Grid Connection Corridors and runs north to south between Solar PV Areas 3a and 3b (along Wood Lane) and east to west along the northern boundary of Solar PV Area 3b (along Brind Lane) (See **Figure 8-2, ES Volume 3 [EN010143/APP/6.3]**). To limit disturbance to habitat inside these LWSs during construction, the working area for the cable installation across the verges will | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | be kept to a minimum of 5 m width inside the LWS's and no spoil/materials/vehicles will be stored within the LWS. Once the cable/s have been installed, the removed turfs and soil from the LWS (stored separately to that of adjacent fields) will be backfilled and replaced promptly, retaining the original topsoil and seed bank. The adjacent hedgerows will be tunnelled underneath using an auger to retain the hedgerows and avoid additional effects on the verges; this will not be long enough to tunnel under the hedge and verge. Appropriate measures (e.g. fencing and signage) will ensure no encroachment into the LWSs, outside of the required working areas.<br>• As well as being crossed by cabling, vegetation clearance will be required for provision of the new and modified existing site accesses points in the LWSs. Two new accesses into the fields along Tottering Lane will be required, as well as upgrading two existing accesses, one across Tottering Lane LWS, and one across Wressle Verge LWS. A further modified access to the north of Wressle Verge LWS will also be required, but lies outside of the LWS in its current design, including the visibility splay. Both a | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | permanent bell mouth and visibility splay will be required for each, however the replacement of the hedgerows and retention of the verge turfs for use along the inside of the bell mouths, has been included within the landscape design (as defined in the **Framework LEMP [EN010143/APP/7.14]**). Management of the grass verges where they fall within the required visibility splays may discourage species richness (e.g. if regular mowing is required to keep the height of the grassland to a certain height), depending on the requirements of East Riding of Yorkshire Council highways team in line with their requirements in relation to highways safety. It is anticipated that the grassland towards the rear of these verges could be cut less frequently and/or to a higher height than at the front, to encourage species diversity, with the front kept shorter for safety reasons. Of the existing access points, the associated visibility splays are currently managed in this way, with the LWSs remaining designated for their species rich verges. One approximately 10m section of hedgerow along the northern visibility splay for a new access on Tottering Lane will require removal, however this is | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | replaced within the field behind (outside of where it would affect visibility). Where temporary habitat loss is unavoidable, reinstatement will be undertaken after construction where practicable. Large areas of grassland creation are included within the landscape design throughout the Solar PV Areas, both around the panels and in the field margins of each field. These can be managed towards LWS criteria.<br>• Sustainable management of soil resources which are disturbed by the Scheme (and their associated seedbanks) and support the habitats within the Site will be undertaken, based upon standard industry good practice measures such as those in Defra's Code of Practice (Ref. 43), ensuring that stored soils retain their quality and function. Additionally, soils of different types or supporting different habitats will be stored separately and replaced in the area they were taken from so that the incorporated seedbank is not lost. These measures are set out in a **Soil Management Plan (SMP), [EN010143/APP/7.10]** and **Table 11**.<br>• The Solar PV Site perimeter security fencing will be implemented early in the | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | construction phase to secure the Solar PV Site and prevent construction activity in proximity to peripheral habitats and retained habitats within the Solar PV Site. The fence design will include gaps at the base to allow mammals that may use retained habitats, including, badger, brown hare, and hedgehog, to pass underneath at strategic locations. Any temporary fencing present during construction (for example on the Grid Connection Corridor) and permanent Solar PV Site perimeter fencing will also allow continued movement of otter along watercourses where they have been found to be present. Preparation of mitigation strategies for protected species and, where required, application for species licences from Natural England for translocation of animals away from construction areas sufficiently in advance of the works to meet with the optimum time for mitigation and to minimise any changes to the construction programme.<br>• Checks for nesting birds listed under Schedule 1 of the WCA 1981 (as amended) (Ref. 21), especially barn owl and hobby will be undertaken prior to construction (including the appropriate season prior to for monitoring purposes, | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | and immediately prior to for vegetation clearance) and will be carried out where the Scheme intersects or passes close to suitable breeding habitats or known breeding locations for these species. If nesting Schedule 1 birds are found, a suitably qualified ornithologist will be consulted to advise whether a temporary no disturbance buffer around the nest is required to avoid disturbance to Schedule 1 breeding species, the size of which will be determined by the species, stage of nesting and construction activity proposed.<br>• There are records of hobby nesting in close proximity to the site. The location of the nest is confidential. Mitigation measures will therefore be further detailed in detailed CEMP. Measures will include:<br>– Installation of nest baskets in appropriate locations prior to breeding season /the construction works to encourage use of alternative nest sites;<br>– Relevant noise reducing measures (as detailed in **Table 7**) such as not letting vehicles idle;<br>– Set up of any accesses, tracks or Construction Compounds in the vicinity of historic nests sites prior to breeding | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | season (noting that this species does not always return to the same nest site); and<br>– Layout of Construction Compounds in the vicinity of historic nests sites to be designed with input from an ornithologist.<br>• Works to any buildings used by barn owl will be suitably timed to avoid direct impacts to barn owl (i.e., injury or killing) and will be carried out only following inspection by a suitably licenced person and if absence is confirmed. Barn owl boxes will be installed in suitable locations to provide suitable alternative roost/ nesting sites.<br>• Reasonable avoidance measures, including appropriate buffers (up to 30 m) around any identified active badger setts or retained trees with bat roost suitability (buffer of 15m) throughout the Site will be implemented. Implementation of measures to avoid animals being injured or killed within construction working areas, through excluding them from such areas and preventing them falling into and becoming trapped in excavations. | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | • Trees with moderate and high bat roost suitability have been avoided through design, with the exception of one at this stage (T872/T619[3] on Pear Tree Ave), which will be addressed during detailed design to adjust the taper of the access bellmouth in order to retain the tree. Where the removal or reduction of trees with low bat roost suitability is unavoidable, they will be soft/section felled in accordance with a Method Statement, under an ecological watching brief. Should additional trees be identified for removal or reduction which are suitable for roosting bats, further surveys will be undertaken as necessary, which may identify the requirement for additional mitigation and/or a Natural England mitigation licence, where impacts to roosting bats cannot be avoided. Where further surveys are necessary, and for the subsequent requirements and mitigation regarding loss of or disturbance to trees, the relevant guidance at the time would need to be followed which may differ from that in place when previous surveys were conducted. | | |

[3] T872 refers to the tree number allocated within **Appendix 10-5: Arboricultural Impact Assessment and Tree Protection Report, ES Volume 2 [EN010143/APP/6.2]** and T619 refers to the tree number allocated in **Appendix 8-7: Bat Survey Report, ES Volume 2 [EN010143/APP/6.2]**.

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | • Specific tree protection measures will be implemented (see also **Table 6**), including fencing and construction exclusion zones. Tree Root Protection fencing will be erected around retained trees, in line with 'British Standard BS 5837: Trees in relation to design, demolition and construction – Recommendations' and these undeveloped buffers will be of a radius of at least 15 x stem diameter (measured at 1.5m) for individual veteran/ancient trees, 15 m from woodlands, individual trees and hedgerows with trees and at least 10 m from hedgerows without trees.<br>• Habitats to be temporarily lost or damaged during construction would be fully reinstated on a like-for-like basis at the same location on completion of construction works, where practical. Some habitats within the Solar PV Site would be restored and /or created and managed with the aim of increasing their biodiversity value in the long-term as set out within the **Framework LEMP [EN010143/APP/7.14]**.<br>• A suitably experienced ECoW (or similar) will be employed/contracted to advise on relevant environmental commitments, the findings of the updated surveys, protected | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | species licencing requirements and with reference to the relevant project programmes.<br>• Relevant site staff would receive toolbox talks on the ecological risks present, legal requirements and working arrangements necessary to comply with legislation. Toolbox talks would be repeated as necessary over the duration of the relevant works. | | |
| Significant adverse effects on the integrity of European designated ecology sites | To prevent significant adverse effects on the integrity of European sites, mitigation in the form of maintained agricultural land and creation of permanent wet/damp grassland will be provided as part of the Ecology Mitigation Areas 1g and 1h. Within this area a total of 43.75 ha of land (an amount that reflects the functional field size supporting recorded peak counts of golden plover and pink-footed goose) will be specifically maintained on an annual basis to deliver adequate habitat to offset the loss of arable farmland used by golden plover and pink-footed goose.<br>Improved management techniques on selected arable plots will ensure that suitable food sources are permanently available throughout winter, reducing the need for travel | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | and associated energy expenditure. Additionally, by ensuring as little disturbance as possible, there will be fewer stressors and foraging interruptions on birds. For golden plover, the creation of permanent grassland which is wet during the winter months, is likely to provide more reliable foraging opportunities with higher densities of soil invertebrates, then the temporary conditions provided by ploughing during winter months.<br><br>Therefore, mitigation will focus on providing the following:<br><br>• Golden plover: damp/wet permanent grassland to support high densities of invertebrates.<br><br>• Pink-footed goose: sensitively managed arable farmland, i.e., through retention of winter stubbles through to at least February, following by sowing of cereal crop.<br><br>The location for delivering the required mitigation is land immediately west of the River Foulness, in Ecology Mitigation Areas 1g and 1h.<br><br>Within the Ecology Mitigation Area (shown on **Figure 2-3, ES Volume 3 [EN010143/APP/6.3]**), 28.75 ha of damp/wet permanent grassland will be created and | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
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| | managed for foraging and roosting golden plover adjacent to the River Foulness. This lies within flood zone 3 and is currently predominantly agricultural land farmed at risk due to periodic flooding from the River Foulness. This will be secured as part of the **Framework LEMP [EN010143/APP/7.14]**.<br><br>A suitably sized area of land within the Ecology Mitigation Area (shown on **Figure 2-3, ES Volume 3 [EN010143/APP/6.3]**) will be farmed on a managed rotation to ensure that a minimum of 15 ha of land within that area is in the required regime (retention of winter stubbles followed by sowing of cereal crop) each year. This will be secured through an agreed management plan and is set out in the **Framework LEMP [EN010143/APP/7.14]**.<br><br>A series of blind linear foot drains will be created horizontally across the Golden Plover Mitigation Zone which will increase the likelihood of creating ideal conditions for the invertebrate assemblages on which golden plover rely. These drains will be created along the western side of the mitigation area within the more level ground, with the following criteria: | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
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| | • Gently sloping edges for permitting access and maximising invertebrate habitat niches;<br>• Designed to maintain shallow water levels and maximise the edge habitat, with a depth of 30cm;<br>• Minimum width of 1-2m, with variable lengths to be refined as required within the locations, in accordance with the habitat and topography; and,<br>• Good level of habitat provision per hectare of mitigation land delivered. | | |
| Effects on protected and, or notable species | The following precautionary working methods would be employed to minimise potential adverse effects on protected/notable species prior to, and during, construction:<br>• Precautionary working method statements would be produced to specify working requirements and other impact avoidance measures and would be controlled and implemented through the detailed CEMP.<br>• Any necessary protected species licences will be applied for and obtained prior to undertaking any works that might result in offences under the relevant legislation; | The detailed CEMP (based on this Framework document) will set out the monitoring requirements. | ECoW.<br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
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| | • The District Level Licence (DLL) for Great crested newt route has been pursued for the Scheme. The Impact Assessment and Conservation Payment Certificate (IACPC) has been issued by Natural England. The DLL will be in place prior to commencement of works.<br>• Where reasonably practicable, vegetation clearance works would be undertaken outside the bird breeding season (as detailed above). Similarly, works to any buildings used by barn owl will be suitably timed to avoid direct impacts to barn owl (i.e., injury or killing) and will be carried out only following inspection by a suitably licenced person and if absence is confirmed.<br>• Precautionary methods of working will be adopted for vegetation clearance within areas where reptiles, notable mammals (e.g. hedgehog, polecat, brown hare, harvest mouse) or amphibians could be present, to minimise the risk of injury/killing. Vegetation with the potential to support reptiles will be cut in a phased approach, firstly cutting to 30 cm, then, following a period of no less than 24 hours, to 15 cm and then to ground level, after another 24 hours. Any habitat | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
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| | features which may conceal hibernating reptiles (e.g. log piles, rubble mound bunds, any other debris) will not be dismantled during winter months (i.e., between November and February) and will be conducted during the reptile active season (i.e., March (dependent on weather) to October) during warm weather conditions (i.e., above 5°C) to avoid killing or injuring potential hibernating reptiles. Cleared ground would be maintained in a disturbed state in the run-up to construction commencing to minimise the risk of ground nesting birds attempting to nest on cleared ground.<br>• Construction excavations have the potential to trap wildlife, such as badger and otter, and result in offences under animal welfare legislation. Implementation of measures to avoid animals being injured or killed within construction working areas, through excluding them from such areas and preventing them from falling into and becoming trapped in excavations. No excavations will remain open overnight and if excavations are required to be left open, ramps will be provided to allow animals a means of escape. | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
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| | • A range of artificial bird and bat boxes will be installed in existing woodland areas, on existing individual trees, on existing trees in hedgerows and on new or retained buildings at Johnson's Farm, to increase the availability of nesting and roosting features and enhance the value of the Site for these species' groups.<br>• A total of at least 30 bird nest boxes and 20 bat roost boxes of varying types to suit different species of birds and bats will be installed in locations to be determined by an ecologist at the time of installation. This will include barn owl boxes and nest baskets for hobby, in suitable trees near to where these species have been recorded.<br>• Bird and bat boxes made from long lasting materials (such as Woodcrete) will be used, where available and would be expected to have a life expectancy of 20 to 25 years. A minimum of five tree mounted or tower mounted barn owl boxes will be provided within the Solar PV Site.<br>• Habitat piles and hibernacula will be constructed throughout the Solar PV Site in suitable areas, such as close to ponds or the newly created grassland areas. Habitat piles will be created using natural materials, generated during clearance of | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
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| | the Site, such as logs, brash, turf and grass strimmings. These will provide refuge and hibernation opportunities for reptiles and amphibians, as well as dead wood habitat for invertebrates, which would in turn benefit fauna such as bats and birds.<br>• To minimise any potential for noise disturbance to otter using the River Derwent, River Ouse and Watercourse DE53, temporary/mobile noise fencing will be utilised surrounding the HDD entry points at HDD3, HDD5 and HDD6. Precautionary portable noise fencing will be utilised around the above three specific noise generating HDD locations. This fencing will be temporary and will be moved to another location as soon as the construction noise for the noise generating activity of concern is complete. | | |

