Green Hill Solar Farm
EN010170

Outline Construction Environmental Management Plan
Revision A

Prepared by: Lanpro Services

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APFP Regulation 5(2)(q)

Schedule of Changes

Revision	Section Reference	Description of Changes	Reason for Revision
A	[cover]	Updated to Revision A	As required for submission at Deadline 1.
	[throughout]	Updates to document references	As required for submission at Deadline 1.
	p.9	Update in relation to security arrangements for Northampton Shooting Ground	Response to Applicant continued discussions with the interested party.
	p.33	Updates in relation to equestrian users	Responding to matters raised at Issue Specific Hearing 1.
	p.34	Updates in relation to construction fencing	Responding to matters raised at Issue Specific Hearing 1.
	p.37 to p.38	Updates to noise mitigation	To reflect the noise addendum **[EX1/GH8.4.1]**
	p.48 to p.49	Updates to matters relating to the International Waendel Walk	Responding to matters raised at Issue Specific Hearing 1.
	p.56	Update in relation to above ground features in the cable route corridor	Responding to matters raised at Issue Specific Hearing 1.
	p.57 to p.61	Updates to the discovery strategy	Response to the Environment Agency relevant representation.

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Report Prepared for: Green Hill Solar Farm

Deadline 1

Outline Construction Environmental Management Plan
Revision A

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1 Introduction

1.1 Overview and Purpose of the Document

1.1.1 Green Hill Solar Farm Limited (the Applicant) has prepared this Outline Construction Environmental Management Plan (OCEMP) in relation to an Application for a Development Consent Order (DCO) for the construction, operation, maintenance, and decommissioning of the Green Hill Solar Farm (the Scheme).

1.1.2 The aim of this OCEMP is to provide a clear and consistent approach to the control of construction activities within the Order limits. This document does not address operational, maintenance or decommissioning activities, which are subject to separate environmental management plans and procedures. Please refer to the Outline Operation Environmental Management Plan (OOEMP) Revision A **[EX1/GH7.2_A]** and Outline Decommissioning Statement (ODS) Revision A **[EX1/GH7.3_A]** for further information.

1.1.3 Likely significant effects have been identified through the Environmental Impact Assessment (EIA) process and are reported in the Environmental Statement (ES) Volume 1 of the ES (Chapters 7 to 23) **[APP-044 to APP-060]**. A range of 'standard' or good practice mitigation and construction management measures are accounted for in the assessments, and these will be implemented during construction of the Scheme. This OCEMP details these construction mitigation measures. It also sets out the monitoring activities designed to demonstrate that such mitigation measures are carried out, and that they are effective.

1.1.4 It is envisaged that detailed CEMPs may be prepared, approved and implemented for individual parts of the Scheme. It is recognised that there could be multiple CEMPs prepared in accordance with the parts of this OCEMP.

1.1.5 One or more detailed Construction Environmental Management Plans (CEMPs) will be prepared by the appointed Contractor(s) substantially in accordance with this OCEMP, as secured by Requirement of the DCO (see the Draft DCO Revision A **[EX1/GH3.1_A]** 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.

1.1.6 This OCEMP is designed with the objective of ensuring compliance with the relevant environmental legislation and mitigation measures set out within the ES. This document provides the likely structure of the detailed CEMP(s) and relevant preliminary information. It also indicates what additional information or controls might be included under each sub-section within each detailed CEMP.

1.1.7 The key elements of this OCEMP include:

- An overview of the Scheme and associated construction programme;
- Identification of potential environmental effects;
- Proposed design and other mitigation measures to prevent or reduce potential adverse environment effects;
- Monitoring and reporting of effectiveness of mitigation measures; and

- Links to other complementary plans and procedures.

1.1.8 The appointed contractor(s) will be responsible for working in accordance with the environmental controls documented in the OCEMP and for the preparation and implementation of each CEMP.

1.1.9 Any additional licences, permits, or approvals that are required will be listed in the CEMPs.

1.2 The Order Limits and Scheme

Order Limits

1.2.1 The Order Limits outline the maximum extent of the land that will be required to facilitate the construction, operation and maintenance, and decommissioning of the Scheme and are shown on the Works Plans **[EX1/GH2.4_B]** and Location Plan **[APP-006]**. The Order Limits are described in Volume 1 Chapter 3: The Development Site Revision A **[EX1/GH6.2.3_A]** of the ES.

1.2.2 The Order Limits cover an area of 1,450 hectares (ha) located within the administrative areas of the unitary authorities of North Northamptonshire Council, West Northamptonshire Council, and Milton Keynes City Council. The Scheme comprises nine distinct sites: Green Hill A, A.2, B, C, D, E, F, G, and BESS ('Site' or 'Sites') connected by the Cable Route Corridor to each other and to the Point of Connection (PoC) at Grendon National Grid Substation.

The Scheme

1.2.3 The Scheme will comprise the construction, operation, maintenance and decommissioning of a solar photovoltaic (PV) electricity generating facility and Battery Energy Storage System (BESS) with a total capacity exceeding 50 megawatts. The Scheme is defined as a NSIP under Sections 14(1)(a) and 15(2) of the Planning Act 2008 (Ref 1), as it is an onshore generating station in England with a capacity of more than 50 MW.

1.2.4 The Sites comprise solar arrays and associated development, the latter encompassing: energy storage, grid connection infrastructure and any other infrastructure which are to be connected to the National Grid at a substation at Grendon via underground cables. Further details on the Scheme are provided in Volume 1 Chapter 4: Scheme Description Revision A **[EX1/GH6.2.4_A]** of the ES.

1.2.5 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 2027 and will run to Q4 2029. The operational life of the Scheme is anticipated to be up to 60 years and decommissioning is therefore estimated to commence no later than 2089.

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:

1. Site Manager – Overall responsibility for activity on-site, and will be based on-site full time;
2. Construction Project Manager - Overall responsibility for ensuring all elements in the DCO, detailed CEMPs and all environmental legal and other requirements are implemented, and appropriately resourced, managed, reviewed and reported;
3. 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;
4. Archaeological Clerk of Works – Responsible for monitoring the completion of all archaeological works in accordance with the approach detailed in the Archaeology Mitigation Strategy (AMS) **[APP-146],** reporting and responding to any incidents or non-compliance;
5. Arboricultural Clerk of Works – Responsible for monitoring the completion of all arboricultural works in accordance with the approach detailed in the Outline Arboriculture Method Statement **[APP-171]**, making sure all impacts are avoided, mitigated or compensated for.
6. 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;
7. Ecological Clerk of Works (EcoCoW) - Management of the risks to biodiversity on construction sites, advising protecting valued biodiversity features and providing practical solutions;
8. Flood Warden – There will be a dedicated responsibility to be prepared for, and manage, the response to flood incidents;

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

10. Community Liaison Manager - 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 Manager 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 CEMP(s).

2.3 Construction Programme

2.3.1 As noted above, the Scheme currently has a grid connection date of 2029. It is currently anticipated that construction works will commence, at the earliest, in Q4 2027 and will run to Q4 2029. 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.

2.3.2 The construction of the cable route between the Sites and the Grendon National Grid Substation will be undertaken across the 2-year programme for the Scheme. Cables will be installed in groups or sections to ensure that works are completed in the most efficient manner practicable.

