Fosse Green Energy

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EN010154

6.5 Environmental Statement

Environmental Commitments Register

VOLUME

6

Planning Act 2008 (as amended)

Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)

18 July 2025

Planning Act 2008

The Infrastructure Planning
(Applications: Prescribed Forms and
Procedure) Regulation 2009 (as amended)

Fosse Green Energy

Development Consent Order 202[ ]

6.5 Environmental Statement

Environmental Commitments Register

Regulation Reference	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	EN010154
Application Document Reference	EN010154/APP/6.5
Author	Fosse Green Energy Limited

Version	Date	Issue Purpose
Rev 1	18 July 2025	DCO Submission

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1. Environmental Commitments Register

1.1 Introduction and Register

1.1.1 **Table 1** lists the environmental mitigation measures to be adopted and commitments made for the construction, operation and maintenance, and decommissioning phases of Fosse Green Energy (hereafter referred to as 'the Proposed Development') and identifies how these measures are secured.

Table 1: Environmental Commitment Register

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Climate Change	Air Quality Traffic and Transport Materials and Waste	Measures to reduce GHG emissions will be implemented, as set out in the **Framework Construction Environmental Management Plan (CEMP) [EN010154/APP/7.7], Framework Operational Environmental Management Plan (OEMP) [EN010154/APP/7.8]** and **Framework Decommissioning Environmental Management Plan (DEMP) [EN010154/APP/7.9]**, including: a. Increasing recyclability by segregating waste to be re-used and recycled where reasonably practicable; b. Designing, constructing, and implementing the Proposed Development 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; c. Reusing suitable infrastructure and resources where possible to minimise the use of natural resources and unnecessary materials (e.g. reusing excavated soil for fill requirements); d. Liaising with personnel for the potential to implement staff minibuses and car sharing options; e. Implementing a Travel Plan in accordance with the **Framework Construction Traffic Management Plan (CTMP) [EN010154/APP/7.18]** to reduce the volume of construction staff and employee trips to the Proposed Development, while encouraging the use of lower	Construction, Operation and Decommissioning	**Framework CEMP [EN010154/APP/7.7]**, ID ref. CC-C1 – secured under Requirement 9: Construction environmental management plan **Framework CTMP [EN010154/APP/7.18]** secured under Requirement 14: Construction traffic management plan **Framework OEMP [EN010154/APP/7.8]** ID ref. CC-O1 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		carbon modes of transport by identifying and communicating local bus connections and pedestrian/cycle access routes to/ from the Proposed Development to all construction/decommissioning staff, and providing appropriate facilities for the safe storage of bicycles; f. Switching vehicles and plant off when not in use and ensuring vehicles conform to current EU emissions standards; g. Embedding resilience to projected increases in temperature by selecting inverters and BESS with an adequate cooling system installed to control the temperature and continue to operate efficiently in warmer conditions; and h. Conducting regular planned maintenance of the construction/decommissioning plant and machinery, and the Proposed Development, to optimise efficiency.		**Framework DEMP [EN010154/APP/7.7]**, ID ref. CC-D1 – secured under Requirement 20: Decommissioning
Climate Change	Flood Risk	Measures will be implemented, aiming to prevent an increase in flood risk during the construction and decommissioning works (and which will be relevant to operation), as set out in the **Framework CEMP [EN010154/APP/7.7], Framework OEMP [EN010154/APP/7.8]** and **Framework DEMP [EN010154/APP/7.9]**. Measures include: a. Storing topsoil and other construction materials outside of the 1 in 100-year floodplain extent where feasible. If areas located within Flood Zone 2 (or 3) are to be utilised for the storage of construction materials, this would be	Construction, Operation and Decommissioning	**Framework CEMP [EN010154/APP/7.7]**, ID ref. CC-C2 and CC-C3 – secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		done in accordance with the applicable flood risk activity regulations, if required; b. Conducting regular planned maintenance of the plant and machinery; c. Appointing named person(s) to monitor weather forecasts on a monthly, weekly and daily basis, and plan works accordingly. Works in the channel of any watercourse will be avoided or halted were there to be a significant risk of high flows or flooding; d. The construction laydown area site office and supervisor will be notified of any potential flood occurring by use of the Floodline Warnings Direct or equivalent service; e. The construction laydown area site office and supervisor will be notified of any potential flood occurring by use of the Flood line Warnings Direct or equivalent service; f. Connectivity will be maintained between the floodplain and the adjacent watercourses, with no changes in ground levels within the floodplain as far as practicable; and g. Developing health and safety plans for construction activities to account for potential climate change impacts on workers, such as flooding and heatwaves. To include measures such as toolbox talks on training on dangers of extreme weather conditions. To manage flood risk during construction and operation, the **Framework Surface Water Drainage Strategy** (presented in **Appendix 9-D** of the ES **[EN010154/APP/6.3]**) provides for the		Requirement 10: Surface and foul water drainage Design Parameters secured by Requirement 6: Detailed design approval **Framework OEMP [EN010154/APP/7.8]** ID ref. CC-O2 and CC-03 – secured under Requirement 13: Operational environmental management plan **Framework DEMP [EN010154/APP/7.7]**, ID ref. CC-D2 and CC-D3 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		attenuation of surface water runoff from the Proposed Development. The following measures have been developed, as set out in the **Framework CEMP [EN010154/APP/7.7], Framework OEMP [EN010154/APP/7.8]** and **Framework DEMP [EN010154/APP/7.9]**, to further minimise flood risk to the DCO Site and surrounding areas: a. All temporary construction compounds will be located outside of areas of fluvial Flood Zone 2 and 3; and b. Additional attenuation in the form of Sustainable Drainage Systems (SuDS) will be incorporated to control any increase in the rate of flow towards receiving watercourses including allowances for climate change. Infrastructure flood resilience methods have been set, including the requirement for Solar PV Panels to be set back by 10m from all water features. Within the design of the Proposed Development, above ground solar development is restricted for Flood Zone 3, as set out in the Design Commitments (**Design Approach Document, Appendix A - Design Commitments [EN010154/APP/7.3]**). The detailed design of the Proposed Development will incorporate climate change projections required by the Environment Agency to ensure flood risk from all sources, including a sea level rise assessment, is accounted for and managed across the lifetime of the Proposed Development so it will remain operational in times of flood.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Climate Change		Measures to maximise the climate change resilience of the Proposed Development will be implemented in accordance with the **Framework Landscape and Ecological Management Plan (LEMP) [EN010154/APP/7.15]** and **Framework CEMP [EN010154/APP/7.7]**. These measures include: a. Consideration of future climate conditions when selecting planting species for use in green infrastructure. b. Protecting against increased soil erosion and degradation due to increased precipitation by covering exposed soil with grass, reducing permeability	Construction	**Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan **Framework CEMP [EN010154/APP/7.7]**, ID ref. CC-C3 – secured under Requirement 12: Construction environmental management plan
Climate Change	Water Environment	With regards to controls to mitigate identified climate risks (as per **Appendix 6-B: Climate Change Risk Assessment** [EN010154/APP/6.3]: a. Drainage arrangements are implemented to attenuate surface water runoff and ensure no increase in flood risk to the Proposed Development location and surrounding areas. b. Weather forecasts will be monitored so any expected periods of heavy rainfall are prepared for in advance,	Construction, Operation and Decommissioning	**Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan **Framework CEMP [EN010154/APP/7.7]**,

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		and measures can be in place to minimise disruption to the DCO Site. c. Rainwater harvesting is to be implemented on site to capture potential run off. d. Suitable storage for loose materials, such as soil, to protect from high rainfall events during operation. e. Raising of critical infrastructure to be above high flood risk areas. f. During periods of maintenance works, contractors will monitor weather forecasts and sign up to receive the Environment Agency's flood alerts and plan works accordingly with internal methodologies to manage workers and resources in extreme weather conditions such as storms, flooding. g. The Proposed Development is designed with components that can withstand dry periods, and the landscape will be managed by controls within the Framework LEMP. h. Regular maintenance activities carried out by a contractor will provide the opportunity to monitor asset performance and condition. Key sections of electrical equipment will be monitored for signs of damage from exposure to extreme heat. i. BESS Units with adequate cooling systems installed to control the temperature and continue to operate efficiently in warmer conditions selection. j. Through monitoring the weather forecast maintenance and operational tasks that would be exposed to the hot		ID ref. CC-C3 – secured under Requirement 12: Construction environmental management plan **Framework OEMP [EN010154/APP/7.8]** ID ref. CC-03 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		temperatures can be scheduled or moved to a time period or future date where temperatures will not be as hot. k. Ensure all outdoor workers have access to indoor facilities, air conditioning, breaks in shaded areas and water breaks. Outdoor workers will have access to adequate PPE. l. Cease outdoor and non essential work if working conditions are too dangerous, and could result in injury to workers. m. Materials with superior properties for withstanding periods of less rain will be selected. n. Infrastructure is designed to tolerate hot conditions. Equipment fitted with cooling systems where necessary, such as air conditioning units. BESS units with cooling properties to be selected. o. Weather forecasts will be monitored so any expected extreme temperatures are prepared for in advance and contingency measures can be in place to minimise disruption to operations. p. Keep stored materials away from areas of the Proposed Development with potential flood risk.		
Cultural Heritage		Good practice measures regarding the protection of buried archaeological remains during construction are detailed within the **Framework CEMP [EN010154/APP/7.7]**, including: a. Existing hedgerows and woodland will be retained wherever possible;	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. CH-C1 - secured under Requirement 12:

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		b. Exclusion of areas of complex archaeological remains from development where feasible; c. Use of horizontal directional drilling (HDD); d. Use of low level piling and avoidance of archaeology from key areas of impact within Solar PV Areas (such as Solar stations or access tracks); e. Additional areas where preservation in situ is the preferred strategy will be informed through the ongoing and planned evaluation. These could include small exclusion zones (around remains of particular significance) or no-dig solutions such as ballast footings (to be discussed with the archaeological advisor) to avoid piling completely, or areas where cabling is excluded (to reduce any impacts to the low level piling only). When the detailed design determines that 'no-dig' solutions are not viable or warranted, small-scale and localised archaeological excavations will take place, to record the expected buried remains in advance of construction. These locations are more likely to be those where comprehensive ground disturbance from construction is anticipated (BESS, Onsite Substation, Solar Stations, trenching associated with cabling) and where there is less flexibility in the design (regarding the specific location of the works or the required construction methods). Where exclusion zones or non-intrusive methods are required, the detailed CEMP(s) will include a strategy which will detail		Construction environmental management plan Design Parameters secured by Requirement 6: Detailed design approval Requirement 11: Archaeology

