Cottam Solar Project

Outline Construction Environmental Management Plan

Prepared by: Lanpro Services

January 2023

PINS reference: EN010133
Document reference: APP/C7.1
APFP Regulation 5(2)(q)

Cottam
SOLAR PROJECT

Contents

Issue Sheet

Report Prepared for: Cottam Solar Project Ltd.
DCO Submission

Outline Construction Environmental Management Plan

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Date: January 2023

Revision: [01]

1 Introduction

1.1 Introduction

1.1.1 This Outline Construction Environmental Management Plan (OCEMP) forms part of the Environmental Statement (ES) **[EN010133/APP/C6.1 – C6.4]** relating to an Application for a Development Consent Order (DCO) for the construction, operation and maintenance, and decommissioning of the Cottam Solar Project (the 'Scheme').

1.1.2 Following preparation of the Draft OCEMP at the Statutory Consultation stage and subsequent updates to the Scheme's design, this OCEMP has been prepared and submitted in support of the Application. A Detailed CEMP(s) will be prepared in accordance with this Outline CEMP, as secured by a Requirement under the draft DCO and will be submitted for approval by the relevant local planning authority or authorities in advance of starting the relevant phase of the construction works.

1.1.3 The OCEMP identifies the allocated measures, responsibilities, procedures and requirements for Site environmental management and is informed by the EIA process and the various assessments in it. Ultimately, the detailed CEMP(s) will include relevant Site-specific method statements, operating practices, and arrangements for monitoring and liaison with local authorities and stakeholders.

1.2 The Order limits

1.2.1 The Order limits comprise all land falling within the Application required for the construction, operation and maintenance, and decommissioning of the Scheme and are shown on the Location Plan **[EN010133/APP/C2.1]** and described in Environmental Statement Chapter 3: The Order Limits **[EN010133/APP/C6.2.3]**.

1.2.2 The Order limits cover an area of 1,451.23 hectares (ha). located within the administrative areas of West Lindsey District Council in the county of Lincolnshire and Bassetlaw District Council in the county of Nottinghamshire. The Scheme comprises four distinct sites Cottam 1, Cottam 2, Cottam 3a and Cottam 3b ('Site' or 'Sites') connected by the Cable Route Corridor and to the Point of Connection (POC) at Cottam Power Station.

1.3 The Scheme

1.3.1 The Sites accommodate ground mounted solar photovoltaic (PV) generating stations (incorporating the solar arrays); grid connection infrastructure and energy storage; and the Cable Route Corridors. The Scheme will comprise the construction, operation and maintenance, and decommissioning of a generating station (incorporating solar arrays) with a total capacity exceeding 50 megawatts (MW). The Scheme is defined as a NSIP under Sections 14(1)(a) and 15(2) of the Planning Act 2008 (Ref 1-1), as it is an onshore generating station in England with a capacity of more than 50 MW.

2 Construction Environmental Management

2.1 Introduction

2.1.1 The following section establishes the Scheme's construction and general site arrangements.

2.2 Roles and responsibilities

2.2.1 Key roles and responsibilities during the construction phase in managing environmental impacts will likely include but are not limited to:

a) Site Manager – Overall responsibility for activity on-site, and will be based on-site full time.

b) Construction Project Manager - Overall responsibility for ensuring all elements in the DCO, CEMPs and all environmental legal and other requirements are implemented, and appropriately resourced, managed, reviewed and reported.

c) Environmental Manager - Responsible for the overall management of environmental aspects on site, ensuring environmental legislation and best practices are complied with, and environmental mitigation and monitoring measures identified are implemented. The Environmental Manager will oversee environmental monitoring on-site and carry out regular environmental site inspections, will liaise with relevant environmental bodies and other third parties as appropriate.

d) Archaeological Project Manager – Responsible for monitoring the completion of all archaeological works in accordance with the programme set reporting and responding to any incidents or non-compliance as set out in the Written Scheme of Investigation (WSI) **[EN010133APP/C6.3.13.7]**.

e) Environmental Clerk of Works (ECoW) – Oversee the management of, and provide advice about, environmental and ecological risks during construction including for example, management of protected species, surface water management, pollution, air quality and noise.

f) Ecological Clerk of Works (EcoCoW) - Management of the risks to biodiversity on construction sites, advising protecting valued biodiversity features and providing practical solutions.

g) Flood Warden – There will be a dedicated responsibility to be prepared for, and manage, the response to flood incidents.

h) Health and Safety Manager – Responsible for the monitoring and controlling of health and safety compliance and related rules and regulations on-site.

i) Community Liaison Officer - A Community Liaison Group will be set up in accordance with the relevant DCO requirement prior to construction and will continue through until final commissioning of the Scheme as a formal forum

for local issues to be raised. A Community Liaison Officer will be appointed to lead discussions with local communities, and also act as the primary point of contact should there be any queries or complaints.

2.2.2 These roles and responsibilities are indicative and will be confirmed in the detailed CEMPs.

2.3 Construction programme

2.3.1 The Scheme currently has a grid connection date of 2029 although there is the potential that an earlier connection could be achieved. It is currently anticipated that construction works will commence, at the earliest, in Q4 2024 and will run to Q4 2026. As such, the construction programme for the entire Scheme is anticipated to be 24 months with the potential likelihood of overlapping construction works on the different Scheme Sites. This is anticipated to be the following:

Cottam 1:

- North – 529 working days (Month 1 – 24)
- South – 440 working days (Month 1 – 20)
- West – 337 working days (Month 1 – 15)

Cottam 2: 251 working days (Month 1-11)

Cottam 3a: 242 working days (Month 9-20)

Cottam 3b: 178 working days (Month 11-19)

2.3.2 The operational life of the Scheme is anticipated to be 40 years and decommissioning is therefore estimated to be no earlier than 2066. Decommissioning is expected to take between 12 and 24 months. A 24 month decommissioning period has been assumed for the purposes of a worst case assessment in this ES, unless specifically stated otherwise. A requirement to decommission the Scheme is secured via a Requirement in the draft DCO.

2.3.3 'Shared Cable Route Corridor' as noted at Chapter 2 of the ES **[EN010133/APP/C6.2.2]**, that is part of the Gate Burton Energy Park cable route and West Burton Solar Project cable route will fall within the Cable Corridor for the Scheme, in the vicinity of Cottam Power Station. The cumulative environmental effects of the simultaneous or sequential construction of these cables routes has been assessed in the ES. This is in order to seek to minimise potential environmental effects and identify the benefits of combined construction activities. To accommodate the potential sequential installation of all three projects' ducts and cables, a five year construction duration is adopted for this, and assessed in this ES. This will be over the period Q1 2024 to Q1 2029. This period has been chosen given that the grid connection dates for Cottam is 2029, West Burton 2028 and Gate Burton Energy Park 2028 and it allows for these works to take place within that period.