**Table 4. Flood Risk, Drainage and Water Environment**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| Pollution of surface water or groundwater (and any designated ecology sites that are water dependent) due to deposition or spillage of soils, sediments, oils, fuels, or other construction chemicals, or through uncontrolled site run-off including dewatering of excavations or piling;<br><br>Temporary impacts on the hydromorphology of watercourses from open-cut watercourse crossings or temporary vehicle access as may be required;<br><br>Temporary changes in flood risk from changes in surface water runoff (e.g. disruption of stream flows during any potential culvert construction works) and exacerbation of localised flooding, due to deposition of silt, sediment in drains, ditches; and<br><br>Potential impacts on groundwater resources and local water supplies (licenced and unlicenced abstractions) and potentially the baseflow to watercourses from | The construction of the Scheme will be undertaken in accordance with best practice as detailed below. Where not disapplied through the DCO, there may be the need for a number of secondary permissions for temporary and potentially some permanent works affecting watercourses or groundwater (e.g. flood risk activity permits, water activity permits, land drainage consents, and abstraction licences). It is assumed that all temporary works will be carried out under the necessary consents/permits and that the contractor will comply with any conditions imposed by any relevant permission.<br><br>**Good Practice Guidance**<br><br>The following relevant Good Practice Guidance (Guidance for Pollution Prevention (GPP)) methods have been released to date on the NetRegs website (Ref. 22) and are listed below. While these are not regulatory guidance in England where the UK government website outlines regulatory requirements, it remains a useful resource for best practice and will be followed where applicable. The best practice approaches include: | Temporary drainage will be monitored throughout construction. Specific details will be confirmed in detailed CEMP.<br><br>Regular observations of the watercourses will also be required post-works during vegetation re-establishment of the banks, especially following wet weather, to ensure that no adverse impacts have occurred. These requirements will be secured in the WMP.<br><br>The Water Management Plan (WMP) (to be delivered post-consent secured through the CEMP) will include details of pre, during and post construction water quality monitoring. This will be based on a combination of visual observations and reviews of the Environment Agency's water quality monitoring network.<br><br>For any open cut crossing installations, regular observations of the watercourses will be required post-works | SHE Manager.<br><br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| temporary dewatering of excavations or changes in hydrology. | • GPP 1: Understanding your environmental responsibilities – good environmental practices;<br>• GPP 2: Above ground oil storage;<br>• GPP 3: Use and design of oil separators in surface water drainage systems;<br>• GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer;<br>• GPP 5: Works and maintenance in or near water;<br>• GPP 6: Working on construction and demolition sites;<br>• GPP 8: Safe storage and disposal of used oils;<br>• GPP 13: Vehicle washing and cleaning;<br>• GPP 19: Vehicles: Service and Repair;<br>• GPP 20: Dewatering underground ducts and chambers;<br>• GPP 21: Pollution Incident Response Plans;<br>• GPP22: Dealing with spills; and<br>• GPP26: Safe storage – drums and intermediate bulk containers. | during vegetation re-establishment of the banks to ensure that no adverse impacts have occurred. | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | Where new GPPs are yet to be published, previous Pollution Prevention Guidance (PPGs) still provide useful advice on the management of construction to avoid, minimise and reduce environmental impacts, although they should not be relied upon to provide accurate details of the current legal and regulatory requirements and processes. Construction phase operations would be carried out in accordance with guidance contained within the following PPGs:<br>• PPG7: Safe storage – the safe operation of refuelling facilities (Ref. 23); and<br>• PPG18: Managing fire water and major spillages (Ref. 24).<br>Additional good practice guidance for mitigation to protect the water environment can be found in the following key CIRIA documents and British Standards Institute documents:<br>• British Standards Institute (2009) BS6031:2009 Code of Practice for Earth Works (Ref. 25);<br>• British Standards Institute (2013) BS8582 Code of Practice for Surface Water Management of Development Sites (Ref. 26); | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | • C753 (2015) The SuDS Manual (second edition) (Ref. 27~~Ref. 27~~);<br>• C741 (2015) Environmental good practice on site guide (fourth edition) (Ref. 28);<br>• C648 (2006) Control of water pollution from linear construction projects, technical guidance (Ref. 29);<br>• C609 (2004) Sustainable Drainage Systems, hydraulic, structural and water quality advice (Ref. 30);<br>• C532 (2001) Control of water pollution from construction sites – Guidance for consultants and contractors (Ref. 31); and<br>• C736F (2014) Containment systems for prevention of pollution (Ref. 32).<br>**Management of Construction Site Runoff**<br>Mitigation measures are described in detail below and will be adhered to during the construction phase of the Scheme. They apply equally to all components of the Scheme where necessary.<br>The measures outlined below would be required for the management of fine particulates in surface water runoff that may | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | occur as a result of the construction activities:<br>• All reasonably practicable measures will be taken to prevent the deposition of fine sediment or other material in, and the pollution by sediment of, any existing watercourse arising from construction activities. The measures will accord with the principles set out in industry guidelines including the CIRIA report 'C532: Control of water pollution from construction sites' (Ref. 31) and CIRIA report ‘C648 Control of water pollution from linear construction sites’ (Ref. 29). Measures may include use and maintenance of temporary lagoons, tanks, bunds and fabric silt fences etc. or silt screens as well as consideration of the type of plant used;<br>• A temporary drainage system will be developed to prevent runoff contaminated with fine particulates from entering surface water drains without treatment. This will include identifying all land drains and water features in the Site and ensuring that they are adequately protected using drain covers, sand bags, earth bunds, geotextile silt fences, straw bales etc., or proprietary treatment (e.g. | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | lamella clarifiers). If, in developing the temporary construction drainage design, it is identified that existing schemes of land drainage require repair, then new sections of drainage will be constructed;<br>• Where practical, earthworks will be undertaken during the drier months of the year and earth moving works will avoid periods of very wet weather, to minimise the risk of generating runoff contaminated with fine particulates. However, it is likely that some working during wet weather periods will be unavoidable, in which case other mitigation measures (see below) will be implemented to control fine sediment laden runoff. Water may also be required to dampen earthworks during dry weather to reduce dust impacts, and any runoff generated will need to be appropriately managed by the Contractor in accordance with the pollution prevention principles described in **Chapter 9: Flood Risk, Drainage and Water Environment, ES Volume 1 [EN010143/APP/6.1]**.<br>• To protect watercourses from fine sediment runoff, topsoil/subsoil will be stored a minimum of 20 m from | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | watercourses on flat lying land. Where this is not practicable, and it is to be stockpiled for longer than a two-week period, the material will either be covered with geotextile mats, seeded to promote vegetation growth, or runoff prevented from draining to a watercourse without prior treatment;<br>• Appropriately sized runoff storage areas for the settlement of excessive fine particulates in runoff will be provided;<br>• Construction site runoff will either be treated on Site and discharged under a Water Discharge Activity Permit from the Environment Agency to Controlled Waters (potentially also including infiltration to ground) or to the nearest public sewer with sufficient capacity for treatment following discussions with Yorkshire Water, or else removed from site for disposal at an appropriate and licensed waste facility;<br>• Equipment and plant are to be washed out and cleaned in designated areas within the Construction Compounds or at Johnson's Farm, where runoff can be isolated for treatment before disposal as outlined above; | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | • Mud deposits will be controlled at entry and exit points to the Site using wheel washing facilities and/or road sweepers operating during earthworks activities or other times as required;<br>• Debris and other material will be prevented from entering surface water drainage, through maintenance of a clean and tidy site, provision of clearly labelled waste receptacles, grid covers and the presence of site security fencing;<br>• Should the use of herbicide or other spray chemical be required, a method statement, operating procedure or similar will be prepared prior to the work commencing. This will include measures to protect ground and surface water, including that such work would not be undertaken during or before rainfall and high winds. Such work will only be carried out by competent personnel using products approved for UK use with adherence to manufacturer's instructions (this mitigation is secured through the Framework CEMP); and<br>• The Water Management Plan (WMP) (which will be produced post consent with the detailed CEMP) will include details of pre, during and post- | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | construction water quality monitoring. This will be based on a combination of visual observations and reviews of the Environment Agency's automatic water quality monitoring network.<br><br>**Management of Spillage Risk**<br><br>The measures outlined below will be implemented to manage the risk of accidental spillages within the Site and potential conveyance to nearby water features via surface runoff or land drains. The following measures will be adopted during the construction works:<br><br>• Fuel will be stored and used in accordance with the Control of Substances Hazardous to Health Regulations 2002) (Ref. 33), and the Control of Pollution (Oil Storage) (England) Regulations 2001)(Ref. 34). Particular care will be taken with the delivery and use of concrete and cement as it is highly corrosive and alkaline;<br><br>• Fuel and other potentially polluting chemicals will either be in self-bunded leak proof containers or stored in a secure impermeable and bunded area (minimum capacity of 110% of the contents of the containers, which | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | includes 10% more capacity than is needed);<br>• Any plant, machinery or vehicles will be inspected before every use and maintained to ensure they are in good working order and clean for use in a sensitive environment. This maintenance is to take place off site if practicable or, if on site, only at designated areas within the Scheme site compound. Only construction equipment and vehicles free of all oil/fuel leaks will be permitted on the Site. Drip trays will be placed below static mechanical plant;<br>• All washing down of vehicles and equipment will take place in designated areas and wash water will be prevented from passing untreated into watercourses;<br>• All refuelling, oiling and greasing of plant will take place above drip trays or plant nappies, or on an impermeable surface which provides protection to underground strata and watercourses, and away from drains as far as reasonably practicable. Vehicles will not be left unattended during refuelling; | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | • As far as reasonably practicable, only biodegradable hydraulic oils will be used in equipment working in or over watercourses;<br>• All fixed plant used on the Site will be self-bunded;<br>• Mobile plant is to be in good working order, kept clean, fitted with plant 'nappies' at all times and are to carry spill kits;<br>• The WMP (which will be produced post consent) will include details for pollution prevention and will be prepared and included alongside the final CEMP. Spill kits and oil absorbent material will be carried by mobile plant and located at high-risk locations across the Site and regularly monitored and topped up. All construction workers will receive spill response training and tool box talks;<br>• The Site will be secure to prevent any vandalism that could lead to a pollution incident;<br>• Construction waste/debris are to be prevented from entering any surface water drainage or water body; | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | • Surface water drains on public roads trafficked by plant or within the construction compound will be identified and, where there is a risk that fine particulates or spillages could enter them, the drains will be protected (e.g. using covers or sand bags) or the road regularly cleaned by road sweeper;<br>• Where practicable concrete mixing and washing down of mixing plant is to be carried out by the suppliers and away from the Site. Should on-site concrete washout be required, suitable facilities (e.g. geotextile wrapped sealed skip placed within a bunded area or specialist mobile concrete washout facility) will be provided to ensure that the high alkalinity wash water is adequately contained and prevented from entering surface or groundwater. Wash water will be removed from the Site for appropriate disposal at a suitably licenced waste facility. Concrete washout is prohibited within a minimum of 10 m of any body of water, including ditches and ponds, or surface water drains, and within 5m of a foul drain. Where practical, this will increase to 50m; and | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | • Water quality monitoring of potentially impacted watercourses will be undertaken to ensure that pollution events can be detected against baseline conditions and can be dealt with effectively. Full monitoring details would be outlined in the detailed CEMP.<br><br>In addition, any site welfare facilities will be appropriately managed, and all foul waste disposed of by an appropriate contractor to a suitably licensed facility.<br><br>**Management of Flood Risk**<br><br>Construction works undertaken adjacent to, beneath and within watercourses will comply with relevant guidance, including Environment Agency and other guidance documents (e.g. GPP 5: Works and maintenance in or near water).<br><br>Measures aimed at preventing an increase in flood risk during the construction works include:<br><br>• Topsoil and other construction materials would be stored outside of the 0.5% Annual Exceedance Probability (AEP) extent for areas at tidal flood risk and outside of the 1% AEP extent for areas at fluvial flood risk. If areas located within Flood Zone 3 are to be utilised for the | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | storage of construction materials, this would be done in accordance with the applicable flood risk activity regulations, if required;<br>• Connectivity would be maintained between the floodplain and the adjacent watercourses, with no changes in ground levels within the floodplain as far as practicable;<br>• During the construction phase, the Contractor would monitor the weather forecasts daily, and review the weekly and monthly weather forecasts each week, and plan works accordingly. For example, works in the channel of any watercourses would be avoided or halted were there to be a significant risk of high flows or flooding; and<br>• The UK Government's Flood Warning Service issues flood warnings and alerts to registered users, the user can specify which areas they require warnings and alerts for. Key contractor personnel (to be identified within the detailed CEMP) would be registered with the service and would be responsible for ensuring this information was disseminated and the | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | Emergency Response Plan (see below) was followed.<br><br>The Contractor will be required to produce an Emergency Response Plan as part of the detailed CEMP (see also paragraph 2.12.1). which would provide detail of the response to an impending flood event and include:<br><br>• A 24-hour availability and ability to mobilise staff in the event of a flood warning;<br><br>• The removal of all plant, machinery and material capable of being mobilised in a flood for the duration of any holiday close down period where there is a forecast risk that the Site may be flooded;<br><br>• Details of the evacuation and site closedown procedures;<br><br>• Arrangements for removing any potentially hazard material and implement more stringent protection measures;<br><br>• If water is encountered during below ground construction, suitable de-watering methods would be used. Any groundwater dewatering required in excess of the exemption thresholds would be undertaken in line with the | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | requirements of the Environment Agency (under the Water Resources Act 1991 as amended) (Ref. 35) and the Environmental Permitting Regulations (2016) (Ref. 36); and<br>• Safe egress and exits are to be maintained at all times when working in excavations. When working in excavations a banksman is to be present at all times.<br>**Grid Connection Cable and Interconnecting Cables: Trenchless Crossings of Watercourses**<br>It is proposed to install Grid Connection Cables beneath the Rivers Ouse, River Derwent, an unnamed drain adjacent to the River Derwent (named by the Scheme as DE53) and Loftsome Bridge Drain close to the A63, plus Interconnecting Cables below Featherbed Drain using horizontal directional drilling (HDD) beneath the bed of the channel (refer to **Figure 2-4** and **Figure 9-2, ES Volume 3 [EN010143/APP/6.3]** for locations).<br>The cable would be installed a minimum of 5 m beneath the bed in the case of the River Ouse and River Derwent given their scale; and a minimum of 1.5 m below Featherbed | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | Drain, Loftsome Bridge Drain and the unnamed watercourse (DE53). A maximum depth would be finalised based on site specific risk assessment at each crossing location in order to minimise groundwater interactions where practicable. Information will be sought from the Environment Agency on the construction details of the flood defence embankments that may need to be crossed. This will inform the approach for directional drilling beneath the Rivers Ouse and Derwent and associated flood defences. There will be a minimum 16 m buffer between HDD send and receive pits from the landward toe of flood defences, see indicative locations of HDD **Figure 9-2, ES Volume 3 [EN010143/APP/6.3]**.<br><br>In addition to the control and management measures for site runoff and spillage risk noted above, the methodology of the drilling, or other trenchless techniques, would include measures to minimise the risk to the environment.<br><br>A site-specific Hydraulic Fracture Risk Assessment would be developed prior to construction following further investigation of specific ground conditions at the crossing locations, and appropriate mitigation developed in line with best construction | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | practice. There is also a need to manage drilling muds and wastewater so that this will not be spilt into the channel when working close to the banks of a watercourse.<br><br>Directional drilling, or other trenchless techniques, would be undertaken by a specialist contractor and the water column above the drill path would be continuously monitored during drilling. It is acknowledged that drill fluid leakage into a watercourse is not a common problem, particularly given the proposed depths. However, where there is an increased perceived risk (i.e. lack of drilling mud returns) the drilling/boring operation would be suspended, remediation action implemented, and subsequently the methodology for that crossing re-evaluated.<br><br>The drill fluids used within the drilling machine would be water based, such as naturally occurring bentonite clay. The fluid component of the drilling mud would be mains water, obtained from a nearby supply and tankered to site when required. There would be some recycling of drilling muds by the drilling plant used.<br><br>The bentonite within the drilling fluid enables the fluid to have sufficient viscosity to carry the cutting chips back to the surface machine whilst lubricating and cooling the | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | drilling bit. The drilling fluid that returns to the drilling rig would be recycled within that drilling rig. Any wastewater/drilling products that are not recycled will be stored and removed from the Site by a suitable waste management contractor and disposed of at a licenced wastewater facility.<br><br>The sections of the cables that will be installed via trenchless approaches will require launch and reception pits to be installed at each crossing point. These are identified in **Figure 9-3, ES Volume 3 [EN010143/APP/6.3]**. The send and receive pit excavations for drilling/boring will be located at least 10 m from the watercourse edge, as measured from the top of bank In the case of the River Derwent, River Ouse and Watercourse DE53 the send and receive pit excavations for drilling/boring will be located a minimum of 30 m from the watercourse edge, as measured from the top of bank. Where there are flood defences, the send and receive pit excavations for drilling/boring will need to be a minimum of 16 m from the landward toe of flood defences. This may require survey work (prior to construction) in some locations to adequately define and agree the top of bank position. | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | The exact dimensions of the send and receive pits would be determined by site and ground conditions but will be kept to a safe minimum in terms of length, width and depth. Maximum parameters considered here as a worst case are dimensions of 8 m length x 4 m width x 1 m depth. A shoring system appropriate to the ground conditions will be used as appropriate to minimise water ingress into the pits. To be chosen based on suitability for the site conditions by the specialist contractor. The ingress of any groundwater will be carefully managed through design of the send or receive pit, shoring method, and a pumping and treatment system. Excessive ingress of water would make the pit unsafe and thus it is important that ingress is minimised and that a suitable system of managing that water is implemented.<br><br>Once the cable is installed beneath the watercourse the pits and any cable trenches will be backfilled to the original ground level and seeded to reduce the risk of runoff and fine sediments entering the watercourse. | | |