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		appropriate good practice measures during construction (such as use of appropriate equipment or limiting avoiding heavy plant movements during inclement weather on sensitive areas to avoid damage to below ground remains etc.) and ways of monitoring of this. The detailed CEMP(s) will include an action plan detailing the required mitigation in the event that unplanned activities threaten the preservation of known buried archaeological remains. Where impacts to below ground archaeological remains as a result of the Proposed Development cannot be avoided, an appropriate programme of archaeological investigation and recording will be undertaken, with the objective of advancing the understanding of the significance of archaeological remains within the DCO Site that may be disturbed or either wholly or partially lost. The fieldwork will be undertaken prior to the commencement of construction works but may also include monitoring and recording works during construction. The detailed CEMP(s) will reflect mitigation required during construction which will be set out in the WSI and include measures such as ensuring monitoring is in place where required. All archaeological work will be undertaken in line with the Framework WSI (secured by requirements of the DCO). Site specific Written Schemes of Investigation (WSI) will be submitted and agreed with the local authority.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Cultural Heritage	Landscape and Visual	Direct impacts to designated heritage assets are not anticipated during construction. Temporary impacts on the setting of heritage assets will be minimised by the retention of the existing hedgerows and woodland (where possible) and provision of landscape screening as set out in the **Framework LEMP [EN010154/APP/7.15]**. New tree and hedgerow planting will also be designed where feasible to follow historic field boundaries in order to preserve the extant field system and minimise the effect of the Proposed Development on historic landscape features. With regards to any localised removal of Important Historic Hedgerows (as per the **Hedgerow Plan [EN010154/APP/2.9]** and **Appendix 7-E: Historic Landscape Character Assessment [EN010154/APP/6.3]**) to facilitate construction, where hedge removal is required for visibility splays only, where practical they will be trimmed down to a height to be agreed with County Highways, most likely 0.9m, so that it is not removed altogether and can regrow after construction.	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. CH-C2 - secured under Requirement 12: Construction environmental management plan **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan
Cultural Heritage	Landscape and Visual	It is anticipated that replacement equipment (BESS, substation, Solar Stations) would not necessitate additional below ground impacts (as existing concrete base foundations would be reused) and no impacts are anticipated. Replacement piles (if not placed in the exact same location) could potentially result in localised additional impacts to archaeological remains.	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. CH-O1 and CH-O2 – secured under Requirement 13: Operational

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		The detailed OEMP(s) will include an action plan detailing the required mitigation in the event that unforeseen activities associated with maintenance and replacement of components, including potential for replacement piles in different location, threaten the preservation of known buried archaeological remains. If potential for archaeological impacts is identified, appropriate mitigation measures would be agreed with the local authority. For heritage assets in the surroundings of the Principal Site, appropriate screening through new and enhanced planting has been developed and will be implemented to minimise the visual intrusion of the Proposed Development. Additionally, the chosen colour palette for above-ground components of the Proposed Development will reflect the prevailing landscape, minimising the visual impact. Details of planting management and management of existing and new habitats during operation of the Proposed Development are provided in the **Framework LEMP [EN010154/APP/7.15]**. This will be updated prior to operation to produce the detailed LEMP, which will be followed and referred to during operation of the Proposed Development to ensure suitable management of the vegetation planting to achieve the objectives for which the planting design is intended (i.e. screening of views, landscape enhancement, mitigation for impacts on built heritage, and ecological habitat improvements).		environmental management plan **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Cultural Heritage	Landscape and Visual	The decommissioning phase is not expected to result in any impact beyond the already-disturbed footprint of the Proposed Development. Therefore, it is not anticipated that decommissioning activities will have a direct physical impact upon buried archaeological remains Direct impacts to designated heritage assets are not anticipated during decommissioning. Temporary impacts on the setting of heritage assets will be minimised by the retention of landscape screening implemented during construction and maintained during operation in accordance with the **Framework LEMP** submitted alongside this DCO application **[EN010154/APP/7.15]**.	Decommissioning	**Framework DEMP [EN010154/APP/7.7]**, ID ref. CH-D1 and CH-D2 – secured under Requirement 20: Decommissioning **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan
Cultural Heritage		The Proposed Development will be contained by and large within the existing field boundaries and thus the majority of the hedgerows and tree-lines defining historic field boundaries (including 'important' hedgerows), and the extant field system, will be preserved. Enhancement of some of the historic field boundaries (including new tree and hedgerow planting designed, where feasible, to following historic field boundaries) is also incorporated. The exceptions to this will only be discrete areas where small sections of hedgerow will be removed for temporary or permanent access, or for cable routing. Retention and management of these features, as detailed in the	Operation	**Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan

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		Framework LEMP [EN010154/APP/7.15], would serve to minimise the effect of the Proposed Development upon historic landscape features within the DCO Site.		
Ecology and Nature Conservation	Air Quality Water Environment Arboriculture	The **Framework CEMP [EN010154/APP/7.7]** outlines the standard embedded good practice measures that will be implemented during construction of the Proposed Development, such as dust suppression and pollution prevention. Accordingly, the **Framework CEMP [EN010154/APP/7.7]** details the measures required that will mitigate construction related effects on habitats (and species using them), including those associated with dust deposition, changes in air pollution and air quality and lighting. Furthermore, the **Framework CEMP [EN010154/APP/7.7]** specifies requirements for the safe storage of chemicals / other hazardous materials (e.g. fuel), to prevent them reaching standing and running waters through flood events during construction and to prevent the runoff of sediment and pollutants to standing water (and Swamp). Additionally, to minimise impacts to Local Wildlife Sites (LWS) habitats and species, the **Framework CEMP [EN010154/APP/7.7]** includes the following measures: a. A security perimeter fence will be implemented early in the construction phase to secure the Principal Site and prevent construction activity from intruding into LWS, the riparian habitats of running water (a minimum 10m from the bank-top of the watercourse), and other important habitats. The fence design will include gaps to allow mammals, including small deer, Badger, Brown Hare,	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C1 - secured under Requirement 12: Construction environmental management plan Requirement 9: Fencing and other means of enclosure Design Parameters secured by Requirement 6: Detailed design approval

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		Otter and Hedgehog, to pass underneath at strategic locations to maintain ecological connectivity. The final locations of these mammal passes will be determined following pre-commencement surveys. b. Any access that is required for construction will utilise existing access points where possible, such as those already used by agricultural machinery. Vegetation clearance in these areas will also be minimised as much as is practicable. There will be no access over the River Witham or River Brant. c. Vehicles/plant will be cleaned away from the water in dedicated vehicle washing areas to prevent potential pollutants entering the DCO Site (and in particular any LWS). Wheel washes will reduce the trafficking of soil onto adjacent highways, with prompt clearance as a remedial action; d. The control of the spread of dust and sediment through fine water spraying of vehicle routes; e. On-site plant will be regularly serviced, monitored and inspected for leaks to prevent construction spillages and to ensure pollutants do not enter any waterways/spill onto adjacent habitats. Plant and machinery will be refuelled in dedicated refuelling areas, with drip-trays used routinely and spill kits available; and f. Measures to reduce vehicle and mechanical plant noise (as required based on existing noise levels), including plant and machinery to be turned off when not in use.		

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		g. Post-construction habitat reinstatement (where relevant) will be undertaken soon after construction. This will comprise removing the soil and storing this, before re-instating this on completion of the cabling works, with re-seeding using locally sourced seed where practicable (potentially collected from other nearby higher quality calcareous grassland). h. The laying of cabling will be undertaken using non-intrusive methods, with launch and exit pits outside of the River Witham, Aubourn to Beckingham LWS (and the Coastal and Floodplain Grazing Marsh, HaPI) to protect habitats. This will mitigate for potential hazards such as chemical and soil spills, thus avoiding potential direct impacts to the LWS. i. Should the detailed design route any cables through trees or woodland that are being retained, they will installed via HDD at least 2m beneath the ground surface in order to protect the tree roots. j. Any lighting used during construction, particularly in winter months when daylight hours are shorter, has the potential to spill into adjacent habitats which may impact habitats and disrupt species' movements. Any lighting that is required for the construction of the Proposed Development will have a power output of 8kVA and will be directed away from existing retained and sensitive habitats to minimise light disturbance. Task-specific lighting will be tower-mounted and designed to be downward directional, only being used for the duration		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		of the task. All temporary lighting will need to satisfy health and safety requirements, as well as minimising potential effects on the surrounding areas by minimising sky glow, glare, and light spillage. k. With regards to any localised removal of Ecological Important Hedgerows (as per the **Hedgerow Plan [EN010154/APP/2.9]** and **Appendix 8-B: Terrestrial Habitats and Notable Flora** of this ES **[EN010154/APP/6.3]**) to facilitate construction, where hedge removal is required for visibility splays only, where practical they will be trimmed down to a height to be agreed with County Highways, most likely 0.9m, so that it is not removed altogether and can regrow after construction. l. Construction compounds will be setback from any LWS that is adjacent to the DCO Site, with set-backs applicable to habitats within LWS, e.g. 15m set-back from woodland habitats (Tunman Wood LWS (including Stocking Wood) and Tunman Wood North LWS) and a 10m set-back from Navenby Heath Road Verges LWS, and setback from important habitats such as hedgerow and scrub. Woodland and retained trees will be protected, in line with British Standard Recommendations (Ref 1) with undeveloped buffers of at least 15m from the boundary of woodlands and buffers concordant with the requirements for each individual tree, (based on their root protection areas), both within and outside the DCO Site. These areas		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		will be protected by clearly defined root protection areas to prevent damage/compaction of roots by plant and other machinery and prevent direct or indirect impacts to trees. Within some of these buffers, natural regeneration of woodland will create additional scrub and woodland habitat.		
Ecology and Nature Conservation	Traffic and Transport Noise and Vibration	No routes for construction traffic will pass within 200m of the Swanholme Lakes Site of Special Scientific Interest (SSSI), thus avoiding any potential degradation to sensitive habitats from vehicle pollutants, as set out within the **Framework CTMP [EN010154/APP/7.18]**. The following pollution prevention measures will also be implemented, as included in the **Framework CEMP [EN010154/APP/7.7]**: a. Vehicles/plant will be cleaned away from the water in dedicated vehicle washing areas to prevent potential pollutants entering the DCO Site (and in particular any LWS). Wheel washes will reduce the trafficking of soil onto adjacent highways, with prompt clearance as a remedial action; b. The control of the spread of dust and sediment through fine water spraying of vehicle routes; c. On-site plant will be regularly serviced, monitored and inspected for leaks to prevent construction spillages and to ensure pollutants do not enter any waterways/spill onto adjacent habitats. Plant and machinery will be	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C1- secured under Requirement 12: Construction environmental management plan **Framework CTMP [EN010154/APP/7.18]** secured under Requirement 14: Construction traffic management plan