2.4 Working hours

2.4.1 Construction activities will be carried out Monday to Friday 07:00-18:00 and between 08:00 and 13:30 on Saturdays (this doesn't include for start-up and shut down works). However, some activities may be required outside of these times (such as the delivery of abnormal loads, night time working for cable construction works in public highways or HDD activities).

2.4.2 Construction deliveries by HGV will arrive between 09:30-16:30. They will be coordinated to avoid construction vehicle movements during the traditional AM peak hour (08:00-09:00) and PM peak hour (17:00-18:00). In addition, construction worker shift patterns will be coordinated to avoid travel during the network peak hours of 08:00-09:00 and 17:00-18:00. These provisions are set out in the Outline Construction Traffic Management Plan (CTMP) which is Appendix 14.2 of the ES **[EN010133/APP/C6.3.14.2]** (part of Chapter 14 of the ES Transport and Access **[EN010133/APP/C6.2.14]**) and will be secured via a Requirement in the DCO.

2.5 Control of Noise

2.5.1 Noise thresholds have been identified for nearby noise sensitive receptors during construction, and are presented in Chapter 15 of the ES Noise and Vibration **[EN010133/APP/C6.2.15].** Noise generated through construction activities will predominantly take place during the core working hours. However, as outlined in paragraph 2.4.1 above, some activities may operate outside working hours, where necessary.

2.5.2 It is expected that construction works will be undertaken in accordance with the best practicable means (as defined in Section 72 of the Control of Pollution Act 1974 (Ref 2-1)), to minimise noise and vibration effects. Noise control measures will be consistent with the recommendations of the current version of BS 5228 'Code of Practice for Noise and Vibration Control on Construction and Open Sites' – 'Part 1: Noise' and 'Part 2: Vibration' (BS 5228-1:2009+A1:2014 and BS 5228-2:2009+A1:2014) (Ref 2-2 and Ref 2-3).

2.6 Control of light

2.6.1 Lighting will be required during construction for safety reasons but will be temporary in nature and predominately limited to the core working hours. Whilst the type of lighting to be used for construction activities has not been confirmed yet, the following principles will be adhered to:

- Use of focused directional fittings to minimise outward light spill and glare (e.g. hoods/cowls which direct light below downwards) outside of the Sites; and
- Lighting to be directed towards the middle of the Sites rather than towards the boundaries.

2.7 Traffic management

2.7.1 During construction, the appointed contractor(s) 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 Outline Construction Traffic Management Plan (CTMP) **[EN010133/APP/C6.3.14.2]**.

2.8 Off-site Delivery Routes

2.8.1 The Outline CTMP **[EN010133/APP/C6.3.14.2]** provides details of the designated routes for HGV movements and worker car movements. It also details any measures designed to reduce travel during peak hours on the local road network.

2.9 Parking

2.9.1 As detailed in the Outline CTMP **[EN010133/APP/C6.3.14.2]**, the temporary compounds will include parking areas. 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 will be set out in the CTMP, which will also include a description of any laydown areas or accommodation areas.

2.9.2 Wheel cleaning facilities will be used by vehicles prior to exiting the Order limits onto the public highway if there is mud or debris from the construction site on the vehicles.

2.10 Recycling and Waste

2.10.1 In order to control the waste generated during site preparation and construction, the contractor(s) will separate the main waste streams on-site, prior to transport to an approved, licensed third party waste facility for recycling or disposal.

2.10.2 A Construction Resource Management Plan (CRMP) will be prepared by the contractor(s), which will specify the waste streams which would be monitored and targets set with regards to the waste produced, including any re-use and recycling of materials. The CRMP will be finalised with specific measures to be implemented prior to the start of construction. All waste to be removed from the Order limits will be undertaken by licensed waste carriers and taken to licensed waste facilities.

2.11 Security

2.11.1 Site security during construction will be managed by the contractor(s). The site security fencing will remain 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 There will be designated security staff during construction who will manage the Order limits and patrol the perimeter.

2.12 Responding to Environmental Incidents and Emergencies

2.12.1 An emergency response plan will be developed 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 and emergencies on site, and any reporting.

2.13 Good Practice

2.13.1 The Considerate Constructors Scheme (CCS) (Ref 2-4) will be adopted to assist in reducing pollution and nuisance from the Scheme, by employing good practice measures which go beyond statutory compliance.

3 Mitigation and Management

3.1 Purpose

3.1.1 This section of the Outline CEMP sets out the mitigation and management measures to be included as a minimum in the detailed CEMP. It also identifies where monitoring is proposed, to assess the effectiveness of the mitigation measures.

Table 3.1: Climate Change

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Greenhouse Gas (GHG) emissions from construction traffic and equipment. Use of natural resources in construction materials. Increased flood risk on-site due to climate change needing to be considered in the design.	Appropriate standard and good practice control measures will be included in the CEMP, which would include: • Increasing recyclability by segregating construction waste to be re-used and recycled where reasonably practicable; • Adopting the Considerate Constructors Scheme (CCS) to assist in reducing pollution, including GHGs, from the Scheme by employing good industry practice measures; • Designing, constructing and implementing the Scheme in such a way as to minimise the creation of waste and maximise the use of alternative materials with lower embodied carbon, such as locally sourced products and materials with a higher recycled content where feasible; • Reusing suitable infrastructure and resources already available within the Sites where possible to minimise the use of natural resources and unnecessary materials (e.g. reusing excavated soil for fill requirements); • Encouraging the use of lower carbon modes of transport by identifying and communicating local bus connections and pedestrian and cycle access routes to/ from the Scheme to all construction staff, and providing appropriate facilities for the safe storage of cycles; • Liaising with construction personnel for the potential to implement staff minibuses and car sharing options; • Implementing a Travel Plan to reduce the volume of construction staff and employee trips to the Scheme;	To be confirmed in CEMP

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Switching vehicles and plant off when not in use and ensuring construction vehicles conform to current EU emissions standards; and • Conducting regular planned maintenance of the construction plant and machinery to optimise efficiency. • Health and safety plans and risk assessments developed for construction and decommissioning activities will be required to account for potential climate change impacts on workers, such as flooding and heatwaves. This will include for the provision of flood defence equipment (e.g. sandbags) on site and best practice health management measures for construction staff working in heat such as wearing loose clothing, staying hydrated and applying sun protection.	