**Grid Connection Cable, Interconnecting Cables and On-site Electrical Cabling: Management of Risk to Morphology of Watercourses**

The Grid Connection Cable, Interconnecting Cable and Onsite Electrical Cabling watercourse crossings (aside from the trenchless crossings described above) are assumed to use intrusive open-cut techniques for cable installation.

In total, there are expected to be 34 open-cut watercourse crossings (11 for the Grid Connection Cable and 23 for either the On-site electrical cabling or Interconnecting Cabling) as outlined in **Table 9-17, Chapter 9: Flood Risk, Drainage and Water Environment, ES Volume 1 [EN010143/APP/6.1])**.

This will be subject to further refinement of the design post-consent and the number of crossings will be minimised where practicable.

A pre-works morphology survey of the channel of each watercourse to be crossed will be undertaken prior to construction. The pre-works survey is to ensure that there is a formal record of the condition of each watercourse prior to commencement of works to install cables beneath the channel.

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | At this stage it is assumed that where open-cut crossings are required that water flow would be maintained by damming and over-pumping or fluming. Works will be carried out in the drier months where practicable as this would reduce the risk of pollution propagating downstream, particularly in the case of ephemeral watercourses. Once the watercourses are reinstated, silt fences, geotextile matting or straw bales will be used initially to capture mobilised sediments until the watercourse has returned to a settled state. It will be a requirement that the watercourses are reinstated as found and water quality monitoring will be undertaken prior to, during, and following on from the construction activity. Regular observations of the watercourses will also be required post-works during vegetation re-establishment of the banks, especially following wet weather, to ensure that no adverse impacts have occurred. These requirements will be secured in the WMP.<br><br>**Access Track Crossings of Watercourses**<br><br>Access tracks will be compacted stone tracks (Type 1 aggregate) over appropriate geotextile with gradient slopes (where required). Access tracks and passing places will adhere to the appropriate 10 m buffer | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
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| | from watercourses and ponds as outlined above (30 m in the case of the River Ouse, River Derwent and unnamed drain DE53), except where crossings are required.<br><br>The Scheme layout has been designed to avoid new drainage ditch and watercourse crossings wherever practicable. **Table 9-18, Chapter 9: Flood Risk, Drainage and Water Environment, ES Volume 1 [EN010143/APP/6.1])** shows the 24 required crossings within the Solar PV Site that have been identified for access tracks, and of these eight are new crossings. The indicative locations are also shown in **Figure 9-2, ES Volume 3 [EN010143/APP/6.3]**.<br><br>Where existing crossings are to be used, it is assumed as a worst case that some degree of strengthening or improvement of the structures may be required (which may require minor widening). Where such upgrades are required they will be a maximum extension to the structure width of 2 m. Where a new drainage ditch crossing is required, an open span bridge crossing will be used, with the specific type of crossing selected being determined based on site specific factors and in consultation with the relevant authority (generally the IDB/LLFA for the Solar PV Site). Bridge foundations | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | would be set back from the edge of the channel. There would be no new culverts as part of the Scheme. Tracks will be permeable, and localised SuDS, such as swales and infiltration trenches, will be used to control runoff if required.<br><br>Where extensions to existing culverts are required, they will be designed appropriately to maintain connectivity along watercourses for aquatic species and riparian mammals, where these are shown to be present. Where practicable, culverts extensions and any improved structure will be set 150 mm below bed level to allow sedimentation and a naturalised bed to form, which will maintain longitudinal connectivity for aquatic fauna.<br><br>Length-for-length equivalent watercourse enhancements are required for each new culvert extension, and to ensure compliance against Water Framework Directive (WFD) objectives. The requirements will be outlined in a **WFD Mitigation and Enhancement Strategy** produced post DCO consent. This Strategy will be secured through the CEMP with more information regarding the detail that will be contained therein is available within the **Water Framework Directive** | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | **Assessment, Appendix 9-2, ES Volume 2 [EN010143/APP/6.2]**.<br><br>In addition to these crossings within the Solar PV Site, a temporary open span bridge is to be installed to facilitate the construction of the Grid Connection Corridor on Drain DE53 at NGR SE 69239 29218. Bridge foundations would again be set back from the edge of the channel to ensure continuity of riparian habitat.<br><br>Depending on the design of any watercourse crossings, floodplain compensation may also be required on a 'like for like' and 'level for level' basis. Alterations to surface water flow pathways will also need to be considered and, if necessary, mitigated. This will include consideration of the span and soffit height of any works to existing crossings to ensure no increase in flood risk.<br><br>**Water supply.**<br><br>A set of minimum standards has been provided by Yorkshire Water to ensure adequate protection of the public water supply where apparatus is proposed to cross water mains or apparatus. This includes a minimum clearance of 150mm where apparatus crosses above or below a | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | water main for main diameters up to 250mm. For mains of diameter greater than 250mm Yorkshire Water requires a minimum clearance of 300mm where apparatus cross above or below these water mains. | | |