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		refuelled in dedicated refuelling areas, with drip-trays used routinely and spill kits available; and d. Measures to reduce vehicle and mechanical plant noise (as required based on existing noise levels), including plant and machinery to be turned off when not in use.		
Ecology and Nature Conservation		The River Witham will be crossed using trenchless methods (e.g. Horizontal Directional Drilling (HDD)), which includes launch and exit pits outside of the River Witham, Aubourn to Beckingham LWS, and at least 10m distance from the top of the watercourses to protect the riparian habitats within the LWS, where the Interconnecting Cable Corridor is proposed. Furthermore, there will be no access across the River Witham during construction and no access tracks proposed and no construction compounds within the vicinity of the LWS. Construction of the Interconnecting Cable Corridor within 100m of the River Witham will only be undertaken during daylight hours and will avoid two hours after sunrise and two hours before sunset, reduced to one hour between November and February (inclusive) because of the limited daylight hours. This will prevent disturbance to any Otter that may be using the River Witham. The section of the LWS adjacent to the southern end of the Principal Site will also be suitably buffered with undeveloped areas of at least 10m from the bank-top of the River Witham to	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C2 and ECO-C8- secured under Requirement 12: Construction environmental management plan Design Parameters secured by Requirement 6: Detailed design approval

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		protect riparian habitats and any species that may use it (e.g. riparian mammals).		
Ecology and Nature Conservation		In line with **Figure 7.15-1: Landscape Mitigation Plan** (presented within the **Framework LEMP [EN010154/APP/7.15]**), the Proposed Development design includes undeveloped areas of at least 15m between woodlands, and appropriate buffers between veteran or ancient trees (based on tree root protection areas) and the Proposed Development, thereby avoiding any direct impact on these habitat types.	Construction and Operation	**Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan Design Parameters secured by Requirement 6: Detailed design approval
Ecology and Nature Conservation	Water Environment	The Proposed Development design ensures wetland habitats (and the swamp habitat that is within it) are outside of the developable areas. Therefore, this habitat will be retained and measures taken to avoid direct or indirect impacts to this habitat. As secured in the **Framework CEMP [EN010154/APP/7.7]**, the Proposed Development design includes undeveloped areas of at least 20m between standing water and the Proposed Development. Standard environmental protection measures will also prevent the runoff of sediment and pollutants to standing water, as set out in the **Framework CEMP**.	Construction and Operation	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C1 and ECO-C2- secured under Requirement 12: Construction environmental management plan Design Parameters secured by Requirement 6:

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Where possible, surface water will drain from the Proposed Development's SuDS based drainage system to local receiving watercourses via a new ditch, as this avoids the need to construct an engineered outfall. However, if engineered outfalls are required, the location, position and orientation of them will be carefully designed to minimise any adverse impacts on aquatic habitats.		Detailed design approval Requirement 10: Surface and foul water drainage **Framework OEMP [EN010154/APP/7.8]** ID ref. ECO-O4 – secured under Requirement 13: Operational environmental management plan
Ecology and Nature Conservation		The Proposed Development design ensures running water habitats are outside of the developable areas as much as is practicable, with Main Rivers such as the River Witham and River Brant avoided completely. To protect the riparian habitats associated with running water, the Proposed Development design includes undeveloped areas of at least 10m from the bank-top of any watercourse (extended to a minimum of 100m from the River Witham where the Interconnecting Cable Corridor is proposed and in recognition of the presence of Otter).	Operation	Design Parameters secured by Requirement 6: Detailed design approval

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Ecology and Nature Conservation	Electromagnetic Fields Water Environment	All cables will be installed at a minimum of 2m below minor/ordinary watercourses (except where minor/ordinary watercourses have minimal or no water flow and water management is easily managed), excluding the River Witham and River Brant where cables will be installed by trenchless methods (e.g. HDD) at a minimum of 5m below the bed to prevent disturbance to fish species using running water habitats. The combination of sealed cabling and buried depth of at least 5m below the bed of the River Witham and River Brant is adequate to mitigate any potential impact of Electromagnetic Fields (EMFs) on fish transiting along these rivers. Launch and exit pits will be located outside of Main Rivers (River Witham and River Brant).	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C2 and WAT-C6 - secured under Requirement 12: Construction environmental management plan Design Parameters secured by Requirement 6: Detailed design approval
Ecology and Nature Conservation		The Proposed Development has been designed to retain and avoid development within arable field margins where feasible, but the majority of this habitat will be lost. This habitat is readily re-created through management such as annual cultivation and arable fields with pollen and nectar and, or, wild bird mix. New areas of equivalent or higher value grassland habitat are also proposed, as presented in the **Framework LEMP [EN010154/APP/7.15]**. Retained arable field margins will be managed through annual cultivation to provide suitable conditions for arable flora to grow. Retained arable field margins present within the DCO Site will be protected during construction, as the setbacks from watercourses (10m undeveloped area) and boundary habitats (such as 5m from hedgerows) will likely overlap with and include arable field	Construction and Operation	**Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan **Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C1- secured under Requirement 12:

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		margins. Specific mitigation for the scarce arable flora species in the fields of national and county importance will be provided as presented in the **Framework LEMP [EN010154/APP/7.15]**. Accessible arable field margins within the DCO Site will be cultivated annually (outside the nesting bird season) to provide suitable conditions for germination. Prior to construction scarce arable flora seed from fields AF17, AF29 and AF72 (see **Figure 8-B-1: Hedgerow and notable flora** of the ES **[EN010106/APP/6.3]**) would be harvested by hand and seeded in cultivated field margins within retained arable fields close to these fields, as set out in the **Framework CEMP [EN010154/APP/7.7]**.		Construction environmental management plan
Ecology and Nature Conservation	Arboriculture	The Proposed Development has been designed to minimise hedgerow and scrub loss with the majority of hedgerows and areas of scrub across the DCO Site retained. Small areas of hedgerow and scrub will be lost, mainly for access widening. The Proposed Development will seek to retain any hedgerows deemed 'important' under the Wildlife and Landscape criteria of the Hedgerows Regulations (Ref 2). With regards to any localised removal of Ecological Important Hedgerows (as per the **Hedgerow Plan [EN010154/APP/2.9]** and **Appendix 8-B: Terrestrial Habitats and Notable Flora** of this ES **[EN010154/APP/6.3]**) to facilitate construction, where hedge removal is required for visibility splays only, where practical they will be trimmed down to a height to be agreed with	Construction and Operation	Design Parameters secured by Requirement 6: Detailed design approval **Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C3- secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		County Highways, most likely 0.9m, so that it is not removed altogether and can regrow after construction. Retained hedgerows and scrub along field or ditch boundaries and/ or woodland edges will be protected, in line with British Standard Recommendations (Ref 1) with undeveloped buffers of at least 5m from the boundary of hedgerows without trees and a wider buffer, concordant with the requirements for each individual tree, for any hedgerows with trees (see **Appendix 10-H: Arboricultural Impact Assessment** of the ES **[EN010154/APP/6.3]**). These areas will prevent damage/compaction of roots by plant and other machinery and prevent direct or indirect impacts to hedgerows. **Figure 2.9: Maximum Vegetation Removal** of the ES **[EN010154/APP/6.2]**, the **Hedgerow Plan [EN010154/APP/2.9]** and **Tree Protection Plan (TPP)** (see **Appendix 10-H: Arboricultural Impact Assessment** of the ES **[EN010154/APP/6.3]**) set out the maximum extent of hedgerow, vegetation and tree removal associated with the Proposed Development. The loss of hedgerow, vegetation and trees will be no greater than that presented in these figures/plans. Hedgerow removal will be in line with Schedule 12 of the **draft DCO [EN010154/APP/3.1]** which lists the maximum amount of hedgerow removals. Any vegetation, tree or hedgerow removal or management will be in accordance with the **Framework**		**Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		LEMP [EN010154/APP/7.15] and **Arboricultural Impact Assessment** of the ES **[EN010154/APP/6.3]**. With regards to 'Vegetation Management Areas' specified on the **Hedgerow Plan [EN010154/APP/2.9]** and **Figure 2.9: Maximum Vegetation Removal** of the ES **[EN010154/APP/6.2]**, for example relating to where pruning may be required for access visibility purposes, reference should be made to the **TPP** (see **Appendix 10-H: Arboricultural Impact Assessment** of the ES **[EN01054/APP/6.3]**) which sets out the trees, tree groups, hedges and woodlands to be removed or removed in part.		
Ecology and Nature Conservation	Water Environment	No new culverts are proposed, so this will allow continued connectivity and fish passage along the watercourses. However, culvert extensions may be required in some locations. For cable crossings, the avoidance of intrusive trenching techniques will minimise impacts on fish species and maintain connectivity of habitats for fish, e.g., Eels. However, fish rescue may be required under a FR2 permit granted by the EA during construction where de-watering or over-pumping is required. Where any over-pumping is required, Eels (England Wales) Regulations 2009 (Ref 3) compliant screens will be used on any pump used for drain-down or over pumping of watercourses.	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C4 and WAT-C6 - secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		During activities where there are direct impacts to watercourses or water bodies, for example through drain-down, or open-trenching, the following good practice methods will be followed: a. avoidance of key fish migration timings wherever practicable; b. construction will be undertaken during daylight hours to avoid the need for artificial light; c. all cables will be installed at a minimum of 2m below minor/ordinary watercourses (except where minor/ordinary watercourses have minimal or no water flow and water management is easily managed), excluding the River Witham and River Brant where cables will be installed by trenchless methods (e.g. HDD) at a minimum of 5m below the bed to prevent disturbance to fish species. The combination of sealed cabling and buried depth of at least 5m below the bed of the River Witham and River Brant is also adequate to mitigate any potential impact of EMFs on fish transiting along these rivers; and d. if required, fish rescue and / or translocation during drain-down of watercourses or water bodies or over-pumping for open trenching through watercourses / ditches.		
Ecology and Nature Conservation		Vegetation clearance throughout the DCO Site will be undertaken in advance of construction and at an appropriate time of year so as to avoid incidental injuring or killing of reptiles	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C5 - secured under Requirement 12:

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		(and also Common Toad), concordant with the requirements for other species, such as nesting birds and Brown Hare. Vegetation supporting reptiles will be cut in a phased approach, firstly cutting to 30cm, then, following a period of no less than 24 hours, to 15cm and then to ground level, after another 24 hours. In areas where Grass Snake (and Common Toad) have been identified, any habitat features within such areas which may conceal sheltering Grass Snake (and Common Toad) such as log piles, rubble mound bunds will not be dismantled during their inactive season (November to February inclusive). There will be no need to undertake any relocation of reptiles within the DCO Site. Any excavations will be covered, or a means of escape (such as a ramp) will be implemented to prevent reptiles and amphibians becoming trapped. No excavations will remain open overnight.		Construction environmental management plan **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan
Ecology and Nature Conservation		The Proposed Development has been designed to retain and avoid the majority of peripheral and boundary habitats of value to breeding birds, including woodland, grassland margins, ditches, scrub, and hedgerows within the DCO Site. These habitats are of value to the majority of the breeding bird assemblage, therefore ensuring that Species of Principal Importance that are reliant on such habitats (such as Yellowhammer *Emberiza citrinella*, Linnet *Linaria cannabina* and Dunnock *Prunella modularis*) are not adversely impacted upon by the Proposed Development. Buffers around these retained features are secured in the **Framework CEMP**	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C6- secured under Requirement 12: Construction environmental management plan **Framework LEMP [EN010154/APP/7.15]**

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		[EN010154/APP/7.7] and **Framework LEMP [EN010154/APP/7.15]**. The **Framework CEMP [EN010154/APP/7.7]** specifies the requirements for pre-construction vegetation clearance to, where practicable, avoid the typical nesting bird period i.e., March to August (inclusive). Should any vegetation clearance be required within the nesting bird period then this will be checked, prior to vegetation removal, for the presence of nesting birds, by a suitably qualified ornithologist. If active nests are found, then these will be avoided with appropriate buffer zones put in place and the area monitored until the young birds have fledged and/ or the nesting attempt has ceased.		secured under Requirement 8: Landscape and ecological management plan
Ecology and Nature Conservation		Areas of habitat retention, creation, and habitat enhancement have been incorporated into the design to offset the impact of loss of arable farmland for breeding Skylark, Lapwing and other ground nesting birds. These areas, as indicatively presented in **Figure 8-5: Bird Mitigation Land Allocation** of the ES **[EN010154/APP/6.2]** and shown on the **Works Plans [EN010154/APP/2.2]**, will provide extensive benefits for other Important Ecological Features (IEFs) and wider biodiversity and include a minimum 64ha of permanent grassland and 181ha of managed arable land. Grassland and arable in these areas will be managed for the provision of ground-nesting birds. This will be achieved through avoidance of management activities during the breeding season (March to August inclusive) and, outside of these periods, grassland areas will be managed to ensure that the habitat remains at a suitable sward height and density.	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. ECO-O2 – secured under Requirement 13: Operational environmental management plan **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Individual fields proposed for mitigation are at least 5ha in size and where possible clusters of fields have been identified (also considering landownership) that have minimal mature vegetation (woodlands and trees) around their boundaries, are away from sources of disturbance and are located on the edge of the Proposed Development, i.e., not surrounded by solar infrastructure. Arable fields will continue as currently used for Maize, Barley or Wheat and, within these fields, Skylark plots will be created at a rate of 2 per ha, comprising essentially a small uncropped/fallow area at least 3m wide and between 16 and 24 m^2 in area (e.g. 4 x 4m). In each field, the plots will be created as groups a minimum of 25m between the plots and at least 50m from the field boundary.		ecological management plan Design Parameters secured by Requirement 6: Detailed design approval
Ecology and Nature Conservation		The Proposed Development has been designed to avoid Badger setts within the DCO Site. Any setts within the Principal Site will have an appropriate exclusion zone of 30m around the sett to prevent disturbance and accidental damage. The Cable Corridor is sufficiently wide that the final route for the cable laying can be micro-sited to avoid any Badger setts, including a 30m exclusion zone around setts. In addition to the best practice measures listed above, the following measures to minimise impacts to badger will include: a. Pre-construction surveys will be undertaken to support the baseline survey findings. The purpose of these pre-construction surveys is to ensure mitigation during the construction phase is based on the latest protected species information. Should there have been any changes to Badger	Construction and Operation	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C9- secured under Requirement 12: Construction environmental management plan Design Parameters secured by Requirement 6: Detailed design approval