Table 3.2: Cultural Heritage

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Construction phase impacts upon buried archaeological remains and non-designated heritage assets.	A full suite of archaeological assessment (including desk-based research, air photo and Lidar interpretation, geoarchaeological assessment and geophysical survey), supported by targeted evaluation trenching within the main solar sites, has successfully identified the presence, absence, extent, form and significance of potential concentration of archaeological features. The results of the archaeological assessment and evaluation works, with consideration to the differing potential impacts of varying elements of the Scheme, have been used to formulate a strategy of Post-Decision archaeological mitigation detailed in a Written Scheme of Investigation (WSI).	Provision for archaeological mitigation and monitoring is detailed in the Written Scheme of Investigation (WSI, see ES appendix 13.7 **[EN010133APP/C6.3.13.7]**). The WSI must be adhered to during constructional phases. Areas where concrete feet are required will be laid out by a surveyor in line with the requirements of the WSI.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	Mitigation by design using non-intrusive concrete ground anchors is required for safeguarding archaeological remains against the impacts caused by the installation of solar panels. Where this is not possible, for example where concentrations of buried remains are extant that are assessed to be particularly sensitive to impact (i.e.C1g/03), archaeological excavation will be required to 'mitigate by record'. Where a high level of impact is likely to occur mitigation by record in the form of archaeological monitoring will be undertaken i.e. cable routes, substations and compound areas. Mitigation in the form of 'strip, map and sample' will be required in high impact areas that have a potential for buried archaeological deposits to be present, as evidence by baseline assessments. Use of horizontal directional drilling (HDD) beneath areas known to contain important archaeological remains	All archaeological works will be undertaken by suitably qualified and experienced professional archaeological specialists. All archaeological works will be undertaken in line with national guidance (i.e. Historic England and CIfA guidance). The Archaeological Project Manager and/or Lincolnshire Heritage Team will monitor the completion of works in accordance with the programme set out in the WSI. HDD drilling techniques to be adopted.
	Several areas have been removed from the Scheme due to the environmental constraints that have been identified from baseline assessments. Where such areas have been identified as having an archaeological potential (e.g. C3a/06, C1c/04 and C1f/01), they will be clearly fenced off from the rest of the construction area if existing fencing or hedgerows do not already exist.	Regular checks by the Archaeological Project Manager and/or Lincolnshire Heritage Team.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	Banksmen must be aware of such 'no impact areas' and will be responsible for ensuring no vehicle/plant movement occurs in these areas.	
Construction phase impacts upon Scheduled Monuments.	Two Scheduled Monuments are situated in the direct vicinity of the Scheme. Constructional activity is not permitted within a scheduled area or directly adjacent to it. Temporary fencing must be erected around Scheduled Monuments during commissioning and decommissioning phases to ensure no works are undertaken within a buffer zone of the Scheduled area. Banksmen must be aware of scheduled area buffer zones and will be responsible for ensuring no vehicle/plant movement occurs in these areas.	Regular checks by the Archaeological Project Manager and/or Lincolnshire Heritage Team.

Table 3.3: Ecology

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Potential for obtrusive glare and light spill to impact on ecology. Potential for spillages to enter watercourses and impact ecology. Clearance or damage of habitat to facilitate	The CEMP will detail measures and approaches to be adopted which will limit the likelihood of impacts upon retained habitats through damage, pollution and disturbance during the construction phase in order to achieve the objectives set out in the Environmental Statement. The CEMP will contain (among others) the following provisions: • Detail on the location and specification of temporary and permanent protective fencing to be installed prior to the onset of construction. It is anticipated that the specified buffer zones will drive these locations;	A pre-construction site walkover 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. Updated species surveys, including bats, great crested

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
construction – resulting in temporary or permanent reduction in habitat extent and potential direct and indirect effects on associated species. Dust deposition on sensitive ecological receptors. Loss of an area of grassland within the Sites which would be utilised as the construction laydown area, alongside removal of vegetation present within the Sites.	• Restrictions on the use of fuels and other contaminants in proximity to boundary features and other sensitive habitats; • Measures to limit the dust generating activities, such as when working in dry conditions; • Measures to limit the mobilisation of sediments and run-off, such as when working in very wet conditions or the use of silt fencing when working in ditches; and • Construction personnel will receive a Toolbox Talk detailing the presence of informed that no materials should be stored, or vehicles drive, through buffer zones. Access tracks will be routed with ecological sensitivity in mind, along existing farm tracks, and will be sited to avoid designated buffer zones wherever possible. Any unavoidable deviations from this (e.g., for access to critical hardware) will be clearly set out in the Environmental Statement. Access for construction will utilise existing field entrances and gaps in hedgerows and other linear habitats wherever possible. The final locations of any unavoidable new gaps in hedgerows will be provided in due course to accompany the Environmental Statement. Hedgerow losses associated with the construction phase only will be reinstated. Translocation of hedgerow sections will be explored as a further mitigation option where appropriate. Any new accesses through field boundary features will measure between 3 - 6.5m across the Scheme. Ecological protection measures are also set out in the Outline Ecological Protection and Mitigation Strategy **[EN010133/APP/C7.19]**.	newt, breeding birds, otter, water vole and badger, would be completed as appropriate to reconfirm the status of protected species identified, to inform mitigation requirements and support protected species licence applications, if required by the council(s) and EcoCoW. 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. 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

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
		the Applicant or their appointed contractor.

Table 3.4: Hydrology, Flood Risk and Drainage

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Leakage or accidental spillage of construction materials and potential pollutants used on-site, migrating to nearby surface watercourses or infiltrating to groundwater. Any flooding during construction could flood construction equipment and/materials, causing release of pollutants to nearby surface watercourses or infiltrating to groundwater	**General** The contractor will comply with: • Guidance for Pollution Prevention (GPP) 2: Above ground oil storage tanks (Ref 3-1); • GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer (Ref 3-2); • GPP 5: Works and maintenance in or near water (Ref 3-3); • GPP 8: Safe storage and disposal of used Oils (Ref 3-4); • GPP 13: Vehicle washing and cleaning (Ref 3-5); • GPP 19: Vehicles: Service and Repair (Ref 3-6); • GPP 20: Dewatering underground ducts and chambers (Ref 3-7); • GPP 21: Pollution incidence response planning (Ref 3-8); • GPP 22: Dealing with Spills (Ref 3-9); and • GPP 26: Safe storage – drums and intermediate bulk containers (Ref 3-10). **Staff Awareness and Training**	Temporary drainage will be monitored throughout construction. Specific details will be confirmed in the CEMP. A Water Management Plan (which will form part of a detailed 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 automatic water quality monitoring network.