**Table 5. Landscape and Visual Amenity**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Loss of existing landscape features, e.g. vegetation<br><br>Visibility of construction activities | The **Framework LEMP [EN010143/APP/7.14]** sets out proposed measures to mitigate the potential impacts and effects on landscape (and biodiversity) features, and to enhance the landscape and biodiversity value of the Order limits (i.e.: the green infrastructure).<br><br>A detailed LEMP will be submitted to and approved by the relevant planning authority including measures to:<br><br>a. Protect and retain existing trees and vegetation;<br><br>b. Manage and enhance landscape and biodiversity;<br><br>c. Ensure compliance through management and monitoring; and<br><br>d. Ensure maintenance and management, including a landscaping maintenance plan.<br><br>The layout of the Scheme includes minimum offsets of:<br><br>• 15 m from woodlands (noting there is no ancient woodland within or adjacent to the Site);<br><br>• 10 m from hedgerows increasing to 15 m where there are hedgerow trees;<br><br>• 15 m from individual trees; | The detailed LEMP (based on the Framework LEMP as secured through DCO Requirement) will set out monitoring requirements. | SHE Manager.<br><br>The overall responsibility will be with the contractor. The detailed LEMP (based on the Framework LEMP as secured through DCO Requirement) will set out roles and responsibilities for implementation. These will be confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • 10 m from ditches and drains (except where crossed by cables);<br>• 30 m from Rivers Ouse and Derwent; and<br>• 10 m from existing ponds.<br>The layout of the Scheme will use existing farm tracks and field openings as the preferred routes for construction access, minimising loss of hedgerows, where practicable.<br>The indicative Grid Connection Cable and Interconnecting Cable routes have been designed to minimise disturbance of existing vegetation, where practicable. Where selective vegetation removal is required, replacement planting will be reinstated, where practicable.<br>The Solar PV Site perimeter fence will be a 'stock and deer proof fence' or other mesh-type security fencing with wooden posts, up to 2.2 m in height.<br>The lighting strategy is discussed in detail in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]** and section 2.6 of this Framework CEMP. The proposed lighting has been designed to avoid and minimise the potential for adverse landscape and visual effects. The following mitigation has been embedded in the Design Principles (**Design Principles Statement [EN010143/APP/7.4]**). | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | Additional enhancement to reduce identified significant effects at two key locations, Viewpoint 5 (**Figure 10-13, ES Volume 3 [EN010143/APP/6.3]**) and Viewpoint 7 (**Figure 10-15, ES Volume 3 [EN010143/APP/6.3]**), which are specifically residential locations, has been considered and includes:<br>• Specimen tree and shrub planting or the planting of 'ready hedges' at an approximate height of 1.5m at time of planting in sensitive locations to reduce the time between planting during the construction stage and at approximately operation year 15 when the established planting would provide an effective screen for sensitive receptors, as set out in the **Framework LEMP [EN010143/APP/7.14]**. These locations include:<br>- The northern boundary of Solar PV Area 2f (Viewpoint 5);<br>- The southern boundary of Solar PV Area 2e (to the rear of Sandwood House (in proximity to Viewpoint 5); and<br>- The south-western corner of Solar PV Area 1a (to the rear of the residential development – Viewpoint 7). | | |

**Table 6. Arboriculture**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Tree Loss, or Direct or indirect damage to retained trees. | An **Arboricultural Impact Assessment (Appendix 10-5, ES Volume 2 [EN010143/APP/6.2]**) has been produced which identifies the likely maximum extent of tree loss to facilitate the Scheme. A final assessment of arboricultural impacts, tree protection measures and the methodology for sensitive works near retained trees will be developed as part of an Arboricultural Method Statement (AMS) and final Tree Protection Plan (TPP) as part of the detailed CEMP.<br><br>No ancient or veteran trees will be removed.<br><br>Retained trees will be protected with a fenced exclusion zone (installed in advance of commencement of works in that location) where feasible – as described in Annex D of the **Arboricultural Impact Assessment**. Where access over the Root Protection Area (RPA) of a retained tree is unavoidable this will be achieved using existing hard surfacing or ground protection (which will be sufficient to protect roots and the structure of the soil in which they grow) – as described in Annex D of the **Arboricultural Impact Assessment**.<br><br>Where works are unavoidable within the RPA of retained trees, the final working methodology will | The arrangements for site monitoring and supervision will be detailed in the AMS as part of the detailed CEMP.<br><br>This is likely to include regular site visits by an arboriculturist to check on the implementation of tree protection measures (e.g., fencing and ground protection) as well as an arboricultural watching brief for any pruning and careful works within RPAs. | The detailed LEMP (based on the Framework LEMP as secured through DCO Requirement) will set out roles and responsibilities for implementation. These will be confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | be detailed in the AMS as part of the detailed CEMP.<br><br>Where HDDs are routed beneath trees, the depth of drill will be a minimum of 2 m to avoid impacts to roots, as most roots do not typically develop deeper than this**.**<br><br>Where trees require pruning, the extent of pruning will be the minimum feasible to achieve the objective and works will be carried out in accordance with the principles of BS3998: 2010 Treework – Recommendations (Ref. 40). The final extent of any pruning will be determined by the AMS submitted as part of the detailed CEMP.<br><br>The storage of materials and any washing, mixing or refuelling must take place in agreed allocated areas at least 5 m from the edge of the RPA of retained trees. Any slope effect must be taken into account and where there is a potential for run off, heavy duty polythene sheeting and sandbags must be in place as bunding to prevent toxic materials reaching RPAs.<br><br>The detailed design will seek to further avoid or reduce any loss or impact to trees, especially those of the greatest value. Where tree loss is unavoidable it will be mitigated with a scheme of new tree planting set out in the detailed LEMP | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | (based on the **Framework LEMP [EN010143/APP/7.14]**).<br>Biosecurity measures will be applied as recommended in the Arboricultural Association (2018) Guidance Note 2 Application of Biosecurity in Arboriculture (Ref. 41). A Biosecurity Plan will be included in the detailed CEMP. | | |

**Table 7. Noise and Vibration**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Volumes of noise that may cause public disturbance during construction operations | Best Practicable Means that would be implemented during construction works are presented below:<br>• Ensuring that all appropriate processes, procedures and measures are in place to minimise noise before works begin and throughout the construction programme;<br>• All contractors to be made familiar with current legislation and the guidance in BS 5228 (Parts 1 and 2) which should form a prerequisite of their appointment;<br>• Ensuring that, where reasonably practicable, noise and vibration are controlled at source (e.g., the selection of inherently quiet plant and low vibration equipment), review of the construction programme and methodology to consider quieter methods, consideration of the location of equipment on-site and control of working hours;<br>• Use of modern plant, complying with applicable UK noise emission requirements;<br>• Hydraulic techniques for breaking concrete or rocks to be used in preference to | The detailed CEMP(s) will provide details of monitoring. This will be short term monitoring at the start of new, noisy activities to verify the predictions in the ES and compliance with the predicted significance of effects. | SHE Manager.<br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | percussive techniques, where reasonably practicable;<br>• When piling, use of lower noise piling where reasonably practicable;<br>• Off-site pre-fabrication where reasonably practicable;<br>• Regular and effective maintenance by trained personnel will be undertaken to keep plant and equipment working to manufacturer's specifications;<br>• All construction plant and equipment to be properly maintained, silenced where appropriate, operated to prevent excessive noise, and switched off when not in use;<br>• Loading and unloading of vehicles, dismantling of site equipment or moving equipment or materials around the Site to be conducted in such a manner as to minimise noise generation, as far as reasonably practicable;<br>• All vehicles used on-site shall incorporate broadband reversing warning devices as opposed to the typical tonal reversing alarms to minimise noise disturbance where reasonably practicable;<br>• Appropriate routing of construction traffic on public roads and along access tracks to | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | avoid sensitive areas where practicable (see **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]** and the **Framework CTMP, Appendix 13-5, ES Volume 2 [EN010143/APP/6.2]** which also contains figures detailing traffic routing);<br>• Provision of information to the relevant local authority and local residents to advise of potential noisy works that are due to take place;<br>• Monitoring of noise complaints and reporting to the Applicant for immediate investigation and action. A display board will be installed on-site (see section 12.14), and a website will be set up. These will include contact details for the Site Manager or alternative public interface with whom nuisance or complaints can be lodged. A logbook of complaints will be prepared and managed by the Site Manager;<br>• Unnecessary revving of engines will be avoided, and equipment will be switched off when not in use;<br>• Drop heights of materials will be minimised;<br>• Plant and vehicles will be sequentially started up rather than all together; | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • Plant will always be used in accordance with manufacturers' instructions. Care will be taken to site equipment away from noise-sensitive areas. Where practicable, loading and unloading will also be carried out away from such areas;<br>• Works undertaken in Grid Connection Corridor and the Interconnecting Cable Corridor would be undertaken at least 15 m from a sensitive receptor where practicable. | | |
| Impacts to nearby residents | Noise generating activities near residential properties, such as use of power tools or piling, would be limited to the hours between 08:00 and 18:00 from Monday to Friday and between 08:00 and 13:00 on Saturday.<br>Core working hours onsite will be 07:00 to19:00 Monday to Friday and 07:00 to 13:00 on Saturday, but will be shortened if working would necessitate artificial lighting and therefore the working day may be shorter in the winter months (with the exception of activities such as HDD which require continuous working). There will be no work on a Sunday or Bank Holiday unless crucial to construction (e.g., HDD which must be a continuous activity etc.) or in an emergency.<br>• Where high noise generating works are required to be undertaken outside of core | The Section 61 application will set out the specific method of working, calculations of noise levels at nearby receptors, the actual working hours required, noise monitoring locations, details of communication measures and the mitigation measures implemented to minimise noise and vibration impacts. | SHE Manager.<br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | daytime working hours, consent will be sought voluntarily from the relevant local authority under Section 61 of the Control of Pollution Act 1974 (Ref. 3~~Ref. 3~~) for the proposed construction works, excluding non-intrusive surveys. | | |
| Vibration due to construction activities causing annoyance at Noise Sensitive Receptors (NSR) and damage to building structures | The effect of noise and vibration on nearby sensitive receptors can be minimised through a good communication strategy. Prior to construction works being undertaken, liaison will be undertaken with occupiers of sensitive receptors that may be adversely affected by construction noise and vibration.<br><br>The communication strategy and complaint system to be developed will include:<br><br>• Noise complaints will be monitored and reported to the Applicant for immediate investigation and action;<br><br>• A display board will be installed on-site, and a website will be set up. These will include contact details for the Community Liaison Officer or alternative with whom nuisances or complaints can be lodged; and<br><br>• A logbook of complaints will be prepared and managed by the Site Manager. | A construction vibration monitoring scheme shall be developed and agreed with the relevant local authorities following appointment of a principal contractor and prior to commencement of construction works.<br><br>Vibration complaints will be monitored and reported to the Applicant for immediate investigation and action as set out in the detailed CEMP.<br><br>The detailed CEMP would also set out a scheme for the provision of monthly reporting information to local residents to advise of potential vibration generating works that are due to take place | The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP.<br><br>The SHE Manager will regularly record compliance in a logbook. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Disturbance during night time operations for HDD<br><br>.<br><br>. | As requirements and locations for HDD activities will not be finalised until a principal contractor is appointed, a hierarchy of mitigation measures is outlined to ensure that significant noise effects do not occur due to potential night-time works:<br>• Where practicable, avoid HDD works within 200 m (the distance at which significant effects are predicted at night) of residential receptors (although this will depend on the results of the ground investigation survey);<br>• The potential for the use of quieter equipment than listed in **Appendix 11-4, ES Volume 2 [EN010143/APP/6.2]** will be explored by the Contractor; and<br>• Depending on the location, plant and timing of works, temporary acoustic fencing will be installed around the HDD site boundary to screen receptors from noise emission if HDD works are required within 200 m of a sensitive receptor. This mitigation could provide 10 dB of attenuation when the noise screen completely screens the sources from the receiver. See also section 2.5. | An application for prior consent to carry out noisy work under Section 61 of the Control of Pollution Act (Ref. 3~~Ref. 3~~) will be submitted to demonstrate that noise and vibration has been minimised as far as reasonably practicable. The Section 61 application will set out the specific method of working, calculations of noise levels at nearby receptors, the actual working hours required, noise monitoring locations, details of communication measures and the mitigation measures implemented to minimise noise and vibration impacts. | SHE Manager.<br><br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Construction traffic, plant and machinery noise at nearby NSR | Consideration has been given to traffic routing, timing and access points to the Scheme to minimise noise impacts at existing receptors as detailed in **Chapter 13: Transport and Access, ES Volume 1 [EN010143/APP/6.1]**. Management of HGV on the highway network will be managed through the **Framework CTMP** (**Appendix 13-5, ES Volume 2 [EN010143/APP/6.2]**), which will be secured through the DCO. Appropriate routing of construction and decommissioning traffic on public roads and along access tracks will be pursuant to the CTMP. | See **Framework CTMP, ES Volume 2 [EN010131/APP/6.2]**. | The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP. |
| Significant noise effects following application of embedded mitigation measures | The Order limits are specifically designed to allow spatial flexibility at detailed design, which would allow a distance of separation greater than 15 m to be achieved where practicable, and where this is not practicable the use of temporary/mobile acoustic barriers will prevent noise levels exceeding the Significant Observed Adverse Effect Level (SOAEL).<br><br>HDD activities will only be undertaken outside of core working hours if there is a clear and obvious benefit, such as for safety reasons or to avoid daytime disruption to many people or if required by the asset owner.<br><br>HDD activities outside of core working hours would be notified in advance to either East | Further details are to be confirmed in the detailed CEMP and S61 application. | The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | Riding of Yorkshire Council or North Yorkshire Council (as appropriate). It is also anticipated that a Section 61 application will be made (Control of Pollution Act [Ref. 3~~Ref. 3~~]). This will be followed once a Contractor is appointed and will secure the delivery of additional mitigation measures to reduce noise levels. Additionally, the Section 61 application would contain details on the methodology, communication strategy and monitoring. The hierarchy of mitigation measures for drilling activities will ensure that drilling activity noise effects will be reduced as far as reasonably practicable. This hierarchy includes maximising the distance from drill sites to sensitive receptors if required. | | |