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, which constitute the core working hours (this doesn't include start-up and shut down works). However, some activities may be required outside of these times (such as the arrival and departure of construction workers, 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 be scheduled to 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 (OCTMP) **[APP-553]** and will be secured by 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 14: Noise and Vibration **[APP-051]** of the ES.

2.5.2 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), 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 6, Ref 7).

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. Temporary lighting will be required in areas where natural lighting is unable to reach (such as sheltered/confined areas) and during core working hours within winter months. 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 OCTMP Revision A **[EX1/GH7.9_A]**.

2.8 Off-site Delivery Routes

2.8.1 The OCTMP Revision A **[EX1/GH7.9_A]** provides details of the proposed HGV construction vehicle routes. 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 OCTMP Revision A **[EX1/GH7.9_A]**, the temporary construction compounds will include parking areas. The 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 Site Waste Management Plan (SWMP) 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 SWMP will be finalised with specific measures to be implemented prior to the start of construction.

2.10.3 In accordance with the waste hierarchy (Ref 3), the Scheme will prioritise waste prevention, followed by preparation for reuse, recycling, and recovery, with landfill disposal as the last resort.

2.10.4 All waste to be removed from the Site will be undertaken by fully licensed waste carriers and taken to suitably licensed waste management facilities and managed in line with the requirements of the Waste (England and Wales) Regulations (2011) (Ref 4) and the Hazardous Waste (England and Wales) Regulations (2005) (as amended) (Ref 5).

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 All construction compounds, BESS compounds and substation compounds during construction, will be secured via fencing, which may include Heras or solid timber fencing or hoarding, up to a maximum of 3 m in height. Temporary Heras fencing up to 2.5 m in height may also be used to secure solar PV array areas until wire mesh fencing (for operation) is installed. Construction compounds will be secured by lockable gates. CCTV will be installed within construction compounds. All access tracks will be secured by gates, which will be set back from the public highway to avoid the requirement for vehicles to wait in the highway while gates are opened.

2.11.3 There will be designated security during construction who will manage the Order limits and patrol the perimeter; this will include opening and locking the site, CCTV columns and perimeter fencing.

2.11.4 Construction compound CC1, as set out in Figure 13.4 Routes to Scheme Sites (Central Area) **[APP-435]**, utilises a shared access to the Northampton Shooting Ground. There will be continued liaison with this business to identify appropriate security arrangements for the safe use and access to the Northampton Shooting Ground for the shooting ground users during the construction period of the Scheme.

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 8) 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 OCEMP sets out the mitigation and management measures to be included as a minimum in the detailed CEMP(s). It also identifies where monitoring is proposed, to assess the effectiveness of the mitigation measures.

3.2 Committed Mitigation and Management Measures

3.2.1 A summary of the mitigation and management measures to be included as a minimum in the detailed CEMP(s), using the information presented in the Environmental Statement, is provided below. 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 detailed 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 practicable 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;	To be confirmed in detailed CEMP(s)

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Implementing a Travel Plan, as stated in the Outline CTMP **[APP-553]** to reduce the volume of construction staff and employee trips to the Scheme; • Switching vehicles and plant off when not in use and ensuring construction vehicles conform to current UK emissions standards; • Conducting regular planned maintenance of the construction plant and machinery to optimise efficiency; and • 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. • Protecting workers and resources from extreme weather conditions through appropriate PPE and working practices • Using equipment's cooling systems where necessary/adapting working practices and equipment used based on current weather conditions; • Monitoring weather forecasts and the news for Environment Agency flood warnings, relevant weather warnings, and water levels of the local waterways. • Battery Energy Storage System (BESS) systems include Heating, Ventilation and Cooling (HVAC) systems and these to be contained within the individual equipment containers;	

Table 3.2: 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) [**EX1/GH7.4_A**] 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). The Landscape and Ecological Management Plan (LEMP), 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; and • Monitoring: Landscape and EcoCoW to ensure that the landscape and ecology requirements of the detailed 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.	Refer to the OLEMP.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	Tree Works The findings of the pre-construction Tree Survey (TS) Report and Arboricultural Impact Assessment (AIA) Report, accompanied by an 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 19); 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 3.3: Ecology and Biodiversity

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 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.	Ecological protection measures relating to the construction phase are set out in the Outline Ecological Protection and Mitigation Strategy (OEPMS) Revision A **[EX1/GH7.5_A].** The detailed CEMP(s) 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 detailed 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; • 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; • Construction personnel will receive a Toolbox Talk detailing the presence of sensitive ecological features at or close to the Sites and will be informed	A pre-construction site walkover will be undertaken in advance of mobilisation/any potential advance works to reconfirm the ecological baseline conditions and to identify any new ecological risks, such as newly constructed badger setts. Updated species surveys, including bats, 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, and the requirement for any EcoCoW supervision during the construction phase. 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 the Applicant or their appointed contractor.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	that no materials should be stored, or vehicles drive, through buffer zones; and • An Ecological Clerk of Works (EcoCoW) will be designated at the onset of the construction phase, which will provide ecological supervision during the completion of any works which have the potential to impact protected and notable species, as appropriate. Access tracks will be routed with ecological sensitivity in mind, along existing farm tracks wherever practicable, and will also be sited to avoid designated buffer zones wherever practicable. Any unavoidable deviations from this (e.g., for access to critical hardware) are clearly set out in the Environmental Statement **[APP-044 to APP-060].** Access for construction will utilise existing field entrances and gaps in hedgerows and other linear habitats wherever practicable. The detailed measures relating to minor hedgerow removal and pruning are set out in the Outline Landscape and Ecological Management Plan Revision A. **[EX1/GH7.4_A]**.	

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 9); • GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer (Ref 10); • GPP 5: Works and maintenance in or near water (Ref 11); • GPP 8: Safe storage and disposal of used Oils (Ref 12); • GPP 13: Vehicle washing and cleaning (Ref 13); • GPP 19: Vehicles: Service and Repair (Ref 14); • GPP 20: Dewatering underground ducts and chambers (Ref 15); • GPP 21: Pollution incidence response planning (Ref 16); • GPP 22: Dealing with Spills (Ref 17); and • GPP 26: Safe storage – drums and intermediate bulk containers (Ref 18). **Staff Awareness and Training** 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. Plans to deal with accidental pollution would be included within the detailed CEMP(s) prior to commencement of construction. Any necessary equipment (e.g., spillage kits) would be held on-site	Temporary drainage will be monitored throughout construction. Specific details will be confirmed in the detailed CEMP(s). A Water Management Plan (which will form part of the detailed CEMP(s)) will include details of pre, during and postconstruction water quality monitoring. This will be based on a combination of visual observations

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	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.	and reviews of the Environment Agency's automatic water quality monitoring network. 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
	Storage of Materials The detailed CEMP(s) 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 will be stored in accordance with their Control of Substances Hazardous to Health (COSHH) guidelines (Ref.19), whilst spill kits will be provided in areas of fuel/oil/minor chemicals storage; 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 practicable 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.	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	Discharge/Disposal of Site Runoff • Site drainage, including surface runoff and dewatering effluents, will be discharged to sewers where practicable 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); • Existing access tracks, where practicable, will be retained, limiting the requirement to develop new access which can disturb soils and lead to compaction. Where new access tracks are required, they will be designed to avoid crossing drainage ditches, where practicable; • During the construction buffers of 10m (where possible) should be preserved adjacent to all receptors to ensure that there is a sufficient buffer from the sensitive receptor to the construction stages of development; • 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.20) will be followed for the general control of site drainage; • Where practicable, 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 practicable, 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;	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.16); PPG7: Safe Storage – the safe operation of refuelling facilities (Ref.17); PPG18: Managing fire