	The contractor will ensure that construction staff are fully aware of the potential impact to water resources associated with the construction works and procedures to be followed in the event of an accidental pollution event occurring. This would be included in the site induction and training, with an emphasis on procedures and guidance to reduce the risk of water pollution. **Pollution Plans** Plans to deal with accidental pollution would be included within the CEMP prior to commencement of construction. Any necessary equipment (e.g. spillage kits) would be held on-site and all site personnel would be trained in their use. The Environment Agency would be informed immediately in the unlikely event of a suspected pollution incident. **Storage of Materials** The CEMP will incorporate measures set out in relevant Construction Industry Research and Information Association (CIRIA) Guidance. In addition to those measures set out above in this table, examples of such measures include: Placing arisings and temporary stockpiles outside of the Flood Zone 3 flood extent and away from drainage systems. If areas located within Flood Zone 2 are to be utilised for the storage of construction materials, then a standard rules permit will be sought from the Environment Agency; Containment measures will be implemented, including drip trays, bunding or double-skinned tanks of fuels and oils; All chemicals would be stored in accordance with their Control of Substances Hazardous to Health (COSHH) guidelines (Ref 3-14), whilst spill kits will be provided in areas of fuel/oil/minor chemicals storage;	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 PPG: PPG6: Working at construction and demolition sites (Ref 3-11); PPG7: Safe Storage – the safe operation of refuelling facilities (Ref 3-12); and PPG18: Managing fire water and major spillages (Ref 3-13). Advice contained within the guidance will be listed in or appended to the detailed CEMPs.

	An Emergency Spillage Plan will be produced, which site staff will have read and confirmed that they understand, via the site induction; The mixing and handling of materials would be undertaken in designated areas and away from surface water drains; Plant and machinery will be kept away from surface waterbodies wherever possible and would have drip trays installed beneath oil tanks/engines/gearboxes and hydraulics, which would be checked and emptied regularly. Refuelling and delivery areas would be located away from surface water drains; and Exposed ground and stockpiles would be protected as appropriate and practicable to prevent windblown migration of potential contaminants. Water suppression would be used if there is a risk of fugitive dust emissions. **Discharge/Disposal of Site Runoff** • Site drainage, including surface runoff and dewatering effluents, will be discharged to sewers where possible and relevant permissions will be obtained from the sewerage or statutory undertaker. Discharge to watercourses will only be permitted where discharge consent or other relevant approval has been obtained (where necessary); • Scheme drainage during construction will receive appropriate pollution control measures as agreed with the sewerage undertaker or the Environment Agency as appropriate. Holding or settling tanks, separators and other measures may be required, will be provided and maintained; • The relevant sections of BS 6031: Code of Practice for Earthworks (Ref 3-15) will be followed for the general control of site drainage;	

	• Where practical, earthworks will be undertaken during the drier months of the year. When undertaking earth moving works periods of very wet weather will be avoided, where practical, 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 this chapter; • To protect watercourses from fine sediment runoff, topsoil/subsoil will be stored a minimum of 20m from 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; • Appropriately sized runoff storage areas for the settlement of excessive fine particulates in runoff will be provided. 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 Anglian Water, or removed from site for disposal at an appropriate and licenced waste facility; • Equipment and plant are to be washed out and cleaned in designated areas within the Sites' compound where runoff can be isolated for treatment before disposal;	

	• Mud deposits will be controlled at entry and exit points to the Sites using wheel washing facilities and/or road sweepers operating during earthworks activities or other times as required; • 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; • Foul water from any site compound (including temporary toilets) will be taken away by tanker to an appropriate disposal facility by a licensed waste disposal contractor; • If any suspected contaminated material is discovered during the works, the contractor would be required to investigate the areas and assess the need for containment or disposal of the material. If material is considered to be contaminated, it will be disposed of to an appropriately licensed facility; • Foundations and services will be designed and constructed to prevent the creation of pathways for the migration of contaminants and would be constructed of materials that are suitable for the ground conditions and designed use. For example, water supply pipes would be designed in accordance with current good practice and applicable guidance to ensure pipes are protected from potential impacts associated with contamination; and • No discharges from any self-contained wheel wash and localised wheel wash will be permitted to discharge directly into any surface water system.	

	Temporary Drainage Measures that would be considered for implementation for temporary drainage through the construction design and/or CEMP include: • 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. Measures may include use and maintenance of temporary lagoons, tanks, bunds and fabric silt fences or silt screens as well as consideration of the type of plant used; • 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 waterbodies in the Order limits and ensuring that they are adequately protected using drain covers, sand bags, earth bunds, geotextile silt fences, straw bales, or proprietary treatment (e.g. lamella clarifiers); • Cut-off ditches or geotextile silt-fences, installed around excavations, exposed ground and stockpiles to prevent uncontrolled release of sediments; • Site access points would be regularly cleaned to prevent build-up of dust and mud; • All potentially contaminated waters (for example washdown areas, stockpiles and other areas of risk for water contamination) to have separate drainage. Any contaminated waters would be taken away by tanker from the Sites;	

	• In addition, if monitoring demonstrates unsatisfactory levels of solids or other pollutants, measures would be implemented (e.g. changes to site drainage and settlement facilities and/or use of flocculants) to control suspended solids or other contaminated discharge to watercourses. **Spillage Risk** • Fuel will be stored and used in accordance with the Control of Substances Hazardous to Health Regulations 2002 (Ref 3-14), and the Control of Pollution (Oil Storage) (England) Regulations 2001 (Ref 3-16). Particular care will be taken with the delivery and use of concrete and cement as it is highly corrosive and alkaline; • 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 capacity of the containers); • Any plant, machinery or vehicles will be regularly inspected 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 possible or only at designated areas within the Sites' compound. Only construction equipment and vehicles free of all oil/fuel leaks will be permitted on site. Drip trays will be placed below static mechanical plant; • All refuelling, oiling and greasing will take place above drip-trays 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;	