**Table 8. Socio-economics and Land Use**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Disruption to users of Public Rights of Way | As described in **Chapter 2: The Scheme, ES Volume 1 [EN010143/APP/6.1]**, where PRoW cross or are adjacent to Solar PV Areas, fencing will be erected from the inside of the Site without impacting the PRoW or preventing their use. Fencing is the first stage of construction and with this in place construction activities can operate without impacts to PRoW. The PRoW will also be buffered from the perimeter fencing with a minimum distance of either 20 m on both sides of the centre of the PRoW where solar infrastructure lies to both sides (creating a 40 m wide corridor between the fence lines), or 15 m if solar infrastructure is to one side only.<br><br>Elsewhere within the Site, access to all existing PRoW will be retained during the construction phase, with no PRoW closures proposed. There will be a limited number of temporary PRoW diversions around the Scheme as set out in the **Framework Public Rights of Way Management Plan** (**Framework PRoWMP**) [**EN010143/APP/7.13**] submitted as part of this DCO Application. The **Framework PRoWMP** sets out how PRoW will be managed during the construction phase to ensure the safety of users and site staff.<br><br>Additionally, several PRoW will require management to ensure user safety and accessibility. The management measures and the PRoW to which they apply are fully described in the **Framework PRoWMP** | Monitoring temporary diversions of PRoW during the construction. To be confirmed in the detailed PRoWMP/CEMP. | The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed PRoWMP/CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | **[EN010143/APP/7.13]**. Management measures include, but are not limited to:<br>• Maximising visibility between construction vehicles and other users (i.e., pedestrians, cyclists, equestrian);<br>• Implementing traffic management (e.g., advanced signage to advise other users of the works); and<br>Use of manned controls where the Scheme crosses PRoW (i.e., marshals or banksmen), with a default priority that decommissioning traffic will give-way to other users.<br>The PRoW associated with the crossing points of the Rivers Ouse and Derwent and Featherbed Drain will not be impacted by construction activities because the crossings will be trenchless (HDD). | | |
| Disruption to local residents, businesses and community facilities | Measures to mitigate the effects of visual impacts during construction are outlined in **Table 5**.<br>Measures to mitigate the effects of construction noise are outlined in **Table 7**.<br>Measures to mitigate the effects of construction traffic are outlined in **Table 9**.<br>Measures to mitigate the effects on air quality are outlined in Table 12~~Table 12~~. | To be included in the detailed CEMP or as outlined in the quoted Tables. | As outlined in the quoted Tables. |

**Table 9. Transport and Access**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Increased traffic flows, including HGVs on the roads leading to the Site.<br><br>Severance and intimidation associated with increased construction traffic and abnormal loads. | The following embedded design mitigation measures are to be incorporated into the Scheme design:<br>• Suitable access points will be identified to enable movement of vehicles into sites where appropriate;<br>• All access points that require the creation of a junction bellmouth would be designed based on the relevant standard from DMRB CD 123 Geometric Design of at Grade Priority and Signal-Controlled Junctions (Ref. 42) and in consultation with the local highway authority, thereby negating any potential safety impact associated with construction activity;<br>• Minimum car parking levels will be met at each of the Construction Compounds as set out in the **Transport Assessment (TA)** (**Appendix 13-4, ES Volume 2 [EN010143/APP/6.2]**);<br>• Swept path analysis for AILs, HGVs, and tractor/trailers has been conducted to ensure there is knowledge of where routing is appropriate;<br>• Pre and post construction road condition surveys will be undertaken at identified locations in coordination with the Local Highway Authority<br>• AILs will be routed in accordance with the findings of the routing review for large vehicles as | There will be monitoring of HGVs, staff vehicles travelling to and from the Order limits, together with safety monitoring at specific locations, as detailed in the Framework CTMP.<br><br>Further details to be confirmed in the detailed CEMP. | Named person as Traffic Safety and Control Officer (TSCO) as appointed by the Contractor to oversee management, monitoring and implementation of the individual measures within the detailed CTMP.<br><br>Other responsibilities are to be confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | set out in the **Framework CTMP** (**Appendix 13-5, ES Volume 2 [EN010143/APP/6.2]**). There are expected to be up to 10 movements associated with the delivery of transformers to the two Grid Connection Substations;<br>• Implementing local off-site highway improvements (e.g., verge clearance, hedge cutting and/or carriageway widening) where required to support HGV movements;<br>• Utilising internal routes between Solar PV Areas to avoid using the existing road network where practicable;<br>• Managing the areas where traffic may have to use the road network, by providing adequate visibility splays between construction vehicles and other road users, implementing traffic management (e.g., advanced signage to advise other users of the works, as well as manned controls at each crossing point (marshals/ banksmen)), with a default priority that construction traffic will give-way to other users. This will also apply where construction traffic and PRoW may intersect;<br>• Positioning of suitably qualified banksmen at construction compound access points to allow all vehicle arrivals and departures to be safely controlled during the construction period; | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • Ensure temporary traffic signals are implemented where necessary across the road network to reflect demand;<br>• Restricting HGV movements to certain routes as follows:<br>- Compound A – Along the A163 to the A614;<br>- Compound B – Along the A163 to the A614;<br>- Compound D – Along the A63 to the A19; and<br>- Compound E – along the A645 to the M62.<br>- Compound C is not intended to have HGVs travelling to this compound.<br>• Restrictions on HGV and tractor-trailer movements on roads through Howden and north from Howden along the B1228 Station Road;<br>• To minimise the number of HGV movements between 07:00 and 09:00 and 16:00 and 20:00 (i.e., limiting deliveries to between the hours of 09:00 and 16:00), to avoid increasing traffic levels on the surrounding highway network during the traditional weekday peak hours;<br>• Implementing a Delivery Management System to control the bookings of HGV deliveries from the start of the construction period. This will be used to regulate the arrival times of HGVs via timed delivery slots, as well as to monitor compliance of HGV routing. In addition, adequate space will be | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | made available within the construction compounds to ensure no queuing back onto the surrounding road network occurs;<br>• Implementing a monitoring system to record the route of all HGVs travelling to and from the Site, to record any non-compliance with the agreed routing strategy/delivery hours and to communicate any issues to the relevant suppliers to ensure the correct routes and times are followed;<br>• Construction staff will be directed to take the most direct route to the Site using 'higher' order roads, such as A and B classified roads or the Strategic Road Network (SRN);<br>• Encouraging local construction staff to car share to reduce single occupancy car trips. This will promote the benefits of car sharing, such as reduced fuel costs. A car share system will be implemented to match potential sharers and to help staff identify any colleagues who could potentially be collected along their route to/from the Site;<br>• Implementing a shuttlebus service to transfer non-local staff to/from local worker accommodation (assumed average occupancy of 16 workers per service), to reduce vehicle trips on the surrounding highway network. Minibuses will also be used to transport staff around the | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | Site, by making use of the internal routes wherever possible to travel between the Solar PV Site, the Grid Connection Corridor and the Compounds;<br>• Providing limited (but sufficient) on-site car parking to accommodate the expected parking demand of construction staff for the Scheme. Staff movements will be managed through the implementation of limited car parking, car sharing, staff routing, specified staff arrival and departure times, parking strategy and the minibus services;<br>• A specialised haulage service will be employed to allow AILs to transport components with the necessary escort, permits and traffic management, with the contractor consulting the relevant highways authorities to ensure the correct permits are obtained. The police will also be given advanced notification under the Road Vehicle Authorisation of Special Types Order 2003;<br>• PRoWs within the Solar PV Site will have maintained access within the Solar PV Site throughout construction with minor diversions, separating PRoW from working areas by installing perimeter fencing as the first phase of construction. The Interconnecting Cables or and Grid Connection Cables would only be impacted during the short-term trenching and restoration | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | operations, and will be managed with traffic management measures where necessary. Routes may be temporarily slightly altered, e.g., moving from one side of a road to the other. Under a worst-case scenario, if any PRoWs require diversion, these will be short-term in duration;<br>• To mitigate impacts for cyclists and pedestrians a communications strategy including regular meetings with contractors to review and address any issues will be implemented; and<br>• A **Framework CTMP** (**Appendix 13-5, ES Volume 2 [EN010143/APP/6.2])** has been produced in accordance with this DCO Application and will be developed further by the appointed contractor in consultation with Local Planning Authorities, National Highways (as necessary), North Yorkshire and Humberside Police and other stakeholders following award of consent. The structure of these documents will expand upon the information included in the Framework CTMP;<br>• See<br>~~•~~ **Table** ~~8~~<br>• ~~**Table 8**~~ for mitigation measures in relation to PRoW.<br>Additional mitigation measures would only be required where significant effects are identified | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | following the application of embedded mitigation measures. However, as all mitigation is embedded within the Scheme design in relation to transport and access, it is not considered that further additional mitigation measures will be introduced. | | |

**Table 10. Human Health**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring |
|---|---|---|

Permissive Paths to enhance the current PRoW network will be provided as part of the Scheme, which have been included as embedded mitigation. Two indicative routes are shown on **Figure 2-3, ES Volume 3 [EN010143/APP/6.3]**. The first proposed Permissive Path is a continuation of Bridleway SPALB08 and runs northwards for approximately 340 m until it connects with the second proposed Permissive Path. This second proposed Permissive Path runs eastwards from footpath SPALF14, connecting with the first Permissive Path and continuing eastwards to the edge of the Habitat Enhancement Area. The path would be approximately 1.4 km in length.

Further details with respect to mitigation measures relevant to minimising amenity impacts associated with PRoW, traffic, noise, ground contamination, air quality and major accidents or disasters are set out in **Table 7. Noise and Vibration~~Table 7. Noise and Vibration~~**;

**Table 8. Socio-economics and Land** Use

**~~Table 8. Socio-economics and Land~~** ~~Use~~; **Table 9. Transport and Access~~Table 9. Transport and Access~~**; **Table 14. Ground Conditions~~Table 14. Ground Conditions~~**; and **Table 15. Major Accidents or Disasters~~Table 15. Major Accidents or Disasters~~**.