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• To protect watercourses from fine sediment runoff, topsoil/subsoil will be stored a minimum of 30m from watercourses on flat lying land. • Earth stockpiles will be seeded as soon as possible, covered with geotextile mats or surrounded by a bund; • 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	water and major spillages (Ref.18). Advice contained within the guidance will be listed in or appended to the detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	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 constituting a robust maintenance plan that would be considered for implementation for temporary drainage through the construction design and/or detailed CEMP(s) 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; and	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• 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.19), and the Control of Pollution (Oil Storage) (England) Regulations 2001 (Ref.21). 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); • Refuelling of plant to take place off the Site if practicable, or only in a designated area at the Site compound ideally at least 20 m from receptors; • 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 practicable 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;	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Mobile plant is to be in good working order, kept clean and fitted with plant 'nappies' at all times; • An Emergency Response Plan will include details for pollution prevention and will be prepared and included alongside the detailed CEMP(s). 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, including on Horizontal Directional Drilling (HDD). Where HDD techniques are required for watercourse crossings, works will be in accordance with Concept Design Parameters and Principles document Revision A **[EX1/GH7.17_A]**. Construction works specifically in areas located within Flood Zone 3, would not be undertaken when an Environment Agency Flood Warning is in place.	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	Monitoring Requirements The detailed CEMP(s) 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 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: • 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; and • The Contractor will sign up to the Floodline service 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 dewatering 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.22) and the Environmental Permitting Regulations (England and Wales) 2016 (Ref.23)); 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	
	To manage blockages of drainage networks, a third-party management and maintenance team should be established to maintain the features throughout the lifetime of the Scheme	

Table 3.5: Minerals

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Impacts on mineral resources from the Scheme design	The design of the Scheme has included measures to avoid and minimise the risk of exploitation of mineral resources during its construction. These include: • The Cable Route Corridor, subject to other constraints such as the protection of archaeological remains, veteran trees etc, will follow the edge of significant landscape features or existing infrastructure corridors rather than directly crossing open fields. Such an approach avoids creating a further obstruction to the future exploitation of mineral resources. • The layout of the Scheme incorporates the existing vehicular access between the mineral extraction allocation identified in the NM&WLP Policy 4 Site M2: Strixton - Bozeat and the A509. This access will be maintained for the life of the Scheme. • The decommissioning and removal of plant and structures to restore the baseline condition for the identified mineral resources. (Infrastructure is only left in the ground such as cable ducts after decommissioning where these do not present any significant constraint to future mineral extraction). • The Cable Route Corridor, south of Earls Barton will be routed, where practicable for cables to be installed to avoid remaining permitted mineral reserves and/or remediation of the Site. • If the Cable Corridor crosses areas of permitted mineral extraction, to the south of Earls Barton there will be flexibility for cables to be installed using techniques which do not interfere with the efficient extraction of remaining mineral reserves. • Adequate buffers and standoffs are incorporated into the Scheme's design to avoid any conflict between the development of the Scheme and the winning and working of mineral within the NM&WLP Policy 4 Site M2 allocation.	The overall responsibility will be with the Applicant. Specific responsibilities will be confirmed in the CEMP.

Table 3.6: Cultural Heritage

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Construction phase impacts upon Designated Assets.	Condition surveys will be undertaken before and after the construction phase at the Grade II Listed Grade II Listed Station Lodge (NHLE 1294156) and Grade II Listed Low Farmhouse (NHLE 1371681) to monitor any potential impacts caused by HGV construction traffic. Vehicle idling and hard breaking should be avoided at these locations.	Condition surveys will be undertaken before and after the construction phase in line with national guidance (i.e. Historic England and CIfA guidance). The Archaeological Clerk of Works and/or the Archaeological Advisors to the LPAs and/or Historic England will monitor the completion of works.
Construction phase impacts upon Heritage / Archaeology assets	Proposed solar panels have been avoided being located in fields within the Scheme as a result of archaeological or heritage sensitivities, comprising Fields AF1, AF5, AF11, AF12, CF1 to CF4, EF9, EF16, EF18, EF19, EF20, EF25, EF26, EF29, EF30, EF34, FF7 to FF9, FF13, FF14, FF16 , FF22FF27 and FF28. Proposed solar panels have been partially avoided from Fields, EF13, EF28, EF33, , FF11, FF18, and in response to identified heritage and archaeological sensitivities.	Final Scheme design to ensure no solar infrastructure to be located within 'no development' areas. Temporary fencing must be erected around areas of no development identified to mitigate against archaeological remains during commissioning and decommissioning phases to ensure no works are undertaken within these areas. Banksmen must be aware of areas with archaeological assets and will be responsible for ensuring no vehicle/plant movement occurs in these areas. Where ecological mitigation is proposed this should not include any ground disturbance beyond baseline conditions (i.e. scrapes or ponds) and where practicable look minimise impacts caused by arable land usage (i.e. deep ploughing).
Construction phase impacts upon Heritage assets	Offsets of a minimum 15m have been applied to public rights of ways (PRoWs) and existing hedgerows across the Scheme. Offsets in Fields AF2, AF20 and AF22, BF2, BF3, DF1 to DF3, EF4, EF5, EF10 to EF15, EF17, EF22, EF25 to EF27, EF33, FF1 to FF3, FF10, FF11, FF13, FF15, FF19, FF26, FF29, FF30, GF9 and GF13 provide embedded mitigation to the setting for	Final Scheme design to ensure no solar infrastructure to be located within offsets areas.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	identified heritage-based sensitivities. In Fields AF2, AF20, A2F1, BF2, BF3, DF3, EF5, EF10 to EF15, EF17, EF27 and EF28, FF15, FF17, FF19 and GF13 the offset is larger and should follow design parameters.	
Construction phase impacts upon buried archaeological 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 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-Determination archaeological mitigation detailed in the Archaeology Mitigation Strategy (AMS) **[APP-146]**. Once the final design of the Scheme has been identified Written Schemes of Investigation will be appended to the AMS detailing the specific mitigation approach and programme for each phase of the construction works. Mitigation by design using no development areas and non-intrusive concrete ground anchors is required for safeguarding archaeological remains against the impacts caused by the installation of solar panels. Where a high level of impact is likely to occur mitigation by record in the form of archaeological monitoring will be undertaken where baseline evidence has not identified a potential for archaeological remains i.e. cable routes, substations and compound areas. Mitigation in the form of ‘strip, map and sample’ will be required in	Provision for archaeological mitigation and monitoring is detailed in the AMS (see ES Appendix 12.6 **[APP-146]**). The AMS 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 AMS. Temporary fencing must be erected around areas of no development during commissioning and decommissioning phases to ensure no works are undertaken within these areas. Where ecological mitigation is proposed this should not include any ground disturbance beyond baseline conditions (i.e. scrapes or ponds) and where practicable look minimise impacts caused by arable land usage (i.e. deep ploughing). 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 Clerk of Works and/or the Archaeological Advisors to the LPAs will monitor the completion of works in accordance with the programme set out in the AMS.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	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) should be subject to archaeological monitoring.	