	• As far as reasonably practicable, only biodegradable hydraulic oils will be used in equipment working in or over watercourses; • All fixed plant used on the Site will be self-bunded; • Mobile plant is to be in good working order, kept clean and fitted with plant 'nappies' at all times; • A Waste Management Plan (WMP) will include details for pollution prevention and will be prepared and included alongside the CEMP. Spill kits and oil absorbent material will be carried by mobile plant and located at high risk locations across the Sites and regularly topped-up. All construction workers will receive spill response training and tool box talks; • The Sites will be secure to prevent any vandalism that could lead to a pollution incident; • Construction waste/debris are to be prevented from entering any surface water drainage or water body; • All washing down of vehicles and equipment will take place in designated areas and wash water will be prevented from passing untreated into watercourses; • 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; and	

	• Suitable facilities for concrete wash water (e.g. geotextile wrapped sealed skip, container or earth bunded area) will be adequately contained, prevented from entering any drain, and removed from the Sites for appropriate disposal at a suitably licenced waste facility. **Flood Risk** Construction works undertaken adjacent to watercourses would comply with relevant guidance during construction. Where Horizontal Directional Drilling techniques are required for watercourse crossings, works will be in accordance with Concept Design Parameters and Principles document **[EN010133/APP/C7.15]**. Construction works within the drainage connection corridors, specifically in areas located within Flood Zone 3, would not be undertaken when an Environment Agency Flood Warning is in place. The CEMP will incorporate measures aimed at preventing an increase in flood risk during the construction works. Materials would be stored outside of Flood Zone 2 and the construction laydown area site office and supervisor would be notified of any potential flood occurring by use of the Floodline Warnings Direct service. The contractor will be required to produce a Flood Risk Management Action Plan/Method Statement which will provide details of the response to an impending flood and include the following. The requirement for the Flood Risk Management Action Plan/Method Statement would be determined within the CEMP. • 24-hour availability and ability to mobilise staff in the event of a flood warning; • The removal of all plant, machinery and material capable of being mobilised in a flood for the duration of any holiday close down period;	

	• Details of the evacuation and site closedown procedures; • Arrangements for removing any potentially hazardous material and anything capable of becoming entrained in floodwaters, from the temporary works areas; • The Contractor will sign up to Environment Agency flood warning alerts and describe in the Emergency Response Plan the actions it will take in the event of a flood event occurring. These actions will be hierarchal meaning that as the risk increases the Contractor will implement more stringent protection measures; • If water is encountered during below ground construction, suitable de-watering methods will be used. Any groundwater dewatering required in excess of the exemption thresholds will be undertaken in line with the requirements of the Environment Agency (under the Water Resources Act 1991 as amended (Ref 3-17) and the Environmental Permitting Regulations (England and Wales) 2016 (Ref 3-18)); and 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.	

Table 3.5: Landscape and Visual

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Loss of existing landscape features, e.g., vegetation Visibility of construction activities	The Outline Landscape and Ecological Management Plan (OLEMP) **[EN010133/APP/C7.3]** accompanies the Application and sets out the measures proposed to mitigate the potential impacts and effects on landscape (and ecological) features, and to enhance the landscape and biodiversity value of the Sites (i.e. the Green Infrastructure).	A Tree Survey Report and arboriculture Impact Assessment in line with BS 5837:2012 (Ref 3-4) would be undertaken concurrently with detailed design of the Scheme,

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	The Landscape and Ecological Management Plan (LEMP), which takes into account and is prepared in accordance with the principles of the OLEMP, will be submitted to and approved by the relevant planning authority or authorities pursuant to a Requirement under the DCO. Landscape related-measures proposed include: • Habitats and features: Avoid impacts on habitats of landscape and visual value during site clearance and construction via construction exclusion zones and protective fencing; • Existing trees and vegetation: To protect and retain existing trees and vegetation via construction exclusion zones and tree protective fencing (see below Tree works); • Lighting: At the minimal levels of lux and luminance as necessary during the temporary construction lighting (see below); • Management: This includes enhancement of existing retained ecologically valuable habitats and the creation of new habitats and provision of replacement tree and shrub planting; • Monitoring: Landscape and EcoCoW to ensure that the landscape and ecology requirements of the CEMP/LEMP are adhered to and that the construction works are monitored. Measures include remedial activities where appropriate to ensure success and longevity of features of landscape and visual value; and **Tree Works** • The findings of the pre-construction Tree Survey (TS) Report and Arboricultural Impact Assessment (AIA) Report, accompanied by an	to identify where trees are likely to be affected by the construction works and to inform the development of the detailed design. Such pre-construction surveys and assessment work would be undertaken in accordance with the Outline Landscape and Ecological Management Plan. Additional surveys may be required during the advance works, site clearance and construction phase as advised as necessary by the Applicant's arboricultural specialist, based on the findings of the tree survey, or otherwise as identified as appropriate by the Applicant or their appointed main contractor A Monitoring Report will be prepared to document the findings of the surveys and assessment work and provide recommendations of any remedial action or any changes in management required

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	Arboricultural Method Statement (AMS), where construction works are likely to affect trees, will be taken into account by the appointed contractor; • Where works in close proximity to retained trees cannot be practically avoided, these works will be undertaken in accordance with current best practice, defined in British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (Ref 3-4); and • All necessary protective fencing will be installed prior to the commencement of any site clearance or construction works. **Lighting** Temporary site lighting during construction required to enable safe working during construction in hours of darkness will be designed as far as reasonably practical so as not to cause nuisance outside the Site. Standard good practice measures (would be employed to minimise light spill, including glare during construction). **Screening** Existing vegetation along the boundary of the Order limits will be retained and managed where practicable to ensure its continued presence and to aid the screening of low-level views into the Sites.	