**Table 11. Soils and Agricultural Land**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| The Scheme has the potential to impact agricultural land during Construction.<br><br>The Scheme has the potential to impact soil resources in terms of disturbance and damage. Improvements in soil quality may also arise.<br><br>The Scheme has the potential to result in a loss of soil resources, including related biosecurity effects. | Prior to the start of construction, a Soil Management Plan (SMP) will be prepared (secured through DCO Requirement) following the guidance in the Defra (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Ref. 43) and other relevant documents such as The Institute of Quarrying's Good Practice Guide for Handling Soils in Mineral Workings (Ref. 44) and the British Society of Soil Science Guidance Note – Benefiting from Soil Management in Development and Construction (Ref. 45). This will be based upon the **Framework Soil Management Plan [EN010143/APP/7.10]**.<br><br>Damage to the structure, function and resilience of soil resources (and consequent impacts to its ability to support agriculture) will be mitigated by the use of industry standard good practice measures for the stripping, handling and storage of soil materials, in line with the SMP. The following main rules should be observed during all soil handling tasks:<br>• No trafficking/driving of vehicles/plant or materials storage to occur outside designated areas;<br>• No trafficking/driving of vehicles/plant on reinstated soil (topsoil or subsoil); | The appointed contractor will undertake such monitoring as is necessary, such as monitoring of soil stockpiles for the presence of undesirable weed species.<br><br>Targeted soil and ALC survey within the Grid Connection Corridor to inform the detailed SMP.<br><br>Further details to be confirmed in the detailed CEMP. | SHE Manager.<br><br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | • Only direct movement of soil from donor to receptor areas (no triple handling and/or ad hoc storage);<br>• Soils will only be moved under the driest practicable conditions, and this must take account of prevailing weather conditions;<br>• Soil handling will be undertaken outside of the (wetter) winter period (October to March inclusive) where practicable and will not be undertaken during or immediately after rainfall events. Where the 'wet-working' of soils cannot be avoided specific methodologies will be followed. These will be set out in the detailed SMP;<br>• No mixing of topsoil with subsoil, or of soil with other materials;<br>• Soil only to be stored in designated soil storage areas, away from watercourse to avoid runoff;<br>• Soils of different types to be stored separately. Clear records of the stockpiles (including annotated plans) will be maintained.<br>• Plant and machinery only work when ground or soil surface conditions enable their maximum operating efficiency;<br>• All plant and machinery must always be maintained in a safe and efficient working condition; | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | • Daily records of operations undertaken, and site and soil conditions will be maintained; and<br>• Low ground pressure (LGP models) or tracked vehicles will be used where practicable.<br>Soil handling operations will be appropriately supervised to ensure compliance with the SMP to ensure soils are suitable for re-use within the Scheme. The appropriate management of soil resources will maintain soil volumes and quality to prevent loss/lowering of Agricultural Land Classification (ALC) grade between pre- and post-construction and thus potential loss of BMV status.<br>Topsoil stripping will be undertaken outside of the (wetter) winter period (October to March inclusive) where practicable and will not be undertaken during or immediately after rainfall events. Where soils are worked 'wet' specific methodologies (to be set out in the detailed SMP) will be followed.<br>The SMP will be informed by soil and ALC surveys of the Solar PV Site and Interconnecting Cable Corridor. Targeted pre-commencement soil and ALC surveys on agricultural land that will be subject to direct disturbance will be undertaken to inform the detailed SMP, as well as providing baseline land quality data for the success of reinstatement within the cable working corridor to be measured against.<br>For the Grid Connection and Interconnecting Cable Corridors, access to agricultural land and water | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | supplies will be maintained throughout the construction process, as far as is practicable, for example by preventing severance of fields. The construction of the Solar PV Site will be sequential, with land continuing its pre-development agricultural use for as long as practicable before the start of construction.<br><br>Wherever practicable the Grid Connection and Interconnecting Cables will be routed along roads and in roadside verges to avoid impacts to agricultural land.<br><br>For the cable routes topsoil and subsoil from excavation/ working areas will be stripped and stored separately within designated storage areas. Soils of different types will be stored separately. Clear records of the stockpiles (including annotated plans) will be maintained.<br><br>Where topsoil is stripped to form access roads and foundations / hardstanding areas within the Solar PV Site, it will be stored within designated storage areas as close as reasonably practicable to the area of origin and seeded to reduce erosion risk. Soils of different types will be stored separately. Clear records of the stockpiles (including annotated plans) will be maintained.<br><br>All land would be fully reinstated as near as practically possible to its former condition. Topsoil would be prepared and, where required (for example | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | for the establishment of permanent pasture in the Solar PV Site), sown using an appropriate seed mix.<br><br>For the Grid Connection and Interconnecting Cable Corridors, to ensure that the maximum area of productive land remains in agricultural use during the construction period, cable routeing and access tracks will be directed to the edge of fields, in field boundaries, or through less productive areas of individual fields wherever practicable, taking into account other environmental, socio-economic and engineering constraints. Access to water supplies will be maintained throughout the construction period where reasonably practicable.<br><br>For the Grid Connection and Interconnecting Cable Corridors, access to agricultural lands will be maintained throughout the construction process, as far as is practicable. The construction of the Solar PV Site will be phased, with land continuing with its pre-development agricultural use for as long as is practicable before the start of construction.<br><br>The loss of soil resource is considered as the main cause of disease and pathogen transfer, due to the transfer of soil (and incorporated seed/spore bank) from infected to uninfected areas. A SMP to be prepared prior to construction will set out appropriate measures to minimise soil loss and hence biosecurity risk. This will also be covered in the Biosecurity Plan (secured through the CEMP and delivered prior to construction). This may include measures such as | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | appropriate cleaning and/or disinfection of machinery and equipment in areas considered to be at high risk before moving into uninfected areas.<br><br>UK Government's website advertising current occurrences and imposed restrictions with regards to animal and plant diseases will be checked both pre-construction and at regular intervals throughout construction. The Contractor will also subscribe to the Animal Disease Alert Subscription Service. All restrictions will be adhered to and may include additional biosecurity measures being implemented such as restricted movements within prevention zones and additional measures around the disinfection of plant and equipment (including boots and manual tools).<br><br>Soil stockpiles anticipated to be in place for longer than six months will be seeded with appropriate seed mix. Along with protecting the soil against erosion and nutrient loss, this will also help prevent colonisation of the stockpile by nuisance weeds (such as Blackgrass (*Alopecurus myosuroides*) which landowners have reported as being present within areas of the Solar PV Site) that could spread seed onto adjacent land. Stockpiles will be monitored for the presence of undesirable weed species and the stockpile vegetation cover will be managed as appropriate.<br><br>Where Grid Connection and Interconnecting Cables are laid in agricultural land, they will be installed below typical plough depth at a minimum depth of | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | cover at 0.9m, so as not to interfere with normal agricultural operations. Within the Solar PV Site installation depth/ depth of cover of interconnecting and on-site cables may be shallower as no ploughing will occur, but a minimum depth of 0.9 m will be in place for the Grid Connection Cables. | | |

**Table 12. Air Quality**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Increased nitrogen dioxide ($NO_2$) and particulate matter ($PM_{10}$) from on-site and off-site construction vehicle/plant emissions.<br><br>Increased particulates and deposited dust from Site activities, materials transportation, storage and handling, including use of haul roads.<br><br>Silt-laden run off, spillage of chemicals or oils and air borne dust emissions. | The adoption of good site practice will be implemented through measures to control dust as outlined within the Institute of Air Quality Management (IAQM) guidance, which are commensurate with the level of risk identified in the assessment and the construction phase activities for the Scheme. As decommissioning operations are predicted to be similar to construction, the same good practice measures are predicted to apply.<br><br>**Communications**<br><br>• Develop and implement a Stakeholder Communications Plan that includes community engagement before work commences on-site;<br><br>• Display the name and contact details of contact details for the Site Manager or alternative public interface with whom air quality and dust complaints/concerns can be lodged;<br><br>• Prior to construction develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and will include as a minimum the 'highly recommended' | Regular visual assessment of any dust and air pollution which may be generated in the Site. Frequency of site inspections to be increased when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.<br><br>Agree, where necessary/appropriate, dust deposition, dust flux, and/or real-time $PM_{10}$ continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences in different parts of the Site.<br><br>Inspection and maintenance schedules for construction vehicles, plant and machinery; and<br><br>Inspection and recording procedures relating to the level of traffic movements, use and condition of haul routes. | SHE Manager.<br><br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | measures within the IAQM guidance (Ref. 46). The desirable measures will be included as appropriate for the Site. The DMP may include, as appropriate/necessary, monitoring of dust deposition, dust flux, real-time $PM_{10}$ continuous monitoring and/or visual inspections.<br><br>**Site Management**<br><br>• Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken;<br><br>• Make the complaints log available to the local authority when asked;<br><br>• Record any exceptional incidents that cause dust and/or air emissions, either on-site or offsite, and the action taken to resolve the situation in the logbook;<br><br>• Hold regular liaison meetings with other high-risk construction sites within 500m of the Site (if applicable), to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes; | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked;<br>• Increase the frequency of site inspections by the person accountable for air quality and dust issues on-site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions; and<br>• Agree, where necessary/appropriate, dust deposition, dust flux, or real-time $PM_{10}$ continuous monitoring locations with the Local Authority. Where practicable commence baseline monitoring at least three months before work commences on-site.<br>**Preparing and Maintaining the Site**<br>• Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is practicable.<br>• Erect solid screens or barriers around dusty activities that are at least as high as any stockpiles on-site where stockpiles (if required) are within 100 m of receptors.<br>• Fully enclose specific operations where there is a high potential for dust production | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | and the Site is active for an extensive period where operations are within 100 m of receptors.<br>• Avoid site runoff of water or mud.<br>• Keep site fencing, barriers and scaffolding clean using wet methods.<br>• Remove materials that have a potential to produce dust from the Site as soon as practicable, unless being re-used on-site. If they are being re-used on-site, cover as described below.<br>• Cover, seed or fence stockpiles to prevent wind whipping.<br>**Operating Vehicles / Machinery and Sustainable Travel**<br>• Ensure all vehicles switch off engines when stationary – no idling vehicles.<br>• Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable.<br>• Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | control measures provided, subject to the approval of the undertaker and with the agreement of the local authority, where appropriate).<br>• Produce a Delivery Management System (may also be referred to as a Construction Logistics Plan) to manage the sustainable delivery of goods and materials<br>• Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing)<br>**Operations**<br>• Only use cutting, grinding, or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g.: suitable local exhaust ventilation systems.<br>• Ensure an adequate water supply on the Site for effective dust/particulate matter suppression/mitigation, using non-potable water where practicable and appropriate.<br>• Ensure equipment is readily available on-site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.<br>**Waste Management** | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • Burning of waste or unwanted materials will not be permitted on-site.<br>**Earthworks**<br>• Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.<br>• Use Hessian, mulches or tackifiers where it is not practicable to re-vegetate or cover with topsoil, as soon as practicable.<br>• Only remove the cover in small areas during work and not all at once.<br>**Construction**<br>• Avoid scabbling (roughening of concrete surfaces) if possible.<br>• Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.<br>• Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery. | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.<br>**Trackout**<br>• Use 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.<br>• Avoid dry sweeping of large areas.<br>• Ensure vehicles entering and leaving the Site are covered to prevent escape of materials during transport.<br>• Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.<br>• Record all inspections of haul routes and any subsequent action in a site logbook.<br>• When required, dampen down with access tracks and haul routes with fixed or mobile sprinkler systems, or mobile water bowsers and implement regular cleaning.<br>• Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Site where reasonably practicable). | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • Locate access gates at least 10 m from receptors where practicable. | | |

**Table 13. Glint and Glare**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| No Glint and Glare impacts to ground-based (residential, road, rail, waterway and PRoW) receptors were identified in the **Glint and Glare Assessment (Appendix 16-2, ES Volume 2 [EN010143/APP/6.2]).** Whilst an impact was identified to Breighton Airfield, this was found to be not significant and did not require mitigation. Therefore, no mitigation specific to Glint and Glare is required, however it is noted that the hedgerow creation and enhancement to be undertaken for the Scheme will further screen the Solar PV Panels. See **Table 5. Landscape and Visual Amenity~~Table 5. Landscape and Visual Amenity~~**. | | | |