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		distribution within the Site, Natural England licences will be sought (if required) and mitigation measures will be updated accordingly. b. Measures to avoid animals being injured or killed within construction working areas, through excluding them from such areas (e.g., fencing) will prevent animals from falling into and becoming trapped in excavations. Furthermore, any excavations will be covered, or a means of escape (such as a ramp) will be implemented. No excavations will remain open overnight.		
Ecology and Nature Conservation		In addition to the best practice measures listed above, the following additional measures to minimise impacts to roosting and commuting/foraging bats will include: a. Pre-construction (ground-level inspection) surveys will be undertaken to support the baseline survey findings, the purpose of which is to ensure mitigation during the construction phase is based on the latest protected species information and Proposed Development design. Should there have been any changes to the design which could impact upon roosting bats (i.e. additional tree removal of trees with potential to support roosting bats), where found within the DCO Site, then further surveys will be undertaken as required (e.g. bat emergence surveys), then Natural England licences will be sought (if required) and mitigation measures updated accordingly. b. Where lighting is required, particularly in winter months when daylight hours are shorter, it will have a power output of 8kVA,	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C7- secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		be directed away from existing retained and sensitive habitats to minimise light disturbance, will be temporary in nature, and will conform to best practice guidelines with respect to minimising light spill into retained habitats to prevent or reduce the impact on bats and will be minimised to that required for safe site operations and security and directed towards the middle of the DCO Site rather than towards the boundaries. c. Where any temporary work is required within 15m of any tree with the potential to support roosting bats, such as enabling works or clearance for construction, then a precautionary working method statement would be provided to avoid potential impacts. This would include the use of an Ecological Clerk of Works (ECoW).		
Ecology and Nature Conservation		a. Pre-construction surveys will be undertaken to support the baseline survey findings where intrusive crossing methods of watercourses are proposed within the DCO Site. The purpose of these pre-construction surveys is to ensure mitigation during the construction phase is based on the latest protected species information. Where there have been any changes to Otter or Water Vole distribution within the DCO Site (or the status of the potential Otter holt), mitigation measures (such as non-intrusive crossing for cabling) will be updated accordingly and the relevant Natural England protected species licence application would be applied for if disturbance to breeding Otter was unavoidable. b. The crossing of the River Witham and River Brant will be undertaken using trenchless techniques (e.g. HDD) that	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C8 - secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		would not disturb the watercourse, with the depth of the cable below the bed of these rivers to be a minimum of 5m, to avoid impacts to watercourses and bankside vegetation (riparian habitats) and also including launch and exit pits setback from the banktop of the watercourse to protect riparian habitats. c. Measures to avoid animals being injured or killed within construction working areas, through excluding them from such areas (e.g., fencing) will prevent animals from falling into and becoming trapped in excavations. Furthermore, any excavations will be covered, or a means of escape (such as a ramp) will be implemented. No excavations will remain open overnight. d. Construction in the Interconnecting Cable Corridor within 100m of the River Witham will only be undertaken during daylight hours and will avoid two hours after sunrise and two hours before sunset, reduced to one hour between November and February (inclusive) because of the limited daylight hours. This will prevent disturbance to any resting Otter in the River Witham.		
Ecology and Nature Conservation		Pre-construction surveys will be undertaken to provide an update on the presence and location of any invasive non-native species (INNS) plant species, the findings of which will inform the implementation of measures to prevent their spread into the wild and are secured in the **Framework CEMP [EN010154/APP/7.7]**. These surveys will inform the production of a Biosecurity Management Plan which will set out procedures to ensure that no INNS plant species are spread from the DCO	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C11- secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Site, into the DCO Site or within the DCO Site (e.g., Wildlife and Countryside Act 1981 (as amended) Schedule 9 species (Ref 4)) and will be formalised in the detailed CEMP(s), secured through the DCO. In the event that future infestations of INNS are identified prior to and or during the development process, exclusion zones will be established around them, and an ECoW contacted for advice as required.		
Ecology and Nature Conservation	Water Environment	During the operational phase, activity on the Principal Site will be limited and would be restricted principally to vegetation management, equipment maintenance and servicing, periodic replacement of components, periodic fence inspection, and monitoring to ensure the continued effective operation of the Proposed Development. There may also be a need for the washing of the solar panels, expected to be once every two years. This will use clean water with no added chemicals, although a biodegradable water softener may be used, with water sourced from local potable water suppliers Along the Cable Corridor, operational activity will consist of routine inspections (schedule to be determined) and any reactive maintenance such as where a cable may have been damaged. By following procedures secured in the **Framework OEMP [EN010154/APP/7.8]** these inspections are unlikely to result in any significant impacts to IEFs, e.g. nesting birds. As presented in the **Framework LEMP [EN010154/APP/7.15]**, grazing by sheep is the Applicant's preferred option for the management of the grassland created within the Solar PV areas	Operation	Requirement 10: Surface and foul water drainage **Framework OEMP [EN010154/APP/7.8]** ID ref. ECO-O3 – secured under Requirement 13: Operational environmental management plan **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		of the Principal Site. Sheep grazing on solar PV facilities is successfully used in the UK and carries with it multiple benefits such as soil health improvement and biodiversity enhancement. Furthermore, grazing achieves an essential maintenance function (maintaining the grass at a low level) without the need for machinery. The Applicant will explore the ability to match up with local farmers to deliver grazing under the panels. The general principles to be followed during operation and maintenance of the Proposed Development to minimise impacts are presented below. The **Framework OEMP [EN010154/APP/7.8]** formalises the measures that will be implemented during operation and maintenance of the Proposed Development in accordance with the relevant Requirement in Schedule 2 of the DCO. The **Framework OEMP [EN010154/APP/7.8]** also references **Appendix 9-D: Framework Surface Water Drainage Strategy** of the **ES [EN010154/APP/6.3]** and **Framework LEMP [EN010154/APP/7.15].** These measures include: a. No part of the Proposed Development will be continuously lit. For security requirements, operational lighting would include Passive Infra-red Detector (PID) systems which would be installed around the perimeter of the Proposed Development. Lighting of the primary substation would be in accordance with health and safety requirements, particularly around any emergency exits where there would be motion sensor triggered lighting, similar to street lighting, that would operate from		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		dusk. There would be low level lighting on specific operational units that would operate, when triggered by motion sensors, from dusk. All lighting would seek to limit any impact on IEFs, e.g. bats and other SPI. b. The surface water drainage strategy (**Appendix 9-D: Framework Surface Water Drainage Strategy** of the ES **[EN010154/APP/6.3**]) includes measures to manage surface water runoff during operation and maintenance and will reduce the likelihood and severity of potential pollution incidents and flooding affecting watercourses and the local ditch network to reduce or eliminate adverse effects for aquatic and riparian species and habitats. c. The creation and subsequent management of habitats will be determined by the characterisation of the existing baseline. However, management will seek to maximise floristic diversity, which will be managed through low density and short frequency sheep grazing (conservation grazing) as a primary option or an appropriate, sensitive mowing regime. Further details of vegetation management are provided and secured in the **Framework LEMP [EN010154/APP/7.15]**. d. Any required management of vegetation within the Proposed Development will be undertaken in accordance with legislative requirements associated with breeding birds e.g. undertaken outside of the bird nesting season (typically March to August inclusive) and in consideration of the presence of other SPI, e.g.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		reptiles. Further details of vegetation management are provided and secured in the **Framework LEMP [EN010154/APP/7.15]**. e. A programme of monitoring, as described in and secured in the **Framework LEMP [EN010154/APP/7.15],** will be established prior to operation and maintenance to ensure that biodiversity measures are implemented according to plan with necessary remediation.		
Ecology and Nature Conservation	Biodiversity Net Gain	A **Biodiversity Net Gain Report [EN010154/APP/7.12]** (secured through Requirement 8 of Schedule 2 of the draft DCO) has been undertaken. The assessment includes the anticipated percentage of biodiversity net gain that is proposed for the Proposed Development alongside indicative habitat management and delivery mechanisms. The Applicant has committed to deliver a minimum of 30% biodiversity net gain in habitat units, 50% biodiversity net gain in hedgerow units and 10% biodiversity net gain in watercourse units using DEFRA's Statutory Biodiversity Metric (SBM) (Version 1.0.4) for the Proposed Development. Prescriptions for the establishment, long term management and monitoring of habitat creation measures that would deliver BNG are also included within the **Framework LEMP [EN010154/APP/7.15]**. A band of grassland (Other Neutral Grassland) up to 10m wide will be planted adjacent to watercourses within the retained arable land within the Principal Site (as secured by the **Framework LEMP [EN010154/APP/7.15]**).	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. ECO-O1 – secured under Requirement 13: Operational environmental management plan **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Ecology and Nature Conservation		The general principles to be followed in the decommissioning of the Proposed Development include measures to mitigate likely significant decommissioning related effects on biodiversity. These will be formalised through the **Framework DEMP [EN010154/APP/7.9]** in accordance with the relevant Requirement in Schedule 2 of the DCO. Whilst the majority of mitigation measures will be similar to those during construction (as above), monitoring undertaken during the operation and maintenance phase and pre-decommissioning surveys will inform mitigation and protected species licencing, as required (informed by legislation and planning policy) at the time of decommissioning. A detailed DEMP will be prepared and agreed with the relevant authorities at the time of decommissioning, in advance of the commencement of decommissioning works.	Decommissioning	**Framework DEMP [EN010154/APP/7.9]**, ID ref. – ECO-D1 and ECO-D2 – secured under Requirement 20: Decommissioning
Ecology and Nature Conservation		The **Framework LEMP [EN010154/APP/7.15]** and **Framework OEMP [EN010154/APP/7.8]** include a number of relevant landscaping and monitoring measures, including the following: a. Vegetation would be established through natural regeneration or in the case of grasslands from seed collection from the grasslands identified within the DCO Site and through a suitable long-term habitat management regime. Consideration will be paid to microclimatic conditions when identifying appropriate species. Management will be undertaken in a variety of ways to ensure maximum biodiversity gains, with grassland managed by either low intensity grazing or	Operation	**Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan **Framework OEMP [EN010154/APP/7.8]** ID ref. ECO-O5 – secured under Requirement 13:

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		infrequent mowing or hay cutting to allow plant species to flower and seed. b. Woodland planting (also referred to as buffers) and native tree belts will be established to reinforce the retained existing woodland and tree belts. These are proposed in areas too narrow to be planted as woodland but at 10m to 15m width will provide a more substantial block of planting than a hedgerow with specimen trees. Woodland buffers and native tree belts are characteristic of the existing landscape and provide ecological value, forming important wildlife corridors between existing woodlands. c. New hedgerows with trees will be established to supplement the existing, retained hedgerows with trees. These will provide a valuable habitat, forming important wildlife corridors and re-enforcing existing ones. Hedgerows will be maintained at a minimum of 3m high and 'infilled' where there are gaps in existing hedgerows, although in reality the hedges may be higher than this by Year 15. d. Gaps in currently defunct hedges will be planted with suitable native species to improve the connectivity of habitats (such as between ancient and other broad-leaved woodland) within and adjacent to the DCO Site. New areas of tree planting around infrastructure will be provided to provide both screening from infrastructure and to improve habitat connectivity as well to increase the area of hedge / woodland habitat within the DCO		Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Site. New scrub habitat and wider hedgerows (up to 8m wide) will be created in selected areas to provide suitable habitat for declining farmland birds such as Yellowhammer and Tree Sparrow. Hedgerows and trees will be allowed to grow tall and wide to provide maximum benefits for biodiversity and this natural regeneration will encourage a mosaic of successional habitats, forming broad habitat corridors throughout the Proposed Development. e. Scrub composed of native shrubs is proposed adjacent to hedgerows to increase the shrub habitat and enhance biodiversity. This will create and maintain a diverse mosaic of scrub and grassland habitat, which includes providing shelter and food resources for birds and other wildlife. f. An area 15m to 25m wide adjacent to existing ponds and woodland will be encouraged to naturally regenerate. There will be no routine management of these areas. Natural regeneration will further increase biodiversity and provide an opportunity to observe the gradual structural transition from grassland to canopy woodland habitats. g. Species-rich grassland will be established across the DCO Site, under the PV panels and in set aside areas. Conservation margins sown with a wild bird seed mix will also be established as well as arable margins created through locally sourced seed (where practicable) /the existing seed bank and annual cultivation. By		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		establishing a diverse sward of grasses and herbs biodiversity will increase, enhancing value for wildlife. The wild bird seed mix in the conservation margins will provide a cover crop habitat for game birds and food source for over-wintering farmland birds such as Skylark, Linnet and Yellowhammer. The exact location and proportion of margin types within the conservation margins will be tailored to the needs of the site's biodiversity. Following best practice, the conservation margins will be 12m in width, and at least 50m in length. h. Existing ponds in poor condition will be restored with the aim of maximising their wildlife value. This will partly be achieved by de-silting to ensure that they remain at least partly wet during normal conditions, allowing amphibians and invertebrates to complete their life cycles. Where existing ponds are overshaded by mature trees, these trees will be prioritised for pollarding, to increase light and decrease leaf fall onto the ponds. i. Scrub clearance and de-silting around ponds will be phased over five years, to prevent the site-wide loss of existing shaded pond habitats and to provide ponds in various stages of natural succession to provide a wider range of niches for wildlife. Water features tend to be colonised naturally; therefore, no planting is considered necessary or desirable in these areas. j. A range of artificial bird and bat boxes will be installed in existing woodland areas, on retained individual trees and existing trees in hedgerows to increase the		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		availability of nesting and roosting features and enhance the value of these habitats for these species groups. k. Bat roost boxes of varying types to suit different species of birds and bats will be installed in locations to be determined by an ecologist at the time of installation. l. The bird and bat boxes will be made from long lasting materials (such as Woodcrete) and would be expected to have a life expectancy of 20-25 years. Given the Proposed Development's 60-year lifespan the bird and bat boxes will be replaced every 20 years, secured within the LEMP. m. Habitat piles and hibernacula will be constructed throughout the Proposed Development in suitable areas, such as close to ponds or watercourses, using natural materials generated during clearance of the site, such as logs, turf, and grass strimming. These will provide refuge and hibernation opportunities for amphibians and reptiles, as well as dead wood habitat for invertebrates, which will in turn benefit fauna such as bats and birds.		
Ecology and Nature Conservation		The temporary construction compounds will not be greater than 2ha in size and will be located on existing Cropland habitat at a minimum distance of 4.5 m from hedgerow habitats.	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-12 – secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Water Environment		The **Framework CEMP [EN010154/APP/7.7]** comprises good practice methods that are established and effective measures to which the development will be committed through the DCO. The measures within the **Framework CEMP [EN010154/APP/7.7]** focus on managing the risk of pollution to surface waters and the groundwater environment. It also considers the management of activities within floodplain areas (i.e. kept to a minimum and with temporary land take required for construction to be located out of the floodplain as far as reasonably practicable). The CEMP will be reviewed, revised and updated as the project progresses to ensure all potential impacts and residual effects are considered and addressed as far as practicable, in keeping with available good practice at that point in time. The principles of the mitigation measures set out below are the minimum standards that will be implemented. However, it is acknowledged that for some issues, there are multiple ways in which they may be addressed and methods of dealing with pollutant risk will be continually reviewed and adapted as construction works progress (e.g. the management of construction site runoff containing excessive levels of fine sediments). The **Framework CEMP [EN010154/APP/7.7]** sets out standard procedure for the Proposed Development and describes the principles for the protection of the water environment during	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. WAT-C1 and WAT-C2 – secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		construction. The detailed CEMP(s) will be supported by a Water Management Plan (WMP), that will provide greater detail regarding the mitigation to be implemented to protect the water environment from adverse effects during construction. The potential for adverse impacts would be minimised by the adoption of the general mitigation measures outlined below, which will be described in the WMP and CEMP(s). The construction of the Proposed Development will be undertaken in accordance with good practice as detailed in the **Framework CEMP [EN010154/APP/7.7]**. Where not disapplied through the DCO, temporary and relevant permanent consents/permits would be obtained where necessary. The Principal Contractor will comply with any conditions imposed by any relevant permission.		
Water Environment		No construction works will be undertaken within at least 10m of all watercourses and ponds (with the exception of watercourse cable crossings and access track crossings (and potentially drainage outfalls)), which is considered sufficient to mitigate for potential hazards such as chemical and soils spills into watercourses and avoid potential direct impacts to the watercourse and protected species.	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. WAT-C1 – secured under Requirement 12: Construction environmental management plan
Water Environment		Mitigation measures are described below, and also included in the **Framework CEMP [EN010154/APP/7.7],** and would be adhered to during the construction phase of the Proposed	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. WAT-C3 – secured under