Table 3.6: Noise

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Vibration due to construction activities causing annoyance at Noise Sensitive Receptors (NSR) and damage to building structures. Construction traffic, plant and machinery noise at nearby NSR.	The following Best Practicable Means (BPM) will be applied, as far as reasonably practicable, during construction works to minimise noise and vibration at NSRs, including, neighbouring residential properties and other sensitive receptors arising from construction activities: • Ensuring that all appropriate processes, procedures and measures are in place to minimise noise before works begin and throughout the construction programme; • All contractors to be made familiar with current legislation and the guidance in BS 5228 (Parts 1 and 2) (Ref 2-2 and Ref 2-3) which should form a prerequisite of their appointment; • Ensuring that, where reasonably practicable, noise and vibration is 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; • Use of modern plant, complying with applicable UK noise emission requirements; • Hydraulic techniques for breaking to be used in preference to percussive techniques, where reasonably practicable; • When piling, use of lower noise piling where reasonably practical; • Off-site pre-fabrication where reasonably practicable; • Use of screening locally around significant noise producing plant and activities; • All construction plant and equipment to be properly maintained, silenced where appropriate, operated to prevent excessive noise and switched off when not in use;	A construction noise monitoring scheme shall be developed and agreed with appropriate stakeholders following appointment of a contractor and prior to commencement of construction works. The CEMP would also set out a scheme for the provision of monthly reporting information to and from local residents to advise of potential noisy works that are due to take place and for monitoring of noise complaints and reporting to the Applicant for immediate investigation and action. Further details are to be confirmed in the CEMP.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• 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; • Appropriate routing of construction traffic on public roads and along access tracks. Plans will be included in the Construction Traffic Management Plan (CTMP); • Provision of information to West Lindsey District Council, Lincolnshire County Council, Bassetlaw District Council, and Nottinghamshire County Council and local residents to advise of potential noisy works that are due to take place; • Monitoring of noise complaints and reporting to the Applicant for immediate investigation and action. 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. A logbook of complaints will be prepared and managed by the Site Manager. • Unnecessary revving of engines will be avoided, and equipment will be switched off when not in use; • Drop heights of materials will be minimised; • Plant and vehicles will be sequentially started up rather than all together; • Plant will always be used in accordance with manufacturers' instructions. Care will be taken to site equipment away from noise-sensitive areas. Where possible, loading and unloading will also be carried out away from such areas; Regular and effective maintenance by trained personnel will be undertaken to keep plant and equipment working to manufacturer's • Proposed hours of working will be adhered to.	

Table 3.7: Soils and Agriculture

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Temporary loss of agricultural land Loss of trees and other vegetation Impacts on soil	The following measures will be implemented to address impacts on land use and soil: • Temporary land take of agricultural land for the grid connection route would be restored to enable continued agricultural use after construction. • Appropriate timing of cable route work will be agreed with agricultural occupants of the land to avoid unnecessary disruption to crop/stock management. • Further measures to mitigate effects on agricultural land during construction, including soil storage methodology, will be set out in a Soil Management Plan (SMP) as a component of the CEMP. These will include specific soil resource survey of the cable route corridor, site inspections by a suitably experienced soil scientist and the use of appropriate plant for soil handling and reduction of ground pressure.	Site inspections by a suitably experienced soil scientist to ensure compliance with SMP and identify any emerging issues.

Table 3.8: Socio-economics, tourism and recreation

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Disruption to local residents, businesses and community facilities	The Socio Economics Chapter of the ES (Chapter 18) **[EN010133/APP/C6.2.18]** and an Outline Skills, Supply Chain and Employment Plan **[EN010133/APP/C7.10]** has been submitted with the Application. This plan sets out the likely economic benefits of the Scheme, and the context and characteristics of the local community and economy in which it is located. It identifies potential opportunities for activities relating to Skills, Supply Chain and Employment which the Applicant could take forward post-planning, together with a framework for future delivery.	To be confirmed in the CEMP(s)

Disruption to users of Public Rights of Way	Measures are to be identified to manage overlapping construction activities across the Sites within the Scheme; Measures to manage overlapping construction activities across cumulative projects. The potential to locate temporary workers in temporary rental accommodation to moderate accommodation demand will be considered. Support will be provided for the temporary workforce to be directed to primary healthcare facilities with greatest capacity, when required. Recreational routes crossing or within the Order limits will be sought to be kept open during construction, with any crossing or traffic conflict points overseen by spotters or banksmen for HGVs. Where closures are deemed to be necessary, these will be temporary in nature and supported by appropriate amount of notice and suitable diversions. Any diversions to routes will be appropriately signed, and the duration and length of diversions will be optimised to minimise impacts on accessibility and desirability. An Outline Public Rights of Way (PROW) Management Plan **[EN010133/APP/C6.3.14.3]** is submitted with the application.	

Table 3.9: Transport

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Increased traffic flows, including HGVs on the roads leading to the Sites. Severance and intimidation associated with increased	A Construction Traffic Management Plan (CTMP) will be produced prior to the commencement of construction activities. Details to mitigate impacts from increased construction traffic will be included in the CTMP. An Outline CTMP has been submitted with the DCO application. The CTMP, which takes into account and is prepared in accordance with the principles of the Outline CTMP, will be submitted to and approved by the relevant planning authority or authorities pursuant to a Requirement under the DCO. An Outline Public Rights of Way (PROW)	The appointed contractor will undertake such monitoring as is necessary. Further details to be confirmed in the CEMP/CTMP.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
construction traffic and abnormal loads.	Management Plan **[EN010133/APP/C6.3.14.3]** is also submitted with the application. A list of measures likely to be implemented are provided below: **Signage** • Signs to direct construction vehicles associated with the development will be installed along the construction traffic route. Delivery drivers, contractors and visitors will be provided with a route plan in advance of delivering to Site to ensure that vehicles follow the identified route. The signage strategy will be agreed with the relevant local highway authorities prior through the CTMP; and • All signage on the designated route will be inspected daily by the Site Manager, to ensure they are kept in a well maintained condition and located in safe and appropriate locations. **Vehicle Movement** • Where possible, construction deliveries by HGV will be coordinated to avoid the network peak hours of 08:00-09:00 and 17:00-18:00; • Banksmen will be provided at the Site accesses to indicate to construction traffic when it is safe for them to enter and exit the Site; and • A Construction Worker Travel Plan will be implemented, to encourage construction workers to travel to the Site via sustainable travel, where possible. **Booking System** A booking system will be set up to manage arrivals and departures to the Site. A log of visitors to the Site will be kept as part of the booking system. **Parking**	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	Advisory signs informing contractors and visitors that parking is not permitted on-street in the vicinity of the Site or on the Site access road. Contractors and visitors will be advised that parking facilities will be provided on-Site in advance of visiting the Site and that they should not park on-street. **Wheel Wash Facility** • A wheel washing facility in the form of a drive through bath will be provided. This will be located at the end of each access road, ahead of the egress onto the local highway network; • In the unlikely case the wheel wash facility breaks down for a short period, construction workers will spray wheels using a power hose, before they re-enter the public highway; • A visual inspection of vehicles will be undertaken before they depart the Site, to ensure that they are not carrying any residual debris onto the highway; and • If required a road sweeper will be provided for the area surrounding access to alleviate any residual debris generated during the construction phase, as required. **Noise Reduction and Air Quality** • When on Site and when not in use, vehicle engines will be switched off; • Vehicles carrying material off-Site will be sheeted to prevent the spread of dust; • In dry conditions, areas near to the Site access will be sprayed with water supplied to prevent the spread of dust. **Road Condition Survey** A pre-construction road condition survey will be carried out on the local highway network via video two weeks before the construction phase commences. The	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	extent of the survey will be agreed with the relevant local highway authority prior to commencement. Once construction is complete, a post-construction condition survey will be undertaken in order to identify any additional defects that can reasonably be attributable to construction activities at the Site. Any identified highways defects resulting from construction activities associated with the Site will be corrected to the satisfaction of the relevant local highway authority. **Community Engagement** • The details of the Site Manager will be provided to the relevant local highway authority in advance of any work being carried out; and • The Site Manager's details will also be provided on a Site-board at the Site accesses. If anyone in the local community has any issues during the construction phase, the Site Manager will be available to discuss.	