Table 3.7: Transport and Access

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 construction traffic and abnormal loads.	A detailed 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 Revision A **[EX1/GH7.9_A]** 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 and Permissive Paths Management Plan Revision A **[EX1/GH7.10_A]** is also submitted with the application. A list of measures likely to be implemented are provided below, however, where these measures are secured in the CTMP and Public Rights of Way and Permissive Paths Management Plan these measures will not be duplicated in the final CEMP: **Road Condition Survey** Road Condition Surveys will be carried out on minor roads proposed for construction access prior to commencement of	The appointed contractor will undertake such monitoring as is necessary. Further details to be confirmed in the detailed CEMP/CTMP. Any unforeseen issues that arise in relation to construction vehicle movement will be logged by the Site Manager. If necessary, the issues will be discussed with the local highway authority so that they can be resolved as appropriate.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	construction. The extent of the surveys will be agreed with the local highway authority in advance. Once construction is complete, a further 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 directly attributable to construction activities associated with the Scheme will be corrected to the satisfaction of the local highway authority (or individual owner if a private road). **Access Points** Existing accesses to sites will be used where practicable, however any access that is temporarily created for the construction period will be restored to its original condition post-construction or retained subject to agreement or in cases where, for example, the changes constitute a betterment to an existing access, may remain in situ. Where existing accesses are utilised, these will be widened and formalised as appropriate. Visibility splays will be kept clear throughout the construction period. The use of temporary traffic management to construct, and where required, manage construction accesses will be considered on a site-by-site basis and agreed with the highway authorities. **Parking** Signs informing contractors and visitors that parking is not permitted on-street in the vicinity of the Site or on the Site access road will be erected. Contractors and visitors will be advised that parking facilities will be provided onsite in advance of visiting. **Management of Deliveries**	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	Construction vehicles will avoid travel during the morning and evening network peak hours where practicable. Therefore, deliveries will normally be allowed between 09:30 and 16:30. In order to minimise instances of HGVs passing each other in opposite directions on narrow/inappropriate roads, all deliveries will be required to use a booking system. Drivers will be instructed to not leave their depot, or to stop in an appropriate layby or other appropriate stopping place, and report if they are likely to miss their slot. *Procedure for Arrival to Site* • Drivers will be allocated a slot arrival time and instructed which access/route to use; • When the vehicle is due, the banksmen will be notified and will position at the relevant access; • The driver will then be notified to travel to the Site via the agreed route; • All operatives will communicate with each other, as necessary; and • Banksmen will assist HGV's to manoeuvre from the public highway into the Site accesses. *Procedure for Leaving the Site* • When vehicles are ready to depart, the Site Manager will be notified. They will then mobilise the banksmen at the relevant Site access; • Drivers will be advised when the banksmen are in place; and	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Banksmen will guide the vehicles safely on to the public highway. **Wheel Washing** Wheel washing facilities will be provided at each access. This will be located at the egress of each Site. A visual inspection of vehicles will be undertaken before they depart the Site, to ensure that they are not carrying debris onto the highway. Notwithstanding wheel washing measures, if required, a road sweeper will be provided for the area surrounding access to alleviate any residual debris generated during the construction phase. **Traffic Management Measures** *Route Signage* Temporary road signage will be installed along the construction traffic routes to inform all road users of the construction works and to direct construction traffic to and from the various construction accesses. All signage will comply with Chapter 8 of the Traffic Signs Manual where applicable. The following will be considered when locating signage: • The position of the sign in relation to the highway; • Possible distraction to drivers; and • The proximity to junctions and roundabouts. Details of the form and proposed locations of any signs (or signals) to be placed on a public highway will be pursuant to	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	relevant Articles of the DCO, and will be submitted to the traffic authority for approval in advance of being placed. 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. Traffic management for abnormal load movements will be agreed with the local highway authority and police prior to the abnormal load movements taking place. **Public Rights of Way** A Public Rights of Way and Permissive Paths Management Plan will be implemented during the construction phase of the Scheme. An Outline Public Rights of Way and Permissive Paths Management Plan Revision A **[EX1/GH7.10_A]** is included as part of the application. As part of this plan, the following measures will be implemented that are relevant to construction (and operation): • Appropriate signage will be installed along the PRoW to make PRoW users aware of the construction activity. This will include information on construction times and contact details for a public liaison officer; • Signage on bridleways near to established equestrian facilities and livery businesses should be sited sensitively. Where practicable, prior notice will be given to nearby equestrian facility operators and livery businesses owners; • Drivers will stop and give-way to any PRoW user (in particular for equestrians);	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Where relevant, widened access tracks to ensure vehicles can pass PRoW users safely; • Banksmen to be positioned where relevant along a PRoW impacted by construction traffic, to hold vehicles if a PRoW user is present and advise PRoW users of the potential for construction vehicles; • Speeds to be limited to 10mph on and near PRoWs; • The PRoW will be kept clear of construction vehicles and apparatus outside of permitted construction hours so far as is practicable to do so; • Any damage to the surface of the footpath/bridleway directly attributable to the Scheme will be repaired as soon as practicable. **Noise Reduction and Air Quality** When on Site and when not in use, engines will be required to be switched off. Vehicles carrying material off-Site will be sheeted / covered to prevent the spread of dust and debris. In dry conditions, areas near to the Site access will be sprayed with water to prevent the spread of dust and debris. **Site Security** All construction compounds, BESS compounds and substation compounds during construction, will be secured via fencing, such as Heras or solid timber fencing or hoarding, up to a maximum of 3 m in height. Temporary Heras or other mesh fencing up to 2.5 m in height may also be used to secure solar PV array areas until permanent wire mesh fencing (for operation) is installed. Construction compounds will be secured by lockable gates. CCTV	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	will be installed within construction compounds. All access tracks will be secured by gates, which will be set back from the public highway. Where existing access tracks are used that also provide access to residential properties, appropriate security measures will be put in place in consultation with the relevant property owner. **Community Engagement** The details of the Construction Site Manager will be provided to the local highway authorities in advance of any work being carried out and will also be advertised on a Site information board. There will be liaison with residents and businesses in the vicinity of the Sites, including providing them with contact details of the Site Manager to report any identified issues.	

Table 3.8: Noise and Vibration

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Noise and 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;	A construction noise monitoring scheme shall be developed and agreed with the relevant planning authority following appointment of a contractor and prior to commencement of construction works. The detailed CEMP(s) would also set out a scheme for the provision of monthly reporting information to and from local residents to advise of potential