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Development. These measures apply equally to all components of the Proposed Development. The measures outlined below will be required for the management of fine particulates in surface water runoff as a result of the Proposed Development construction activities: a. All reasonably practicable measures will be taken to prevent the deposition of fine sediment or other material in, and the pollution by sediment of, any existing watercourse, arising from construction activities. The measures will accord with the principles set out in industry guidelines including the CIRIA report 'C532: Control of water pollution from construction sites' (Ref 5) and CIRIA report 'C648 Control of water pollution from linear construction sites' (Ref 6). 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 etc.; b. A temporary drainage system will be developed to prevent runoff contaminated with fine particulates from entering surface water drains without treatment. This will include identifying all land drains and water features in the DCO Site 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). Any land drains damaged during the works would be reinstated as required;		Requirement 12: Construction environmental management plan Requirement 10: Surface and foul water drainage

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		c. Where practical, earthworks will be undertaken during the drier months of the year. When undertaking earth moving works periods of very wet weather will be avoided, where practical, to minimise the risk of generating runoff contaminated with fine particulates. However, it is likely that some working during wet weather periods will be unavoidable, in which case other mitigation measures (see below) will be implemented to control fine sediment laden runoff. Water may also be required to dampen earthworks during dry weather to reduce dust impacts, and any runoff generated will need to be appropriately managed by the Contractor in accordance with the pollution prevention principles; d. To protect watercourses from fine sediment runoff, topsoil/subsoil will be stored a minimum of 20m from watercourses on flat lying land. Where this is not practicable, and it is to be stockpiled for longer than a two-week period, the material will either be covered with geotextile mats, seeded to promote vegetation growth, or runoff prevented from draining to a watercourse without prior treatment; e. Appropriately sized runoff storage areas for the settlement of excessive fine particulates in runoff will be provided; f. 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		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		removed from site for disposal at an appropriate and licensed waste facility; g. Equipment and plant are to be washed out and cleaned in designated areas within the Proposed Development construction compound where runoff can be isolated for treatment before disposal as outlined above; h. Mud deposits will be controlled at entry and exit points to the DCO Site using wheel washing facilities and/or road sweepers operating during earthworks activities or other times as required. Potentially contaminated water from wheel washing facilities would be removed from site for disposal at an appropriate and licensed waste facility; i. 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; j. Should the use of herbicide or other spray chemical be required, a method statement, operating procedure or similar will be prepared prior to the work commencing. This will include measures to protect ground and surface water, including that such work would not be undertaken during or before rainfall and high winds where practicable. Such work will only be carried out by competent personnel using products approved for UK use with adherence to manufacturer's instructions; and		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		k. The WMP (which will be produced post consent) will include details of pre, during and post-construction water quality monitoring. This will be based on a combination of visual observations and sampling, and reviews of the Environment Agency's automatic water quality monitoring network.		
Water Environment		The measures outlined below will be implemented to manage the risk of accidental spillages within the DCO Site and potential conveyance to nearby water features via surface runoff or land drains. These measures are secured in the **Framework CEMP [EN010154/APP/7.7]** and will be adopted during the construction works: a. Fuel will be stored and used in accordance with the Control of Substances Hazardous to Health Regulations 2002 (Ref 7), and the Control of Pollution (Oil Storage) (England) Regulations 2001 (Ref 8). Particular care will be taken with the delivery and use of concrete and cement as it is highly corrosive and alkaline; b. 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, which includes 10% more capacity than is needed); c. Any plant, machinery or vehicles will be inspected before every use and maintained to ensure they are in good working order and clean for use in a sensitive environment. This maintenance is to take place off site if practicable or, if on site, only at designated areas within	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. WAT-C4 – secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		the Proposed Development site compound. Only construction equipment and vehicles free of all oil/fuel leaks will be permitted on the DCO Site. Drip trays will be placed below static mechanical plant; d. All washing down of vehicles and equipment will take place in designated areas and wash water will be prevented from passing untreated into watercourses; e. All refuelling, oiling and greasing of plant will take place above drip trays or plant nappies, or on an impermeable surface which provides protection to underground strata and watercourses, and away from drains as far as reasonably practicable. Vehicles will not be left unattended during refuelling; f. As far as reasonably practicable, only biodegradable hydraulic oils will be used in equipment working in or over watercourses; g. All fixed plant used on the DCO Site will be self-bunded; h. Mobile plant is to be in good working order, kept clean, fitted with plant 'nappies' at all times and are to carry spill kits; i. The WMP (which will be produced post consent) will include details for pollution prevention and will be prepared and included alongside the final CEMP(s). Spill kits and oil absorbent material will be carried by mobile plant and located at high-risk locations across the Site and regularly monitored and topped up. All construction workers will receive spill response training and tool box talks;		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		j. The DCO Site will be secure to prevent any vandalism that could lead to a pollution incident; k. Construction waste/debris are to be prevented from entering any surface water drainage or water body; l. 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; m. Where practicable, concrete mixing and washing down of mixing plant is to be carried out by the suppliers and away from the DCO Site. Should on-site concrete washout be required, suitable facilities (e.g. geotextile wrapped sealed skip placed within a bunded area or specialist mobile concrete washout facility) will be provided to ensure that the high alkalinity wash water is adequately contained and prevented from entering surface or groundwater. Wash water will be removed from the DCO Site for appropriate disposal at a suitably licenced waste facility. Concrete washout is prohibited within a minimum of 20m of any body of water, including ditches and ponds, or surface water drains, and within 5m of a foul drain. Where practical, this will increase to 50m; and n. Water quality monitoring of potentially impacted watercourses will be undertaken to ensure that pollution events can be detected against baseline conditions and		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		can be dealt with effectively. Full monitoring details would be outlined in the detailed CEMP(s).		
Water Environment		The **Framework CEMP [EN010154/APP/7.7]** incorporates measures to prevent an increase in flood risk or pollution during the construction works, in addition to the provision of temporary settlement and drainage measures as detailed above. Construction works undertaken adjacent to, beneath and within watercourses will comply with relevant guidance, including Environment Agency and Defra guidance documents. The detailed CEMP(s) will incorporate measures aimed at preventing an increase in flood risk during the construction works. Examples of measures that could be implemented include: a. Topsoil and other construction materials will be stored outside of the 1 in 100 year floodplain extent where feasible. If areas located within Flood Zone 2/3 are to be utilised for the storage of construction materials, this would be done in accordance with the applicable flood risk activity regulations, if required; b. Connectivity will be maintained between the floodplain and the adjacent watercourses, with no changes in ground levels within the floodplain as far as practicable; c. During the construction phase, the contractor will monitor weather forecasts on a monthly, weekly and daily basis, and plan works accordingly. For example,	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. WAT-C5 – secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		works in the channel of any watercourse will be avoided or halted were there to be a significant risk of high flows or flooding; and d. The construction laydown area site office and supervisor will be notified of any potential flood occurring by use of the Floodline Warnings Direct or equivalent service. The contractor will be required to produce an Emergency Response Plan following receipt of DCO consent and prior to construction, which will provide details of the response to an impending flood and include: a. A 24-hour availability and ability to mobilise staff in the event of a flood warning; b. The removal of all plant, machinery and material capable of being mobilised in a flood for the duration of any holiday close down period where there is a forecast risk that the DCO Site may be flooded; c. Details of the evacuation and site close down procedures; d. Arrangements for removing any potentially hazardous material and anything capable of becoming entrained in floodwaters, from the temporary works areas; e. The contractor will sign up to Environment Agency flood warning alerts and describe in the Emergency Response Plan the actions it will take in the event of a flood event occurring. These actions will be hierarchical meaning		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		that as the risk increases the contractor will implement more stringent protection measures; f. The temporary construction compounds proposed to be located on either side of the River Brant (illustrated on **Figure 3-1:Construction Compound Access and Locations Plan [EN010154/APP/6.2]**), will be smaller 'HDD Camps'. These HDD Camps will be located around 20 – 40m from the HDD entry and exit points and will be specifically for the HDD activities; they will be smaller in size and shorter in duration (set up, used and demobilised again within 2-4 days). HDD camps will be located in Flood Zone 3b (land with a 3.33% chance of flooding each year) and 3a land with a 1% probability of flooding each year, including the impacts of climate change. Flood Zone 3b is associated with the Witham Washlands Flood Storage Area. Due to the short duration of each HDD camp (typically a few days for a small crossing) the Contractor is able to avoid this activity coinciding with a flood event with good confidence. The Contractor will check the ground conditions onsite, the water levels in the watercourse, and weather forecasts daily and postpone the HDD works if the HDD camp locations are already flooded or if heavy rain is forecast in the few days before or during the HDD camp setup. Cleanup and demobilisation typically takes 0.5 -1 day for a HDD camp and therefore in the unlikely event that heavy rainfall occurs at the start		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		of HDD, it should be possible to remove the camp before the location floods. g. In the instance of a relevant flood event (as notified in a flood warning alert from the Environment Agency), the HDD Camps either side of the River Brant within the Cable Corridor (within the Witham Washland Flood Storage Area) will be demobilised if required; h. Where trenching for cable installation is required within the Witham Washlands Flood Storage Area, plant can be demobilised and removed immediately in the event of a flood, as with the HDD Camps discussed above. No soil from trenching will be kept within the extents of the Witham Washlands FSA during the works; i. If water is encountered during below ground construction, suitable de-watering methods will be used. Any groundwater dewatering required in excess of the exemption thresholds will be undertaken in line with the requirements of the Environment Agency (under the Water Resources Act 1991 as amended) (Ref 9) and the Environmental Permitting Regulations (2016) (Ref 10); and j. 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.		
Water Environment	Ecology and Nature Conservation	It is proposed to install the Grid Connection Cable beneath the River Brant and a section of the onsite cabling beneath the River Witham using underground techniques such as horizontal directional drilling beneath the bed of the channel. Indicative	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ECO-C4, ECO-C8 and WAT-C6 –