Table 3.10: Air Quality

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Increased nitrogen dioxide (NO2) and particulate matter (PM10) from on-site and off-site construction vehicle/plant emissions. Increased particulates and deposited dust from activities on the Sites, materials transportation,	Appropriate mitigation and control measures will be included in the CEMP, which would include: **Communications** • Develop and implement a Stakeholder Communications Plan that includes community engagement before work commences on-site; • Display the name and contact details of person(s) accountable for air quality and dust issues on the Site. This may be the Environmental Manager, Construction Project Manager or the Site Manager; • Display the head or regional office contact information; and	Measures in the CEMP will include the implementation of: • Inspection procedures at the Order limits to periodically visually assess any dust and air pollution which may be generated; • Inspection of maintenance schedules

storage and handling, including use of haul roads.	• Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the relevant local planning authority or authorities. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real-time PM10 continuous monitoring and/or visual inspections. **Site Management** • 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; • Make the complaints log available to the local authority or authorities when asked; and • 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. **Monitoring** • Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority or authorities when asked; and • 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. **Preparing and maintaining the Sites** • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as possible;	for construction vehicles, plant and machinery; and • Inspection and recording procedures relating to the level of traffic movements, use and condition of haul routes.

	• Erect solid screens or barriers around dusty activities or the Sites that are at least as high as any stockpiles on site; • Fully enclose site or specific operation where there is a high potential for dust production and the site is active for an extensive period; • Avoid site runoff of water or mud; • Keep site fencing, barriers and scaffolding clean using wet methods; • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below; and • Cover, seed, or fence stockpiles to prevent wind-whipping. **Operating vehicle/machinery and sustainable travel** • Ensure all vehicles switch off engines when stationary - no idling vehicles; • Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials; • Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on un-surfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority or authorities, where appropriate); and • Implement a Worker Travel Plan (see Chapter 14 Transport and Access of the ES **[EN010133/APP/C6.2.14]**) that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing). **Operations** • 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;	

	• Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate; • Use covered skips; • Minimise drop-heights from loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate; and • 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. **Waste management** • Avoid bonfires and burning of waste materials. The following measures will be applicable to specific activities: *Construction* • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this required for a particular process, in which case ensure that appropriate additional control measures are in place. *Trackout* • Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the Sites. This may require the sweeper being continuously in use; • Avoid dry sweeping of large areas; • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport; • Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable;	

	• Record all inspections of haul routes and any subsequent action in a site logbook; • Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned; • Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the Sites where reasonably practicable); • Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits; and/or • Access gates to be located at least 10m from receptors where possible. *Earthworks* • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable; • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; and/or • Only remove the cover in small areas during work and not all at once. *Construction materials* • Avoid scabbling (roughening of concrete surfaces) if possible; • 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; and/or • For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.	

Table 3.11: Ground Conditions

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Potential for risks to human health associated with waste generation, land contamination, airborne contamination, and groundwater contamination. The discovery of ground contamination during groundworks. Levelling of the Sites including the possible introduction of new fill materials.	Ground investigation works will be undertaken prior to commencing construction works. Results would be reviewed by the appointed contractor, including any additional investigation or mitigation measures beyond the impact avoidance measures stated here. Best practice avoidance and mitigation measures proposed include: • Site workers will be made aware of the possibility of encountering localised contamination through toolbox talks and good standards of personal hygiene, including welfare facilities on-site and the use of appropriate levels of personal protective equipment (PPE), will be enforced. • All workers would be required to wear Personal Protective Equipment (PPE) such as dust masks as applicable; • Bulk fuels and any chemicals used on the Site will be stored appropriately, within an impervious bund of 110% of the volume of the container to reduce the potential for any contamination source in the event of a container failure / leak of battery fire and associated fire waters; • 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 (REF), whilst spill kits would be provided in areas of fuel/oil storage; • All plant and machinery would be kept away from surface water bodies wherever possible, 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;	The Environmental Manager will regularly record compliance in a log book. The CEMP will detail the frequency.

	• An emergency spillage action plan will be produced, which staff would have read and understood, and provisions made to contain any leak/spill; • 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 (via a specialist in land contamination), 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; • 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; • 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; • 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; • Although the potential for contamination is low, should this be identified and subsequently stockpiled during construction suitable measures will be integrated; • Watching brief from an environmental consultant may be required in the area of Cottam Power Station:	

	• 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; and • Any waters removed from excavations by dewatering would be discharged appropriately, subject to the relevant permits being obtained from the Environment Agency. 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.	

Table 3.12: Waste

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Disposal of large volumes of waste	The contractor will consider the objectives of sustainable resource and waste management and seek to use material resources efficiently, reduce waste at source, reduce waste that requires final disposal to landfill and apply the principles of the waste hierarchy. This would include, where reasonably practical, working towards a cut-and-fill balance for excavations; segregation of construction materials on-site for appropriate re-use, recycling and recovery with landfill as a last resort. This would be achieved by a combination of measures, including: • The contractor would prepare and implement a Construction Resource Management Plan (CRMP); • All waste transported off site will be delivered to the appropriately licenced receivers of such materials; and	The types, quantities and final destination of waste generated during the construction phase would be identified, measured and recorded through the CRMP. A register of all waste loads leaving the Order limits would be maintained to provide a suitable audit trail for compliance purposes and to facilitate monitoring and

	• As part of the CRMP, the contractor would segregate construction waste to be re-use and recycled where reasonably practicable. To minimise impacts of waste on the surrounding environment, the following measures would be implemented: • Off-site pre-fabrication, where reasonably practical, including the use of prefabricated structural elements, cladding units, mechanical and electrical risers and packaged plant rooms; • Burning of waste or unwanted materials would not be permitted on-site; • All hazardous materials including chemicals, cleaning agents and solvent containing products to be properly sealed in sealed containers at the end of each day prior to storage in appropriately protected and bunded storage areas; and • Materials requiring removal from the Sites would be transported using licensed carriers and records kept, detailing the types and quantities of waste moved and the destinations of this waste, in accordance with the relevant regulations. • The provision of pre-fabricated welfare units and construction site offices also allows for the reduction of construction and demolition waste generated by the Scheme	reporting of waste types, quantities and management methods.