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• 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; • When works are taking place within close proximity (e.g. <20m) to the sensitive receptors identified, the screening of noise sources via the erection of temporary screens would be employed; • All machinery would be regularly maintained to control noise emissions, with particular emphasis on lubrication of bearings and the integrity of silencers; • Site staff would be made aware that they are working adjacent to a sensitive area and avoid all unnecessary noise due to misuse of tools and equipment, unnecessary shouting and radios; • As far as possible, the avoidance of two noisy operations occurring simultaneously in close proximity to the same sensitive receptor; • Adherence to any time limits imposed on noisy works by the local authority; • Adhere to set working hours during the week and at weekends where practicable; • Ensure engines are turned off when possible; • Should earthworks and construction activities need to be carried out during night-time hours, the oCEMP requires advance notice and details of any night working to provided; and • Notices and/or communication with nearby residents to inform them of the works and anticipated construction periods, as occupants of nearby sensitive receptors are likely to be more tolerable of the construction if	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 detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	they are provided with timings and duration of high noise generating events. • In line with BS5228-2 alternative methods, removal of obstructions, provision of cut-off trenches, reduction of energy input per blow, reduction of resistance to penetration may be implemented to reduce vibration. • A Construction Noise Management Plan (CNMP) incorporating measures embedded in the design and construction of the project that will minimise noise impacts, including site working hours and selection and maintenance of machinery will be included as part of the CEMP.	
Horizontal Directional Drilling (HDD) and night-time construction noise	Core construction working hours will be Monday to Friday 07:00 – 18:00 and between 08:00 and 13:30 on Saturdays. 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). Save for activities required outside of the core construction working hours, no noisy operations will take place during mobilisation/shut down which is 1 hour before and after working hours. Requirements and locations for cable construction activities will not be finalised until a contractor is appointed. Where activities (such as the delivery of abnormal loads, night-time working for cable construction works in public highways or HDD activities) may be required outside of core hours, a communication strategy, including liaison with occupiers who may be adversely affected, will be developed and implemented. The following measures apply in relation to any nighttime working: • Where practicable, avoid cable construction works within 500m of residential receptors;	A construction noise monitoring scheme shall be developed and agreed with the relevant planning authority following appointment of a contractor and prior to commencement of construction works. The detailed CEMP(s) 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 detailed CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Advance notice and details of any night working to be provided by the contractor to any sensitive residential receptors; • Where cable construction activities will occur within 500m of sensitive receptors, the option for open-cut cable laying will be explored as an alternative to horizontal directional drilling (HDD); The following restrictions apply to any HDD activity: • No HDD launch or receive pit will be located within 80m of any occupied residential receptor. • Noise levels from HDD activities, measures at occupied residential receptors, must not exceed 65dB LAeq during nighttime hours (23:00 – 07:00). Where nighttime noise levels at residential receptors will exceed the Threshold Level in BS-5228 (SOAEL), the contractor must develop a bespoke mitigation strategy to reduce the expected noise levels at occupied residential receptors to below the SOAEL as far as practicable, having regard to the hierarchy of practical mitigation measures below: • The potential use of quieter equipment will be explored; • The potential to locate the HDD launch or receive pit a greater distance from occupied residential receptors will be explored; • The use of noise reduction measures such as temporary acoustic fencing will be explored. In the event the bespoke mitigation strategy is not able to reduce the expected nighttime noise levels below the SOAEL, the following measures apply:	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• A bespoke communications strategy will be implemented to inform the occupants of affected residential receptors of the precise timing and expected duration of the relevant nighttime construction activity, provide an explanation for the need for the works, an explanation of the noise levels expected at the receptor, and a summary of the steps taken to reduce noise levels. The contractor will consider if it is appropriate to submit an application for prior consent to carry out noisy works under section 61 of the Control of Pollution Act 1974.	

Table 3.9: Glint and Glare

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Glint and Glare effects	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 Order limits.	Refer to the OLEMP Revision A **[EX1/GH7.4_A]**.

Table 3.10: Air Quality

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Increased NO_2 and particulate matter from on-site and off-site construction vehicle/plant emissions.	Appropriate mitigation and control measures will be included in the detailed CEMP(s), which would include: **Communications**	The overall responsibility will be with the Applicant. Specific responsibilities will be confirmed in the CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Increased particulates and deposited dust from activities on the Sites, materials transportation, storage and handling, including use of haul roads.	• 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; and • Display the Contractor's head or regional office contact information. **Dust Management** • Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the relevant local authorities. **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 when asked; • 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; and	The following monitoring will be undertaken: • Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the Local Authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100m of site boundary, with cleaning to be provided if necessary • 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; • 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 • Agree 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 or, if

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Hold regular liaison meetings with other third party, high risk construction sites within 500m of the site boundary, 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. **Preparing and maintaining the Sites** • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as practicable; • 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 practicable, 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.	it a large site, before work on a phase commences.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	Operating vehicle/machinery and sustainable travel • Ensure all off-road vehicles comply with the requirements of the NRMM standards, where applicable. Use stage 4 NRMM as a minimum and stage 5 where practicable. • Ensure all vehicles/machinery switch off engines when stationary/not in use; • Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable; • 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 Contractor and with the agreement of the local authority or authorities, where appropriate); • Produce a Construction Traffic Management Plan to manage the sustainable delivery of goods and materials; and • Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing), as part of the Construction Traffic Management Plan. **Operations**	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• 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 practicable and appropriate; • Use enclosed chutes and conveyors and 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. **Earthworks** • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable;	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Use Hessian, mulches or tackifiers where it is not practicable 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** • Avoid scabbling (roughening of concrete surfaces) if practicable; • 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. • 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 • For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust. **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;	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• 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 practicable.	
Increased NO_2 and particulate matter from construction vehicle emissions.	Vehicles will be correctly maintained and operated in accordance with manufacturer's recommendations and in a responsible manner. All plant and vehicles will be required to switch off their engines when not in use and when it is safe to do so. In addition, plant and vehicles will conform to relevant applicable standards for the vehicle type as follows:	The overall responsibility will be with the Applicant. Specific responsibilities will be confirmed in the CEMP(s).

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Euro 4 (NOx) for petrol cars, vans and minibuses; • Euro 6 (NOx and PM) for diesel cars, vans and minibuses; and • Euro VI (NOx and PM) for lorries, buses, coaches and Heavy Goods Vehicles (excluding specialist abnormal indivisible loads).	

Table 3.11: Socio-Economics, Tourism and Recreation

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Peak impacts on the socio-demographic and tourism environment	Works during the construction phase are phased and staggered across the Site and Cable Corridor to reduce likely significant effects on environmental receptors, to reduce the peak number of construction workers requiring access to local amenities, and to reduce the peak intensity of onsite works.	To be confirmed in the detailed CEMP(s)
Disruption to local residents, businesses and community facilities.	An Outline Skills, Supply Chain and Employment Plan **[APP-552]** 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. The potential to locate temporary workers in either private rental accommodation or in temporary serviced accommodation to moderate the level of demand for temporary accommodation will be considered to mitigate impacts on accommodation demand for both residents, and visitors and tourists, especially during periods of peak visitor demand.	To be confirmed in the detailed CEMP(s)

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Additional demand for housing	Support for construction workers to find suitable private rental accommodation, or hotels or other serviced accommodation, in locations where impact upon existing residents and visitors can be minimised.	
Visual impact on tourism and recreation facilities	Measures to mitigate visual impacts from onsite construction, replacement, and decommissioning operations, lighting, and the location of construction/replacement/decommissioning equipment and onsite works compounds and laydown areas, to reduce visual impacts on tourism and recreation facilities.	
Disruption to users of Public Rights of Way	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 and Permissive Paths Management Plan Revision A **[EX1/GH7.10_A]** is submitted with the application.	To be confirmed in the detailed CEMP(s)
Disruption to users or diversion of the International Waendel Walk	Permissive access through Field FF19 for the use of the International Waendel Walk Weekend event will be available during construction, and the Site will be made secure during the event. This route is demarcated by the light purple dashed line on ES Figure 4.18: Landscape and Ecology Mitigation Plan F – Sheet 2 **[EX1/GH6.4.4.18_A]**. Where the International Waendal Walk interacts with the Scheme on public highways or on PROWs (at Green Hill F, Green Hill BESS, and Mill Lane/BOAT NN|TC|14) these routes will be kept available to walkers through the measures secured in the OCTMP **[EX1/GH7.9_A]** and Outline Public Rights of Way and Permissive Paths Management Plan **[EX1/GH7.10_A]**. If it is considered by the Applicant that access for the International Waendel Walk Weekend event cannot be safely provided in any location the event coincides with the Scheme Order Limits, the Site operators and construction contractors will discuss with Wellingborough Town Council (as the event's organisers) whether feasible alternative arrangements can be made so that the event can continue to be undertaken on an alternative route within the Order Limits. Should an alternative	To be confirmed in the detailed CEMP(s)

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	route outside the Order Limits be required, this will be the responsibility of Wellingborough Town Council to arrange. Access to private land within the Order Limits to be used for permissive access for the International Waendel Walk (such as Field FF19) by Wellingborough Town Council's route organisation team should be arranged by appointment through the Community Liaison Manager or Site Manager. Where event routing arrangements are able to be facilitated within the Order Limits, these should be agreed and secured no later than 31st March of each year during the construction period.	