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		locations at this stage are NGR SK 91183 62349 for the River Witham and NGR SK 94314 60111 for the River Brant. The cable would be installed a minimum of 5m beneath the bed in each case. A maximum depth would be finalised based on site specific risk assessment at each crossing location in order to minimise groundwater interactions where practicable. Information will be sought from the Environment Agency on the construction details of the flood defence embankments that may need to be crossed to inform the drilling approach for directional drilling beneath the Rivers Brant and Witham and associated flood defences. There will be a minimum 16m buffer between HDD send or receive pits from the landward toe of flood defences. Furthermore, in the case of the River Witham this distance is to be increased to 100m due to the presence of a potential Otter holt. These buffer distances are secured through the **Framework CEMP [EN010154/APP/7.7]**. In addition to the control and management measures for site runoff and spillage risk noted above, the methodology of the drilling, or other trenchless techniques, would include measures to minimise the risk to the environment. There are risks associated with the use of drilling muds and plant close to the channel. For example, although rare, without due care there is a risk that drilling muds can 'break out' into watercourses leading to pollution (known as 'hydraulic fracture' or 'frac-out'). A site-specific Hydraulic Fracture Risk Assessment would be developed prior to construction following further investigation of		secured under Requirement 12: Construction environmental management plan Design Parameters secured by Requirement 6: Detailed design approval

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		specific ground conditions at the crossing locations, and appropriate mitigation developed in line with best construction practice. There is also a need to manage drilling muds and wastewater so that this will not be spilt into the channel when working close to the banks of a watercourse. The requirement for a Hydraulic Fracture Risk Assessment is included in the **Framework CEMP [EN010154/APP/7.7]**. Directional drilling, or other trenchless techniques, would be undertaken by a specialist contractor and the water column above the drill path would be continuously monitored during drilling. It is acknowledged that drill fluid leakage into a watercourse is not a common problem, particularly given the proposed depths. However, where there is an increased perceived risk (i.e. lack of drilling mud returns) the drilling/boring operation would be suspended, remediation action implemented, and subsequently the methodology for that crossing re-evaluated. The drill fluids used within the drilling machine would be water based, such as naturally occurring bentonite clay. The fluid component of the drilling mud would be mains water, obtained from a nearby supply and tankered to site when required. There would be some recycling of drilling muds by the drilling plant used.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		The bentonite within the drilling fluid enables the fluid to have sufficient viscosity to carry the cutting chips back to the surface machine whilst lubricating and cooling the drilling bit. The drilling fluid that returns to the drilling rig would be recycled within that drilling rig. Any wastewater/drilling products that are not recycled will be stored and removed from the DCO Site by a suitable waste management contractor and disposed of at a licenced wastewater facility. The sections of the cables that will be installed via trenchless approaches will require send and receive pits to be installed at each crossing point. The send and receive pit excavations for drilling/boring will be located at least 10m from the watercourse edge, as measured from the top of bank (or 16m from the landward toe of flood defences or 100m for the River Witham where the potential otter holt is located). This may require survey work (prior to construction) in some locations to adequately define and agree the top of bank position with the Environment Agency. The exact dimensions of the send and receive pits would be determined by site and ground conditions but will be kept to a safe minimum in terms of length, width and depth. Maximum parameters considered here as a worst case are dimensions of 8m length x 4m width x 1m depth. A shoring system appropriate to the ground conditions will be used as appropriate to minimise water ingress into the pits. The ingress of any groundwater will		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		be carefully managed through design of the send or receive pit, shoring method, and a pumping and treatment system. Excessive ingress of water would make the pit unsafe and thus it is important that ingress is minimised and that a suitable system of managing that water is implemented. Once the cable is installed beneath the watercourse the pits and any cable trenches will be backfilled to the original ground level and seeded to reduce the risk of runoff and fine sediments entering the watercourse.		
Water Environment		Where trenchless techniques are not feasible, watercourses would be crossed using open-cut trenching. In each case, a Pre-works Riparian and Morphology Survey of the channel of the watercourse to be crossed will be undertaken prior to construction. The surveys would be within the area to be crossed as determined at detailed design and will be used to guide the most appropriate crossing location. The pre-works survey will also ensure that there is a formal record of the condition of each watercourse prior to commencement of works to install cables beneath the channel. The survey is a precautionary measure so that should there be any unforeseen adverse impacts there is a record against which any remedial action can be determined. At this stage it is assumed that where open-cut crossings are required that a maximum channel length of 6m would be	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. WAT-C7 – secured under Requirement 12: Construction environmental management plan Design Parameters secured by Requirement 6: Detailed design approval

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		impacted. Water flow would be maintained by damming and over-pumping or fluming. Works will be carried out in the drier months where practicable as this would reduce the risk of pollution propagating downstream, particularly in the case of ephemeral watercourses. Once the watercourses are reinstated, silt fences, geotextile matting, or straw bales will be used initially to capture mobilised sediments until the watercourse has returned to a settled state. It will be a requirement that the watercourses are reinstated as found and where possible enhanced. Enhancement opportunities will be considered through development of a WFD Mitigation and Enhancement Strategy. This would be produced post consent once locations are finalised and would be informed by the further survey at these locations. Water quality monitoring will be undertaken prior to, during, and following on from the construction activity. If the watercourse itself is dry then monitoring should be undertaken once flow returns and should include the downstream receiving watercourse. Regular observations of the watercourses will also be required post-works during vegetation re-establishment of the banks, especially following wet weather, to ensure that no adverse impacts have occurred. These requirements will be listed in the WMP (secured via the **Framework CEMP [EN010154/APP/7.7]**).		
Water Environment	Traffic and Transport	Access tracks will be constructed across the DCO Site. These would typically be 5m wide with passing bays provided as required. Initially at each of the main access points, access	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. WAT-C8 –

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		tracks would be required to be 6m wide on approach to the construction compounds to facilitate two-way Heavy Goods Vehicle (HGV) traffic. The internal access tracks will likely be constructed of compacted stone or gravel with excavation kept to a minimum, or for secondary tracks left as grass. Where drainage is required a ditch or a swale may be located downhill of the internal access track to control any potential for surface water run-off. The access tracks will adhere to the appropriate 10m buffer from water features, except where crossings are required. The Proposed Development layout has been designed to avoid new drainage ditches and watercourse crossings where practicable. All crossings are intended to adopt existing crossings or an open span approach, and so no new culverts are required by the Proposed Development. Where existing crossings are to be used, it is assumed as a worst case that some degree of strengthening or improvement of the structures may be required (which may require minor widening). Where such upgrades are required, they are assumed to be a maximum extension to the structure width of 2m as a worst case. Where a new drainage ditch crossing is required, an open span structure would be used. Bridge foundations would be set back from the edge of the channel.		secured under Requirement 12: Construction environmental management plan Design Parameters secured by Requirement 6: Detailed design approval

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Length-for-length watercourse enhancements are required wherever existing culverts may require extension for strengthening, in order to mitigate the impacts and to ensure compliance against WFD objectives (see **Appendix 9-B: WFD Assessment [EN010154/APP/6.3]**). This length-for-length watercourse enhancement will be outlined in the WFD Mitigation and Enhancement Strategy (to be produced post consent). Depending on the design of any watercourse crossings, floodplain compensation may be required on a 'like for like' and 'level for level' basis. Alterations to surface water flow pathways will also need to be considered and, if necessary, mitigated. This will include consideration of the span and soffit height of any open span bridge works to ensure no increase in flood risk. As with intrusive cable installation, it is assumed that during installation works flow would be maintained by damming and over pumping. The Water Management Plan (to be produced post-consent) will set out details of water quality monitoring to be undertaken during construction. Due to the low level of risk posed by the construction works, this monitoring will consist of visual and olfactory observations as well as in-situ testing using hand-held water quality meters only.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Water Environment		All infrastructure will be offset from watercourses by a minimum 10m buffer (except where crossings are required or connections for drainage). For small channel watercourses/agricultural drainage channels this would be measured from the top of bank as required by the Environment Agency and the IDBs. This will likely require survey which will be undertaken post-consent to reflect the detailed design. Solar PV panel heights are to be a minimum 0.8m above ground so as to reduce risk of fluvial flooding. Indicative foundation depths and types associated with the development include typical depths as follows: a. **Solar PV foundations** will typically be galvanised steel piles driven or screwed into the ground. Indicative maximum depth of 2m for fixed south facing strings and indicative maximum depth of 4m for single axis tracker strings depending upon ground conditions and subject to archaeological and geotechnical surveys. In archaeologically sensitive areas solar PV panels may be mounted on concrete blocks, subject to further archaeological investigation and agreement with the relevant stakeholders. b. **BESS**– foundations would consist of reinforced concrete footings with a maximum depth of 1m below the existing ground level. Depending on ground conditions, a pile	Operation	Design Parameters secured by Requirement 6: Detailed design approval