Table 3.13: Major Accidents and Disasters

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
All works will be undertaken in accordance with relevant Health and Safety legislation and guidance. Details of fire, police, emergency services and hospitals will be publicised and included in the site induction.		

The relevant risk assessments for safety during construction will be required and produced by the contractor prior to construction, which will be implemented to minimise the risk of accidents and disasters on site.

An Outline Battery Storage Safety Management Plan **[EN010133/APP/C7.9]** has been submitted with the Application. This explores the risks associated with fires from the Battery Energy Storage Facility (BESS) and sets out measures to minimise the impact of an incident during construction, operation and decommissioning of the facility.

Furthers risks of major accidents and disasters are covered in the following tables above relating to Hydrology, Flood Risk and Drainage; Transport and Access; Ground Conditions; and Waste.

Table 3.14: Utilities, Telecommunications and Television Receptors

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Potential to affect existing utility infrastructure above and below ground	The risk of damage to utilities during construction will be minimised through mitigation involving: a. Locating the Scheme outside of any utilities' protected zones; b. The use of ground penetrating radar or other appropriate techniques will be employed before excavation to identify any unknown/unrecorded utilities; c. Consultation and agreement of construction/demobilisation methods will be undertaken prior to works commencing (this would be covered by the protective provisions included in the DCO); and d. Infrastructure that crosses the Scheme will be mapped and avoided through the design.	No monitoring required

4 Complementary Plans and Procedures

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

1. Outline Construction Traffic Management Plan (CTMP) **[EN010133/APP/C6.3.14.2]**.
2. Outline Landscape and Ecology Management Plan (OLEMP) **[EN010133/APP/C7.3]**.
3. Outline Soils Management Plan **[EN010133/APP/C7.18]**.
4. Outline Public Rights of Way (PROW) Management Plan **[EN010133/APP/C6.3.14.3]**.
5. Outline Battery Storage Safety Management Plan **[EN010133/APP/C7.9]**.
6. Outline Skills, Supply Chain and Employment Plan **[EN010133/APP/C7.10]**.

5 Implementation and Operation

5.1.1 The detailed CEMPs will set out all roles, responsibilities and actions required in respect of implementation of the measures described in this Outline CEMP, including:

1. An organogram showing team roles, names and responsibilities;
2. Training requirements for relevant personnel on environmental topics;
3. 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;
4. Measures to advise employees of changing circumstances as work progresses;
5. Communication methods;
6. Document control;
7. Monitoring, inspections and audits of site operations; and
8. Environmental emergency procedures.

5.1.2 The Construction Project Manager and Environmental Manager have responsibility for ensuring compliance with the Outline CEMP(s).

6 Monitoring and Reporting

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 CEMPs and related construction controls, and allow for corrective action to be taken where necessary.

6.1.2 As part of the monitoring process the designated Environmental Manager will be present on-site throughout the construction process and when new activities are commencing. The Environmental Manager will observe site activities and report any deviations from the detailed CEMPs in a logbook, along with the action taken and general conditions at the time. The Applicant will be informed of any deviations from the CEMPs as soon as possible following identification of such issues. The Environmental Manager would also act as day-to-day contact with relevant local authorities and other regulatory agencies such as the Environment Agency.

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

6.1.4 The Environmental Manager will also arrange regular formal inspections and audits to ensure the requirements of the detailed CEMP are being met. Details of monitoring, inspection and audits to be undertaken will be provided in the CEMPs. After completion of the works, the Environmental Manager will conduct a final review.

6.2 Records

6.2.1 The Environmental Manager/ Construction Project Manager will retain records of all monitoring, inspections and audits. These records will include:

1. Results of routine site inspections by Environmental Manager / Construction Project Manager;
2. Environmental surveys and investigations;
3. Environmental Action Schedule;
4. Environmental equipment test records, Licences and approvals; and
5. Corrective actions taken in response to incidents, breaches of the approved CEMPs or complaints received from a third party.

6.2.2 The CEMPs will be updated if it is necessary to add additional control measures, with a full review as required throughout the construction period. Existing control measures and mitigation will not be amended without prior agreement with the local authorities.

References:

Ref 1-1: The Planning Act 2008

Ref 2-1: Control of Pollution Act 1974

Ref 2-2: British Standard BS 5228-1:2009+A1:2014, Code of practice for noise and vibration control on construction and open sites – Part 1: Noise

Ref 2-3: British Standard BS 5228-2:2009+A1:2014, Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration

Ref 2-4: Considerate Constructors Scheme, Code of Considerate Practice

Ref 3-1: Guidance for Pollution Prevention 2: Above ground oil storage tanks

Ref 3-2: Guidance for Pollution Prevention 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer

Ref 3-3: Guidance for Pollution Prevention 5: Works and maintenance in or near water

Ref 3-4: Guidance for Pollution Prevention 8: Safe storage and disposal of used Oils

Ref 3-5: Guidance for Pollution Prevention 13: Vehicle washing and cleaning

Ref 3-6: Guidance for Pollution Prevention 19: Vehicles: Service and Repair

Ref 3-7: Guidance for Pollution Prevention 20: Dewatering underground ducts and chambers

Ref 3-8: Guidance for Pollution Prevention 21: Pollution incidence response planning

Ref 3-9: Guidance for Pollution Prevention 22: Dealing with Spills

Ref 3-10: Guidance for Pollution Prevention 26: Safe storage – drums and intermediate bulk containers

Ref 3-11: Pollution Prevention Guidance 6: Working at construction and demolition sites

Ref 3-12: Pollution Prevention Guidance 7: Safe Storage – the safe operation of refuelling facilities

Ref 3-13: Pollution Prevention Guidance 18: Managing fire water and major spillages

Ref 3-14: Control of Substances Hazardous to Health (COSHH) Regulations 2002

Ref 3-15: British Standard BS 6031:2019, Code of Practice for Earthworks

Ref 3-16: Control of Pollution (Oil Storage) (England) Regulations 2001

Ref 3-17: Water Resources Act 1991

Ref 3-18: Environmental Permitting Regulations (England and Wales) 2016

Ref 3-19: British Standard BS 5837:2012, Trees in relation to design, demolition and construction – Recommendations