**Table 14. Ground Conditions**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| Potential for risks to human health associated with waste generation, land contamination, airborne contamination and groundwater contamination.<br><br>The discovery of ground contamination during groundworks.<br><br>Levelling of the Site including the possible introduction of new fill materials. | The regional unexploded bomb (UXB) shows that the Site lies within a zone that experiences a low risk of UXB. However, the Site lies adjacent to areas formerly occupied by Breighton Airfield, which is considered a wartime site of interest. Therefore, where relevant, the commissioning of a detailed Unexploded Ordnance (UXO) Assessment will be considered prior to the commencement of any intrusive works to assess and potentially zone the UXO hazard level. Limited intrusive Site Investigation and Generic Quantitative Risk Assessment (GQRA) to be undertaken post-consent in the areas of potential contamination identified in the **Phase 1 Preliminary Risk Assessment (PRA), Appendix 16-3, ES Volume 2 [EN010143/APP/6.2].** The risk management framework provided in Land Contamination: Risk Management (LC:RM) (Ref. 47) and the Environment Agency guiding principles for land contamination (Ref. 48) will be considered in the development of the site investigation.<br><br>The northern extent of Solar PV Area 2a and most of the Grid Connection Corridor (from Wressle to New Road by Drax) are located within a Coal Mining Reporting Area. As recommended in the **Phase 1 PRA, Appendix 16-3, ES Volume 2 [EN010143/APP/6.2]**, a coal mining report will be obtained for these areas to inform the detailed design.<br><br>Active gas pipelines have been identified across the Solar PV Site (Areas 2g, 3c and 3b) and across the Grid | N/A | The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | Connection Corridor, south of Babthorpe. Detailed plans to show the exact route of the pipelines and information on appropriate clearances will be obtained prior to any intrusive works.<br><br>A Water Management Plan which includes details of pollution prevention will be prepared post-consent, secured by the Framework CEMP.<br><br>The mitigation measures set out below are considered to be standard or tertiary mitigation measures that form part of the general environmental management of the Scheme:<br><br>• All workers would be required to wear Personal Protective Equipment (PPE) such as dust masks as applicable;<br><br>• Containment measures would be implemented, including drip trays, bunding or double-skinned tanks of fuels and oils; all chemicals would be stored in accordance with their COSHH guidelines, whilst spill kits would be provided in areas of fuel/oil storage;<br><br>• All plant and machinery would be kept away from surface water bodies wherever practicable, checked regularly and, where necessary, the use of drip trays would be employed. Refuelling and delivery areas would be located away from surface water drains;<br><br>• An Emergency Response Plan will be produced, which staff would have read and understood, and provisions made to contain any leak/spill; | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | • Should any potentially contaminated ground, including isolated 'hotspots' of contamination and/or potential deposits of asbestos containing materials (ACM), be encountered, the contractor would be required to investigate the areas and assess the need for containment or disposal of the material. The contractor would also be required to assess whether any additional health and safety measures are required;<br>• To further minimise the risks of contaminants being transferred and contaminating other soils or water, construction workers would be briefed as to the possibility of the presence of such materials;<br>• In the event that contamination is identified, appropriate remediation measures would be taken to protect construction workers, future site users, water resources, structures, and services;<br>• The contractor would be required to place arisings and temporary stockpiles away from watercourses and drainage systems, whilst surface water would be directed away from stockpiles to prevent erosion;<br>• The risk to surface water and groundwater from run-off from any contaminated stockpiles during construction works would be reduced by implementing suitable measures to minimise rainwater infiltration and/or capture runoff and leachates, through use of bunding and/or temporary drainage systems. These mitigation measures would be designed in line with current good practice, | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | follow appropriate guidelines and all relevant licences/permits;<br>• The contractor would ensure that all material is suitable for its proposed use and would not result in an increase in contamination-related risks on identified receptors, including any landscaped areas and underlying groundwater;<br>• Any waters removed from excavations by dewatering would be discharged appropriately, subject to the relevant permits being obtained from the Environment Agency;<br>• The contractor will implement a dust suppression/management system in order to control the potential risk from airborne contamination migrating off-site to adjacent sites;<br>• Piling design and construction works will be completed following the preparation of a piling risk assessment; and<br>• The proposed works will be undertaken in compliance with Construction (Design and Management) Regulations 2015 (CDM) (Ref. 49~~Ref. 49~~).<br>Dust management measures are described in **Table 12**~~**Table 12**~~.<br>Prior to work commencing, a health and safety risk assessment should be undertaken by the appointed principal contractor and developed in accordance with current health and safety regulations. This assessment | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | should cover potential risks to construction staff, current site users/visitors and neighbouring users. Based on the findings of this health and safety risk assessment, appropriate mitigation measures should be implemented during the construction period. | | |
| Impact to Ground Condition | • A geotechnical site investigation will be undertaken post-consent to inform engineering design, for instance at all the HDD locations. The scope of the geotechnical site investigation is to be developed by the Contractor. | N/A | The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP. |

**Table 15. Major Accidents or Disasters**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| Plant or Animal Disease | • A Biosecurity Plan will be provided post consent. This will provide measures to prevent the spread of plant or animal diseases and the transfer of injurious weed species and invasive species. Measures are likely to include appropriate cleaning and/or disinfection of machinery and equipment in areas considered to be at high risk – see also Table 3. Ecology~~Table 3. Ecology~~, **Table 6. Arboriculture** and Table 11. Soils and Agricultural Land~~Table 11. Soils and Agricultural Land~~.<br>• The UK Government's website advertising current occurrences and imposed restrictions with regards to animal and plant diseases will be checked both pre-construction and at regular intervals throughout construction The species mix described in the **Framework LEMP [EN010143/APP/7.14]** has been chosen to avoid the use of species for which there is a known increased risk of disease or pathogen and to introduce greater variety (and resilience) into the planting. **Framework LEMP [EN010143/APP/7.14]** has been chosen to avoid the use of species for which there is a known increased risk of disease or pathogen and to introduce greater variety (and resilience) into the planting. | No monitoring required | The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |
| Utilities Failure | Electrical cables are required to connect generating components with electricity management infrastructure within the Solar PV Areas before connecting to the Grid Connection Substations in Solar PV Area 1c. These works are subject to Risk Assessment Method Statements (RAMS) which will be produced by the Contractor.<br>All works will be undertaken in accordance with relevant Health and Safety legislation and guidance. Details of fire, police, emergency | No monitoring required | The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring Requirements | Responsibility |
|---|---|---|---|
| | services and hospitals will be publicised and included in the site induction.<br><br>The relevant risk assessments for safety during construction will be required and produced by the contactor prior to construction, which will be implemented to minimise the risk of accidents and disasters on site.<br><br>Measures to mitigate the risks of major accidents and disasters are covered in the following tables: **Table 1. Climate Change~~Table 1. Climate Change~~**; **Table 4. Flood Risk, Drainage and Water Environment~~Table 4. Flood Risk, Drainage and Water Environment~~**; **Table 9. Transport and Access~~Table 9. Transport and Access~~**; and **Table 17. Materials and Waste~~Table 17. Materials and Waste~~**. | | |

**Table 16. Telecommunications, Television Reception and Utilities**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Potential to affect existing utility infrastructure above and below ground as a result of excavation and engineering operations. | Precautionary measures will be included as part of the embedded mitigation for the Scheme, which will include:<br>• Locating the Scheme outside of utilities protected zones;<br>• Identification of unknown utilities before excavation (for example by scanning using CAT and Genny);<br>• Consultation and agreement of construction/demobilisation methods will be undertaken prior to works commencing (covered by the protective provisions included in the DCO); and<br>• Infrastructure that crosses the Scheme will be mapped and avoided through the design.<br>Additionally, measures in relation to safe working beneath overhead lines will be in place at all stages of the Scheme, for example measures set out in National Grid's technical guidance note 287 (Third-party guidance for working near National Grid Electricity Transmission equipment) (Ref. 49 and Ref 50) and the Construction (Design and Management) Regulations 2015 (Ref. 49), such as ensuring adequate clearances are in place when plant and equipment is being moved beneath the overhead lines.<br>Similarly, measures in relation to safe working near buried utilities, particularly gas pipelines, will be in place at all stages of the Scheme. For example mitigation set out in National Grid and Northern Gas Networks guidance documents for third parties working in the vicinity of high pressure gas pipelines and associated installations (Ref. 51 and Ref. 52). | No monitoring required. | SHE Manager.<br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | The **draft DCO [EN010143/APP/3.1]** includes protective provisions for the protection of electronic communication code networks, and engagement with relevant statutory undertakers will continue in detailed design. | | |

**Table 17. Materials and Waste**

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| Disposal of waste (potential waste streams are listed in *Chapter 16: Other Environmental Topics)*<br><br>Potential to impact on sensitive receptors (humans, wildlife and controlled waters) if not stored and managed appropriately. | The Scheme will aim to prioritise waste prevention, followed by preparing for reuse, recycling and recovery and lastly disposal to landfill as per the waste hierarchy.<br><br>All management of waste will be in accordance with the relevant regulations and waste will be transported by licensed waste hauliers to waste management sites which hold the necessary regulatory authorisation and/or permits for those wastes consigned to them.<br><br>The construction of the Scheme will be subject to measures and procedures which will include the implementation of industry standard practice and control measures for environmental impacts arising during construction, such as the control of dust and the approach to material and waste management on-site. A **Framework SWMP, Appendix 16-4, ES Volume 2 [EN010143/APP/6.2]** accompanies the measures set out in this document, and is included alongside the ES, which sets out:<br><br>• The waste streams that will be generated;<br>• How the waste hierarchy will be applied to these wastes;<br>• Good practice measures for managing waste; and | The types, quantities and final destination of waste generated during the construction phase would be identified, measured and recorded through the SWMP.<br><br>A register of all waste loads leaving the Site would be maintained to provide a suitable audit trail for compliance purposes and to facilitate monitoring and reporting of waste types, quantities and management methods. | SHE Manager.<br><br>The overall responsibility will be with the contractor. Specific responsibilities will be confirmed in the detailed CEMP. |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • Roles and responsibilities for waste management.<br><br>The construction contractor will use these documents to produce their CEMP and SWMP prior to works commencing on-site.<br><br>To reduce the potential impacts from materials and waste, and to achieve high levels of sustainability in the Scheme as a whole, the Principal Contractor will apply the principles of the waste hierarchy and adopt best practice measures (BPM) which go beyond statutory compliance.<br><br>This may include BPMs set out in construction industry guidance for example, guidance from the Considerate Constructors Scheme (CCS), Waste & Resources Action Programme (WRAP) and CIRIA.<br><br>The following approaches will be implemented, where practicable, to minimise the quantity of waste arising and requiring disposal:<br><br>• Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme;<br><br>• Implementation of a 'just-in-time' material delivery system where practicable to avoid materials being stockpiled, which can increase the risk of damage and subsequent disposal as waste; | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • Attention to material quantity requirements to avoid over-ordering and the generation of waste materials due to surplus;<br>• Reuse of materials on-site wherever feasible, e.g. reuse of excavated soil for landscaping, recycling of demolition materials into aggregates;<br>• Off-site prefabrication, where practical, including the use of prefabricated structural elements;<br>• Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling; and<br>• Off-site reuse, recycling and recovery of materials and waste where reuse on-site is not practical, e.g. Through use of an off-site waste segregation or treatment facility or for direct reuse or reprocessing off-site.<br>The Principal Contractor will implement the following waste management measures, where practicable, to minimise the likelihood of any localised impacts from pollution or nuisance from waste on the surrounding environment:<br>• Damping down of surfaces during spells of dry weather and brushing/water spraying of heavily used hard surfaces/access points across the site as required; | | |

| Potential Impact | Mitigation/Enhancement Measure | Monitoring | Responsibility |
|---|---|---|---|
| | • Burning of waste or unwanted materials will not be permitted on-site;<br>• All hazardous materials including fuels, chemicals, cleaning agents, solvents and solvent containing products to be properly sealed in containers at the end of each day prior to storage in appropriately protected and bunded storage areas;<br>• All demolition and construction workers will be required to use appropriate personal protective equipment whilst performing activities on-site;<br>• Any waste effluent will be tested and, where necessary, disposed of at a correctly licensed facility by a licensed specialist contractor/s; and<br>• Materials requiring removal from the site will be transported using licensed carriers and records will be kept detailing the types and quantities of waste moved, and the destinations of this waste, in accordance with the relevant regulations. | | |

# 4. Complementary Plans and Procedures

4.1.1 A suite of complementary environmental plans and procedures have been included within the DCO Application and set out proposed mitigation for the construction phase, and in some cases the operational phase, as follows:

a. **Framework Landscape and Ecology Management Plan (LEMP) [EN010143/APP/7.14]**;

b. **Framework Site Waste Management Plan** (**Appendix 16-4, ES Volume 2 [EN010143/APP/6.2]**);

c. **Construction Traffic Management Plan (CTMP)** (**Appendix 13-5, ES Volume 2 [EN010143/APP/6.2]**);

d. **Overarching Written Scheme of Investigation for Archaeological Mitigation** (**Appendix 7-5, ES Volume 2 [EN010143/APP/6.2]**);

e. **Framework Soil Management Plan [EN010143/APP/7.10]**;

f. **Framework Surface Water Drainage Strategy** (**Appendix 9-4, ES Volume 2 [EN010143/APP/6.2]**);

g. **Framework PRoW Management Plan [EN010143/APP/7.13]**; and

h. **Framework Skills, Supply Chain and Employment Plan [EN010143/APP/7.15]**.