Table 3.12: Human Health

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Peak impacts on Human Health	Works during the construction phase are phased and staggered across the Site and Cable Corridor to reduce likely significant effects on environmental receptors, to reduce the peak number of construction workers requiring access to local amenities, and to reduce the peak intensity of onsite works.	To be confirmed in the detailed CEMP(s)
Disruption to users of Public Rights of Way	The Scheme design is embedded with offsets and planting buffers from roads, PRoWs, recreation facilities, and neighbouring buildings and land uses to minimise the visual impact of the Scheme on the desirability of these receptors for leisure and play, and local perceptions of community identity.	
Additional demand for primary healthcare resources due to temporary inbound workforce	Support will be provided for the temporary workforce to be directed to primary healthcare facilities with greatest capacity, when required.	To be confirmed in the detailed CEMP(s)

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Community apprehension and anxiety ahead of construction activities	Provision of a dedicated Community Liaison Manager, responsible for managing relationships with community groups, and elected members to ensure community concerns are being addressed and actioned by the construction contractors. This role should also be used as an intermediary between the construction contractors and members of the public for the provision of construction information, availability for consultation on construction activities, and for complaints or compliance issues to be raised.	To be confirmed in the detailed CEMP(s)
Amenity impacts on residential care home at Oakfield, Easton Maudit	Additional offsetting from the property boundary at Oakfield. No heavy machinery or storage of materials within 100 m of the property boundary, and a minimisation of working hours within the 100 m buffer. Prioritisation of landscape screening and planting where within 50 m of the Oakfield property boundary.	To be confirmed in the detailed CEMP(s) Open channel of contact with Oakfield residential care home ahead of and during the construction period.

Table 3.13: Arboriculture

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Tree Removals	Tree removal will be minimized wherever practicable. If unavoidable, preference will be given to removing trees of lower quality and shorter life expectancy, following a specific hierarchy: Category U trees are prioritized for removal first, followed by Categories C, B, and A respectively. Veteran trees will not be removed under any circumstances. Removal of veteran trees and Category A trees along the Cable Route Corridor will be avoided in all circumstances by micro-siting. Trenchless techniques such as Horizontal Directional Drilling (HDD) will be used to avoid veteran trees and Category A trees where micro-siting is not possible.	Ongoing Arboricultural Clerk of Works

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	Tree removals will be marked on-site by the Arboricultural Clerk of Works (ACoW), with final decisions made during detailed site design and cable trench micro-siting. Only qualified arboricultural contractors, in accordance with British Standard 3998:2010, will perform tree work. Construction workers will not perform tree removals unless qualified and specifically instructed. Prior to removal, legal restrictions, such as those protecting nesting birds and roosting bats, will be observed. Where trees are protected by a Tree Preservation Order (TPO), removal will only occur if deemed necessary to prevent obstruction or interference with the Scheme. The ACoW will be consulted to ensure compliance and explore alternatives before proceeding with works on TPO trees. The above measures are included within ES Appendix 19.2 Arboricultural Impact Assessment and Outline Arboricultural Method Statement **[APP-171],** the Contractor is to comply with the measures set out in this document.	
Root loss/damage from excavation or soil compaction within RPAs	Detailed design of the Sites will avoid placing access tracks, Solar PV Panels, Perimeter fencing and BESS infrastructure within the Root Protection Areas (RPAs) and canopy spreads of existing arboricultural features. Construction traffic will not use access tracks within the Veteran Tree/Ancient Woodland Buffer Zones in order to avoid the pruning of veteran trees/trees within ancient woodland to achieve clearance heights for tall vehicles or machinery. Instead, construction traffic will be routed outside of Veteran Tree/Ancient Woodland Buffer Zones.	Ongoing Arboricultural Clerk of Works Monitoring Reports 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
	Any access tracks (for use during operation/decommissioning) situated within Veteran Tree/Ancient Woodland Buffer Zones will be constructed using a 'no-dig' solution and all excavation within Veteran Tree/Ancient Woodland Buffer Zones will be avoided. Tree protection fencing and/or Perimeter Fencing will be installed prior to construction to establish a Construction Exclusion Zone (CEZ) around RPAs. The fencing will consist of wire mesh and wooden posts or other protective fencing as specified by the Outline Arboricultural Method Statement and will prevent entry of machinery, materials, or spoil into the protected areas and be checked by the ACoW prior to construction near trees commencing. Temporary Construction Compounds will be sited outside of the RPAs of adjacent trees and woodlands. In cases where construction activities must occur within RPAs, suitable ground protection will be installed to prevent soil compaction. The type of ground protection will vary based on the weight of traffic and will comply with BS5837:2012 recommendations, ranging from scaffold boards for pedestrian use to reinforced systems for heavy machinery. Micro-siting techniques will be used to minimize root disturbance, with cable routing designed to avoid RPAs of retained trees. If work within RPAs is unavoidable, the ACoW will supervise and guide precautionary measures such as hand digging and root pruning. No work will occur within the RPAs of veteran and Category A trees.	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	HDD (Horizontal Directional Drilling) will be utilized to avoid damaging roots, maintaining a minimum depth of 1m to bypass the majority of roots, which typically exist in the upper 600mm of soil. All HDD machinery will be sited outside the canopies and RPAs of retained trees. Throughout construction, movement of machinery and storage of materials will be managed to prevent encroachment into RPAs. In the event that access is required, temporary ground protection will be employed to safeguard the tree roots. A detailed Arboricultural Method Statement will be produced prior to construction where any work is required within Root Protection Areas or Veteran Tree/Ancient Woodland Buffer Zones of retained trees. The above is a summary taken from: ES Appendix 19.2 Arboricultural Impact Assessment and Outline Arboricultural Method Statement **[APP-171]**	
Tree pruning (for example near Temporary and Permanent Access Points, access tracks and for visibility splays)	Prior to tree pruning, the ACoW will liaise with the construction contractor on the requirements for pruning and the ACoW will provide a specification for the pruning works required which can then be implemented by a suitably qualified, insured and experienced arboricultural contractor working in accordance with British Standard 3998: 2010 'Tree Work – Recommendations'. Temporary Construction Compounds will be sited outside of the canopy spreads of adjacent trees and woodlands. Pruning works to veteran trees will be avoided and pruning will aim to prioritise trees of low quality (BS5837:2012 Category U and C trees) over trees of moderate or high quality	Ongoing Arboricultural Clerk of Works

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	(BS5837:2012 Category A and B trees). No tree works will be undertaken by construction workers unless qualified and instructed to do so. All tree pruning works will have due consideration for ecological mitigation as detailed in Outline Ecological Protection and Mitigation Strategy **[EX1/GH7.5_A]**. The above is a summary taken from: ES Appendix 19.2 Arboricultural Impact Assessment and Outline Arboricultural Method Statement **[APP-171]**.	
Dust/sediment impacts to adjacent woodlands (including ancient woodlands)	Measures to limit the dust generating activities, such as when working in dry conditions. To mitigate the risk of airborne contamination, a dust suppression and management system will be implemented.	No monitoring required.
Damage to canopies/stems from machinery movements	To mitigate damage to tree canopies and stems from machinery, tree pruning will be carefully managed and conducted by qualified arboricultural contractors under the guidance of the Arboricultural Clerk of Works (ACoW). Pruning will prioritize low-quality trees (Category U and C) over higher-quality trees (Category A and B), with veteran trees being preserved wherever practicable. All pruning will comply with British Standard 3998:2010 and take ecological protection into account. Tree protection fencing will be installed around Root Protection Areas (RPAs) before construction begins, creating a Construction Exclusion Zone (CEZ) to prevent machinery from entering protected areas. The fencing will remain in place throughout construction and only be altered under ACoW supervision.	Ongoing Arboricultural Clerk of Works Monitoring Reports 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
	For machinery operating near tree canopies, a banksman will guide operators to avoid contact with branches and stems. In cases where tall machinery is involved, careful manoeuvring will be ensured to prevent accidental damage. If construction activities must take place within RPAs, ground protection will be used to minimize soil compaction, and precautionary working methods such as hand digging will be employed. Horizontal Directional Drilling (HDD) will be used where necessary to avoid disturbing roots, with entry and exit points positioned outside RPAs. The above is a summary taken from: ES Appendix 19.2 Arboricultural Impact Assessment and Outline Arboricultural Method Statement **[APP-171].**	

Table 3.14: Agricultural Circumstances

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Temporary loss of agricultural land. Impacts on soil.	The following measures will be implemented to address impacts on land use and soil: • A record of condition will be carried out (photographic and descriptive) of the working areas that may be affected by the construction activities. This record will be available for comparison following reinstatement after the works have been completed to ensure that the standard of reinstatement at least meets that recorded in the pre-condition survey. • Land used temporarily will be reinstated where practicable to its pre-construction condition and use (or a condition agreed with the landowner). Hedgerows, fences, and walls (including associated earthworks and boundary features) will	Site inspections by a suitably experienced soil scientist to ensure compliance with SMP and identify any emerging issues.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	be reinstated to a similar style and quality to those that were removed, with landowner agreement. • Earthwork mounds and stockpiled soil will be protected (to minimise erosion and dust generation) by covering, seeding, or using water suppression where appropriate (to be determined by the soil types and the likely storage duration. • Soil management measures will include but not be limited to the following: • Details of the soil resources present; • How the topsoil and subsoil will be stripped and stockpiled; • Suitable conditions for when soil handling will be undertaken, for example avoiding handling of waterlogged soil; • Indicative soil storage locations; • How soil stockpiles will be designed taking into consideration site conditions and the nature/composition of the soil; • Specific measures for managing sensitive soils; • Suitable protective surfacing where soil stripping can be avoided, based on sensitivity of the environment and proposed works; • Approach to reinstating soil, including measures to remove compaction, where required; and • Details of measures required for soil restoration. • Existing water supplies for livestock will be identified before construction commences. Where supplies will be lost or access compromised by construction works, temporary alternative supplies will be provided where necessary. Water supplies will be reinstated following construction.	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Consultation with affected landowners will be carried out to investigate the current extent of land drainage. If necessary, pre-construction land drainage will be explored with the intent of maintaining the efficiency of the existing land drainage system and to assist in maintaining the integrity of the working areas during construction. The Scheme may include a system of 'cut-off' drains which feed into a new header drain and the Scheme will also consider surface water runoff measures. • Should animal bones be discovered during construction, which may indicate a potential burial site, works will cease, and advice will be sought from the Animal Health Regional Office on how to proceed, relevant to the origin and age of the materials found. • All movement of plant and vehicles between fields will cease in the event of a notification of a disease outbreak in the vicinity of the Scheme that requires the cessation of activities. Advice will be sought from the relevant authorities to develop suitable working methods required to reduce the biosecurity risk associated with the continuation of works. • Where deemed necessary, clay bungs or other vertical barriers will be constructed within trench excavations by a suitably experienced person, to prevent the creation of preferential drainage pathways. • Cables will be laid to a depth of at least 1.2m within farmland, unless ground conditions render this impracticable, to ensure no interference with agricultural use. 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;	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• Where manhole covers are required, every effort will be made to place them within field margins where reasonably practicable to do so or in other technically suitable locations in consultation with the landowner. If it is not practicable to place the manhole covers in field margins, the area would be clearly fenced or otherwise demarcated to ensure farmers can avoid the manhole covers during normal agricultural operations; and • 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 detailed CEMP(s). 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.	

Table 3.15: Electromagnetic Fields

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Potential for risks to human health associated with electromagnetic fields.	A minimum setback distance of 5m should be implemented between receptors and live electrical cables during construction activities (if necessary). Underground cables should be buried before they are made live. All proposed cables and associated electrical infrastructure will be 'UKCA' and/or 'CE' marked. Electrical fields from the underground power cables will be shielded by the surrounding cable duct and the conducting soil. Electrical equipment and infrastructure proposed as part of the scheme will be maintained in accordance with manufacturer guidelines.	The Environmental Manager will regularly record compliance in a logbook.