# 5. Implementation and Operation

5.1.1 The detailed CEMP will set out all roles, responsibilities and actions required in respect of implementation of the measures described in this Framework CEMP (see also section 2), including:

a. An organogram showing team roles, names and responsibilities;

b. Training requirements for relevant personnel on environmental topics;

c. Information on-site briefings and toolbox talks that will be used to equip relevant staff with the necessary level of knowledge to follow environmental control procedures;

d. Measures to advise employees of changing circumstances as work progresses;

e. Communication methods;

f. Document control; and

g. Environmental emergency procedures.

# 6. Checking and Corrective Action

## 6.1 Monitoring

6.1.1 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.

6.1.2 As part of the monitoring process the contractor will allocate a designated Safety, Health and Environmental (SHE) Manager and ECoW, who will be present on site throughout the construction process and when new activities are commencing. The SHE Manager and/or ECoW will observe site activities and report any deviations from the CEMP(s), along with the action taken and general conditions at the time. The Applicant will be informed of any deviations from the CEMP(s) as soon as practicable following identification of such issues. The SHE Manager will also act as day-to-day contact with relevant authorities and other regulatory agencies, such as the Environment Agency.

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

6.1.4 The SHE Manager and/or the Construction Project Manager will arrange regular formal inspections to ensure the requirements of the CEMP(s) are being met. Details of monitoring, inspection, and audits to be undertaken will be provided in the CEMP(s).

## 6.2 Records

6.2.1 The SHE Manager or Project Manager will retain records of environmental monitoring and implementation of the detailed CEMP. This will allow provision of evidence that the detailed CEMP(s) is being implemented effectively. These records will include:

a. Environmental Action Schedule;

b. Licences and approvals;

c. Results of inspections by SHE Manager / Project Manager;

d. Other environmental surveys and investigations;

e. Environmental equipment test records; and

f. Corrective actions taken in response to incidents, breaches of approved CEMP(s) or complaints received from a third party.

6.2.2 The detailed CEMP will be a ‘live’ document and be updated as and when required, such as when there are changes to the project team or when additional information becomes available (for example through detailed civil design or additional data supply or surveys such as pre-construction ecological surveys). A full review of the CEMP will be undertaken as required (at least quarterly) throughout the construction period. Existing control

measures and mitigation will not be amended without prior agreement with the local authorities.

6.2.3 The CEMP(s) will be signed off by an appropriately qualified person(s) on completion of the construction works.

## 6.3 Management Review

6.3.1 The detailed CEMP will be signed off on completion of the construction works (by an appropriately qualified person(s) such as the SHE Manager) and will form the basis (in combination with the **Framework OEMP [EN010143/APP/7.8]**) of the Operational Environmental Management Plan which will be developed by the Operations and Maintenance Contractor.

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# Abbreviations

| Abbreviation/Term | Definition |
|---|---|
| AC | Alternating current |
| ACM | Asbestos containing materials |
| ACoW | Archaeological Clerk of Works |
| AEP | Annual Exceedance Probability |
| AIL | Abnormal indivisible loads |
| ALC | Agricultural Land Classification |
| ALO | Agricultural Liaison Officer |
| BESS | Battery Energy Storage System |
| BNG | Biodiversity Net Gain |
| BS | British Standard |
| CCS | Considerate Constructors Scheme |
| CCTV | Closed-circuit television |
| CEMP | Construction Environmental Management Plan |
| COPA | Control of Pollution Act 1974 |
| COSHH | Control of Substances Hazardous to Health 2002 |
| CTMP | Construction Traffic Management Plan |
| dB | Decibel |
| DC | Direct Current |
| DCO | Development Consent Order |
| DEMP | Decommissioning Environmental Management Plan |
| DMP | Dust Management Plan |
| DMRB | Design Manual for Road and Bridges |
| ECoW | Ecological Clerk of Works |
| EIA | Environmental Impact Assessment |
| ES | Environmental Statement |
| EU | European Union |
| GHG | Greenhouse gas |
| GPP | Guidance for Pollution Prevention |
| ha | Hectare |
| HDD | Horizontal directional drilling |
| HGV | Heavy Goods Vehicle |

| Abbreviation/Term | Definition |
|---|---|
| SHE | Health and Safety Executive |
| IAQM | Institute of Air Quality Management |
| INNS | Invasive non-native species |
| IR | Infrared |
| km | Kilometre |
| LEMP | Landscape and Ecological Management Plan |
| LGP | Low ground pressure |
| LWS | Local Wildlife Site |
| m | Metre |
| mm | Millimetre |
| mph | Miles per hour |
| $NO_2$ | Nitrogen dioxide |
| OEMP | Operational Environmental Management Plan |
| OWSI | Overarching Written Scheme of Investigation |
| PEI | Preliminary Environmental Information |
| PIR | Passive Infra-Red |
| $PM_{10}$ | Particulate matter |
| PPE | Personal Protective Equipment |
| PPG | Pollution Prevention Guidance |
| PRoW | Public Right of Way |
| PV | Photovoltaic |
| RAMS | Risk Assessment Method Statement |
| SAC | Special Area of Conservation |
| SHE | Safety, Health and Environment |
| SMP | Soil Management Plan |
| SOAEL | Significant Observed Adverse Effect Level |
| SPA | Swept Path Analysis |
| SSSI | Sites of Special Scientific Interest |
| SuDS | Sustainable Drainage Systems |
| SWMP | Site Waste Management Plan |
| TA | Transport Assessment |
| TSCO | Traffic Safety and Control Officer |
| WMP | Water Management Plan |

| Abbreviation/Term | Definition |
|---|---|
| WSI | Written Scheme of Investigation |

# Glossary of Frequently Used Terms

| Term | Definition |
|---|---|
| Applicant | East Yorkshire Solar Farm Limited |
| Biodiversity Net Gain (BNG) | BNG is a strategy to develop land and contribute to the recovery of nature. It is a way of making sure the habitat for wildlife is in a better state than it was before development. |
| Centralised inverters | Convert the direct current (DC) electricity generated from the solar PV panels into alternating current (AC). |
| Cumulative Effects | Effects upon the environment that result from the incremental impact of an action when added to other past, present or reasonably foreseeable actions.<br>Each impact by itself may not be significant but can become a significant effect when combined with other impacts. |
| Detailed Construction Environmental Management Plan (CEMP) | Subsequently produced following the appointment of the contractor, when the detailed design of the Scheme is known, in accordance with a requirement of the DCO prior to commencing construction. It will be a live document and will provide a systematic approach to environmental management so that environmental risks are identified, incorporated in all decision-making and managed appropriately. |
| Development Consent Order (DCO) | Development consent is required pursuant to the Planning Act 2008 for Nationally Significant Infrastructure Projects. A development consent order is the order which grants development consent when an application is made to the Secretary of State. |
| East-West Single Axis Tracker | The system of attaching the Solar PV Panels to a motorised table that moves in relation to the sun tilting the panel from east to west over the course of the day. This allows for optimal power generation throughout the day. |
| Environmental effect | The consequence of an action (impact) upon the environment such as the decline of a breeding bird population as a result of the removal of hedgerows and trees. |
| Environmental impact | The change in the environment from a development such as the removal of a hedgerow. |
| Environmental Impact Assessment (EIA) | A process by which information about environmental effects of a proposed development is collected, assessed and used to inform decision making. For certain projects, EIA is a statutory requirement. |

| Term | Definition |
|---|---|
| Field Station Units | Single enclosures that comprise the inverters, a transformer, and switchgear in a single containerised unit. |
| Field Stations | Areas where electrical equipment such as central inverters, transformers, and switchgear are located. |
| Field Substations | Transformers and switchgear packaged together in containerised units. In this case inverters are separate, either string or central type. |
| Framework CEMP | This document. Provides a framework from which a final CEMP will be developed to avoid, minimise or mitigate any construction effects on the environment. |
| Framework Decommissioning Environmental Management Plan (DEMP) | A specific plan developed to ensure that appropriate environmental management practices are followed during the decommissioning phase of a project. |
| Framework Operational Environmental Management Plan (OEMP) | A specific plan developed to ensure that appropriate environmental management practices are followed during the operational phase of a project. |
| Grid Connection Corridor | Corridor which represents the maximum extent of land within which the cable route would be located. |
| Grid Connection Substation | A compound containing electrical equipment to enable connection to the National Grid. |
| Grid Connection Working Width | Width of the construction area for the Grid Connection Cable which includes haul road, spoil storage, cable trench and temporary drainage during cable installation. |
| Interconnecting Cable Corridor | The land outside of the Solar PV Site and the Grid Connection Corridor in which the 33 kV cables linking the Solar PV Areas to the Grid Connection Substations will be installed. |
| Interconnecting Cables | 33 kV cables which link the Solar PV Areas to the Grid Connection Substations. (This excludes the 132 kV Grid Connection Cable). |
| Inverter | Inverters convert the direct current (DC) electricity collected by the PV modules into alternating current (AC), which allows the electricity generated to be exported to the National Grid. Battery energy storage systems also use inverters to convert between DC and AC. The batteries function in DC and electricity must be converted to AC to pass into or from the grid. |
| Mitigation | Measures including any process, activity, or design to avoid, prevent, reduce, or, if practicable, offset any identified significant adverse effects on the environment. |

| Term | Definition |
|---|---|
| National Grid Drax Substation | The substation at Drax Power Station west of Drax village, North Yorkshire, owned and operated by National Grid and where the Grid Connection Cable will connect to. |
| Nationally Significant Infrastructure Projects (NSIP) | NSIPs are large scale developments such as certain new harbours, power generating stations (including wind farms), highways developments and electricity transmission lines, which require a type of consent known as 'development consent' under procedures governed by the Planning Act 2008 (and amended by the Localism Act 2011). |
| Onsite Cables | Cables within the Solar PV Site. |
| Panel Mounting Structures | The framework on which the Solar PV Panels are fixed. These are also commonly referred to as a 'tables' or 'strings', but the terminology mounting structures is used throughout the PEI Report. |
| Preliminary Environmental Information (PEI) | PEI is defined in the EIA Regulations as: *"information referred to in Regulation 14(2) which –*<br>*(a) has been compiled by the applicant; and*<br>*(b) is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development)."* |
| Scheme | The project (as described in section 1.3 of this document) for which the DCO Applicant is sought. |
| Site | The Site is the collective term for the Solar PV Site, the Interconnecting Cables and the Grid Connection Corridor. |
| Solar array | Combining several solar panels creates an array. |
| Solar photovoltaics (PV) | Solar electricity panels, also known as PV, capture the sun's energy and convert it into electricity for consumer use. |
| Solar PV Areas | Areas of land within which the solar PV panels, Field Stations and Grid Connection Substations are to be located. For clarity of reporting, individual Solar PV Areas have been assigned an identification number e.g. 1a, 1b, etc. |
| Solar PV Site | The Solar PV Site comprises the 18 Solar PV Areas. This is the anticipated maximum extent of land potentially required for the solar photovoltaic (PV) panels, associated infrastructure and on-site energy storage facilities; including land for landscaping and habitat enhancement |

| Term | Definition |
|---|---|
| Solar PV Panels | Convert sunlight into electrical current (as direct current, DC). Typically consist of a series of photovoltaic cells beneath a layer of toughened, low reflectivity glass. |
| String inverters | A device used with solar arrays to convert the energy that is generated (DC) to usable electricity for a home (AC) |
| Switchgear | Switchgear is an integral part of an electric power system. It includes fuses, switches, relays, isolators, circuit breaker, potential and current transformer, indicating device, lightning arresters, etc. that protects electrical hardware from faulty conditions. |
| Temporary construction compound | Any working area defined for the purpose of storage of plant, materials or equipment or for the use of welfare and site management. |
| Transformers | Transformers control the voltage of the electricity generated across the site before it reaches the electrical infrastructure. |