Table 3.16: Ground Conditions and Contamination

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. Good practice avoidance and mitigation measures proposed include: • Site workers will be made aware of the possibility of encountering localised contamination through toolbox talks. Good standards of personal hygiene, welfare facilities on-site and the use of appropriate levels of personal protective equipment (PPE), will be enforced. All personnel will be educated about the potential environmental impacts of their activities, ensuring that all workers are fully aware of the risks and the necessary precautions to take to minimise pollution. Mitigation measure applies to the entirety of the site. • Workers will adhere to health, safety and environmental precautions to reduce the potential for accidents and incidents. Mitigation measure applies to the entirety of the site. • A detailed Battery Safety Management Plan (BSSMP) will be implemented throughout the scheme to ensure the safe design, production, use, transportation, storage, and disposal of batteries. This approach will minimise risks associated with batteries while ensuring compliance with relevant standards. • Horizontal directional drilling (HDD) techniques will be used to avoid and reduce adverse effects for the construction and placement of the cable route beneath the River Nene. This technique is preferred as it	The Environmental Manager will regularly record compliance in a log book. The detailed CEMP(s) will detail the frequency.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	minimises disruption to the watercourse by avoiding open trenching, thereby reducing sediment displacement. • Site clearance to be undertaken prior to development within Green Hill G, to remove any identified munitions across the site area. The use of concrete feet within the high-risk zone, will eliminate the need for deep, blind intrusions such as percussive piling or borehole drilling. The establishment of a UXO Risk Management Plan, conducting site-specific UXO awareness briefings, and ensuring the presence of a UXO specialist ('Watching Brief' supervision) during any excavations within the high-risk area will also be included. • Alluvium and Made Ground deposits are considered to be too variable and compressible in their existing condition for conventional shallow foundations at the Site. Floor loads to be transferred to ground improved soils or to piles through concrete ground beams/concrete frame or otherwise suspended. • The proposed Cable Route Corridor has been mapped to potentially intersect the landfill area associated with Barton Plant Ltd. Where practicable, cables will be routed and installed to avoid both the landfill and any remaining permitted mineral reserves identified within Chapter 11 'Minerals'. If landfill is encountered within any area of the site, the contractor must comply with all relevant Waste Management Regulations and any existing permits related to the site. • A spill response plan will be implemented during the HDD process to manage drilling fluids and fuels, with closed-loop drilling systems in place to minimise the risk of fluid escape. As stated above, all fuels on	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	site will be securely stored within a contained, bunded system to prevent potential leakages. • A 'Discovery Strategy' protocol shall be implemented site-wide during construction. The possibility of encountering contamination in the form of suspected landfill materials has been identified within the vicinity of Sywell Range (Cable Route Corridor), Earls Barton Quarry (Green Hill BESS), Barton Plant Ltd/Mears Ashby Road (Green Hill E) and Barton Plant Limited/OS Fields (Green Hill F). Upon encountering any suspected contamination across the site, the procedure will include, but not be limited to, stopping works in the area and ensuring the identified materials / residual contamination does not pose any further risk until an environmental specialist undertakes an assessment. The assessment would include, but not be limited to, lateral and vertical extent of suspected contamination, sampling and testing (if required) and the most appropriate action to deal with the contamination. This may include, but not be limited to, removal of the hotspot, on-site treatment and/or groundwater monitoring. The Local Planning Authority and Environment Agency will be notified of any discovered suspected contamination, if it affects receptors within their remit. • To mitigate the risk of airborne contamination, a dust suppression and management system will be implemented where required, across the site. This system will control dust emissions during construction activities, preventing them from migrating off-site and impacting neighbouring environments. Methods include washing down of vehicle's wheels and dampening down materials. • Topsoil displaced within the construction of the cable route, should be appropriately stored and reused. Temporary stockpiles and/or excavated topsoil from the cable route is to be stored away from any Flood-Zone 3 areas where practicable. Site compounds and stockpiles	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	will be located as far as possible (ideally at least 30 m) away from receptors. • Bulk fuels or chemicals used site-wide during the construction phases should be stored appropriately, within an impervious bund of 110% of the volume of the container to reduce the potential for impact to the environment in the event of a container failure/leak of battery chemicals during a fire and/or associated fire suppressant foam and waters. Any spillages will be promptly addressed by appropriate measures, such as spill kits, and an Emergency Spillage Plan will be developed. The contractor will ensure immediate notification of the Environment Agency in the event of any suspected pollution incidents, facilitating response measures. • All equipment and vehicles used site-wide, will be regularly maintained and inspected to prevent leaks, with refuelling activities occurring on impermeable surfaces. Biodegradable hydraulic oils will be prioritised for use in any identified sensitive areas. • To prevent pollution from accidental leaks or spills of construction materials, the contractor will implement robust pollution prevention plans adhering to established guidelines, such as the Guidance for Pollution Prevention (GPP). Drainage systems, including Sustainable Drainage Systems (SuDS), will be developed in line with hydrology requirements. • Any radon protection measures installed will need to be in accordance with BRE Report BR211 (2023) Radon: Protective measures for new buildings and as required by Building Regulations. Only a limited portion of the site is impacted by elevated radon levels. Where enclosed spaces are located within areas above the 10-<30% action level, radon protection measures may be deemed necessary. Their	

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	implementation will effectively mitigate the potential risks associated with elevated radon.	

Table 3.17: Major Accidents and Disasters

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Major Accident and Disasters	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 **[APP-551]** 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 other tables in this document relating to Hydrology, Flood Risk and Drainage; Transport and Access; Ground Conditions, Human Health and Other Environmental Matters (Utilities).	No monitoring required.

Table 3.18: Other Environmental Matters

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
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	The types, quantities and final destination of waste generated during the construction phase would be

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
Impacts of waste to the surrounding environment. Potential to impact on sensitive receptors (humans, wildlife, and controlled waters) if not stored and managed appropriately. Impacts on waste recycling and handling facility capacity.	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) will be prepared by the appointed contractor, outlining the strategic approach to planning, coordinating, and managing the labour, materials and equipment; • A detailed SWMP will be prepared before commencement of construction and will be implemented by the contractor, once appointed. • All waste transported off site will be delivered to the appropriately licenced receivers of such materials; and • As part of the SWMP, 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;	identified, measured and recorded through the SWMP. 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 reporting of waste types, quantities and management methods.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• 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 as they can be reused on other construction projects.	
Utilities, Telecommunications and Television Receptors	The following embedded mitigation measures have been incorporated into the Scheme design to identify and manage utilities interactions. These include precautionary measures, comprising: • Locating the Scheme outside of utilities' protected zones, where practicable; • Above-ground infrastructure located with adequate offsets from existing telecommunications and utility infrastructure; • The use of ground penetrating radar before excavation to identify any unknown utilities; • Infrastructure that crosses the Scheme will be mapped and avoided through the design where practicable; and	No monitoring required.

Potential Impact	Mitigation/Enhancement Measure	Monitoring Requirements
	• 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).	

References

Ref 1 Planning Act 2008, 2008 c.29. *(as amended).*

Ref 2 Control of Pollution Act 1974, 1974 c.40. *(as amended).*

Ref 3 Department for Environment, Food & Rural Affairs, 2011. Waste Hierarchy Guidance. Available at: https://assets.publishing.service.gov.uk/media/5a795abde5274a2acd18c223/pb13530-waste-hierarchy-guidance.pdf.

Ref 4 Waste (England and Wales) Regulations 2011, SI 2011/988. Available at: https://www.legislation.gov.uk/uksi/2011/988/contents.

Ref 5 Hazardous Waste (England and Wales) Regulations 2005 (amended 2006), SI 2005/894. Available at: https://www.legislation.gov.uk/uksi/2005/894/contents.

Ref 6 The British Standards Institution (2014). BS 5228-1:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise.

Ref 7 The British Standards Institution (2014). BS 5228-2:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration.

Ref 8 Considerate Constructors Scheme (2022). Code of Considerate Practice. Considerate Constructors Scheme. Available at www.considerateconstructors.com/resources/the-code-of-considerate-practice/.

Ref 9 Guidance for Pollution Prevention 2: Above ground oil storage tanks.

Ref 10 Guidance for Pollution Prevention 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer.

Ref 11 Guidance for Pollution Prevention 5: Works and maintenance in or near water.

Ref 12 Guidance for Pollution Prevention 8: Safe storage and disposal of used oils.

Ref 13 Guidance for Pollution Prevention 13: Vehicle washing and cleaning.

Ref 14 Guidance for Pollution Prevention 19: Vehicles: service and repair.

Ref 15 Guidance for Pollution Prevention 20: Dewatering underground ducts and chambers.

Ref 16 Guidance for Pollution Prevention 21: Pollution incidence response planning.

Ref 17 Guidance for Pollution Prevention 22: Dealing with spills.

Ref 18 Guidance for Pollution Prevention 26: Safe storage – drums and intermediate bulk containers.

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