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		foundation may be required with a maximum depth of 3m. c. **Onsite cabling** – maximum trench dimensions to be 0.8–1.2m depth, and 1.2–5m wide depending on the number of circuits within the trench. Greater depth would be required when drilled beneath the River Witham (>5m depth from the bed of the channel). The minimum depth beneath the A46 is dependent on the road makeup and will align with minimum depth required by the asset owner. d. **Grid connection cable** - for open trench excavation, up to 3m below ground level subject to design and ground conditions, with a minimum cover of 0.9m for the cable. For horizontal directional drilling, a minimum 5m depth under the River Brant would be required, with final depth subject to design and ground conditions. Jointing bays will be required up to 1,000m apart to join sections of cable together. The dimensions of the jointing bay would be up to 21m in length by 3m in width by 2.5m in depth. e. **Control building and office**– maximum foundation depth of 2m. f. **Warehouse and storage building** - maximum foundation depth of 2m. g. **Access tracks** - the internal access tracks will likely be constructed of compacted stone or gravel with excavation kept to a minimum, or for secondary tracks left as grass.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		h. **Solar Station, Inverters, Transformers, Switchgear Enclosures** – these would be located on a concrete base or monolith plinth with a maximum depth of 1m. Depending on ground conditions, a pile foundation may be required with a maximum depth of 3m. i. **Onsite Substation** – concrete foundation depth up to 3m.		
Water Environment	Ground Conditions	A **Framework Surface Water Drainage Strategy** has been prepared and is included within **Appendix 9-D** of the ES **[EN010154/APP/6.3]**. The drainage strategy will provide attenuation of surface water runoff from the Proposed Development, whilst minimising flood risk to the Proposed Development and surrounding areas. In accordance with planning policy guidance (as outlined in **Appendix 9-A: Water Environment Policy and Legislation** of the ES **[EN010154/APP/6.3]**), runoff from the Proposed Development will be attenuated to ensure no increase in surface water discharge rates and to provide water quality treatment of runoff water. Individual solar PV panels will be held above the ground surface on mounting structures (a minimum of 800mm above ground level). This prevents sealing the ground with an impermeable surface beneath the solar panels, allowing rainfall/runoff to infiltrate to ground throughout the Principal Site. As a result, it is considered that the impermeable area within solar PV panel areas will remain substantively consistent to its pre-development state.	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. WAT-01 – secured under Requirement 13: Operational environmental management plan Design Parameters secured by Requirement 6: Detailed design approval **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8:

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Despite not contributing towards the impermeable areas, in order to limit the potential for channelisation from rainfall dripping off the end of the panels, the areas between, under, and surrounding the solar PV panels will be planted with native grassland and wildflower mix (noting that planting types are described within the **Framework LEMP [EN010154/APP/7.15]**). This planting will intercept and absorb rainfall running off the panels, preventing it from concentrating and potentially forming channels in the ground. New access roads will be permeable, in line with paragraph 2.10.85 from NPS EN-3 (Ref 18). Therefore, the Principal Site's access roads will not lead to an increase in impermeable area. The drainage regime of the access roads is therefore assumed to remain consistent with its pre-developed state. The Indicative Site Layout Plans (included in **Figure 3-2A: Indicative Fixed South Facing Site Layout Plan** and **3-2B: Indicative Single Axis Tracker Site Layout Plan [EN010154/APP/6.2]**) show options for distributed and centralised BESS areas, with the distributed BESS arrangement comprising BESS to be co-located with Solar Station Compounds spread across the Principal Site, and a single location BESS Compound under the centralised BESS arrangement and, like the Onsite Substation compound, are assumed to be 100% impermeable.		Landscape and ecological management plan Requirement 10: Surface and foul water drainage

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		In order to drain surface water from these proposed impermeable areas, it is proposed to construct a swale around the Solar Station Compounds, the single BESS compound, and Onsite Substation. The swales will collect and treat surface water before discharge. Paragraph 056 of the Planning Practice Guidance for Flood Risk and Coastal Change (Ref 19) states that the surface water should be discharged in the following hierarchy: a. Into the ground (infiltration); b. To a surface water body; and c. To a surface water sewer, highway drain, or another drainage system; to a combined sewer. Due to the current understanding of the ground conditions within the Principal Site, it is preferred to utilise surface water bodies to discharge runoff from the Solar Station Compounds / single BESS compound and Onsite Substation where possible. Therefore, surface water runoff from the Onsite Substation swales and the majority of the Solar Station Compound swales (where possible within the DCO Site) is proposed to be prioritised to local watercourses. The discharge to these watercourses will be maintained at existing greenfield runoff rates by restricting rates using a flow control (see **Appendix 9-D: Framework Surface Water Drainage Strategy [EN010154/APP/6.3]** for details of the greenfield runoff rates). The flow control will use a restriction on the outlet of the swale which will hold water back within the swale and release it at a controlled rate.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Swales around the BESS areas (for both distributed and centralised BESS arrangement options) and Onsite Substation area will be lined with an impermeable membrane or similar impermeable barrier to prevent any pollution from entering the ground. In the north of the Principal Site, there are seven Solar PV fields (fields 14, 18, 19, 25, 29, 32 and 34 as shown in **Appendix 9-D: Framework Surface Water Drainage Strategy [EN010154/APP/6.3]** Annex C) where surface water bodies are not available in suitable locations to discharge runoff from the lined Solar Station Compound swales; it is, therefore, proposed to discharge flows from the lined swales to infiltration swales lining the boundaries of these seven fields. The swales are to be designed to attenuate flows for the 1 in 100 year + 40% climate change event and fire water runoff (if deemed to be clean) and slowly infiltrate to ground whilst also making use of evapotranspiration. Discharge of runoff will be controlled from the Solar Station Compounds by penstocks at each location which can isolate the runoff from the BESS prior to entering the infiltration swales. As part of the non-statutory consultation for the Proposed Development, properties along The Avenue in Morton, adjacent to solar PV fields 25, 30 and 34, are known to experience surface water flooding from natural overland runoff from these fields. The online flood map for surface water (Ref 13) indicates		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		a medium flood risk to these properties. As a voluntary enhancement measure by the Applicant, edge swales will be provided to capture excess runoff from these PV fields to reduce existing surface water risk. Edge swales within Fields 25, 30, and 34 will be sized and located accordingly to capture as much excess overland surface water runoff that can be reasonably accommodated, providing betterment in this area by reducing the existing surface water flood risk to properties along The Avenue, in Morton. This is secured within the **Design Approach Document (Appendix A: Design Commitments) [EN010154/APP/7.3])**. Also refer to **Appendix 9-D: Framework Surface Water Drainage Strategy [EN010154/APP/6.3]** for further detail on the proposed swales to reduce flood risk to The Avenue. Transformers will be installed with suitable bunds to contain any oil spillage in the unlikely case of an oil-leakage event. Bunds will be designed to contain at least 110% of the volume of the oil to ensure there is some tolerance to prevent breaching of the bund. Under normal conditions any rainwater collected within the bund will be removed by use of pump, which automatically switches off if it detects the smallest presence of oil in the water. Pumps will be linked to control and monitoring equipment to raise alarms if oil is detected. No drainage design is proposed for the Cable Corridor during operation, as the Cable Corridor is not deemed to contribute any additional runoff due to the cables being buried below ground.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Regular inspection and maintenance will be carried out of the drainage systems, proposed SuDS and watercourse crossings. This will be carried out in accordance with good practice guidance. The drainage system will be designed in accordance with current guidance to ensure that the potential for siltation and blockages is minimised under normal operation. If there is any evidence of excessive erosion or sedimentation associated with new structures further actions will be considered to remedy that impact in as sustainable a way as practicable. The maintenance and monitoring requirement for the drainage system will be secured via **Appendix 9-D: Framework Surface Water Drainage Strategy [EN010154/APP/6.3]**.		
Water Environment		Where practicable, surface water will drain from the Proposed Development's swale-based drainage system to local receiving watercourses (field ditches) via a new ditch, as this avoids the need to construct an engineered outfall. Alternatively, where piped sections are required, these would be shortened and the last 10m section of the outfall route will be open green ditch other than where this affects maintenance of the channel by the IDB. This will be secured as part of the **Framework Surface Water Drainage Strategy** (**Appendix 9-D** of the ES **[EN010154/APP/6.3]**). Any engineered outfalls that may be required would be appropriately micro-sited to minimise loss of bank habitat, the need for bed scour or hard bank protection, and localised flow disturbance or disruption to sediment transport processes. It will	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. WAT-02 – secured under Requirement 13: Operational environmental management plan Design Parameters secured by Requirement 6: Detailed design approval

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		also avoid the creation of 'dead' spaces with sedimentation and vegetation blockage risks and to that effect it is not proposed that outfalls are recessed into the bank. Further site survey and micro-siting of outfalls would occur post consent.		Requirement 10: Surface and foul water drainage
Water Environment		The proposed BESS within the Solar Station Compounds (distributed BESS arrangement) and single BESS Compound (centralised BESS arrangement) areas require fire water tanks to supress a fire, should one break out. The BESS containers will contain an internal fire suppression system, with a sump to contain any water used in the event of an internal fire. This water will not be directed to the surrounding swales. It is proposed to contain the external fire water runoff within the swale surrounding the Solar Station Compounds, where it can be held and tested before either being released into the environment (if found to have no contaminants present, or contaminants that are within acceptable legal limits) or taken off site by a tanker for treatment elsewhere. The swale will then be cleaned of all contaminants. A **Framework Battery Safety Management Plan (BSMP) [EN010154/APP/7.17]** is included within the DCO application and outlines the fire management plan in more detail. Each swale will be underlain with an impermeable liner to prevent any contaminants entering the ground. The swale will be controlled by a penstock valve that can be closed before a	Operation	Design Parameters secured by Requirement 6: Detailed design approval Requirement 10: Surface and foul water drainage **Framework BSMP [EN010154/APP/7.17]** secured under Requirement 7: Battery safety management **Framework OEMP [EN010154/APP/7.8]** ID ref. WAT-03 – secured under Requirement 13:

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		fire is put out. The penstock valves will be located to the west of the Solar Station Compounds and Onsite Substation wherever practicable to reduce the potential of their operation being affected by the prevailing wind conditions directing a potential fire towards the penstock. National Fire Chiefs Council (NFCC) guidance ("Grid Scale Battery Energy Storage System planning – Guidance for Fire and Rescue Services", 2022, (Ref 14) has been used to determine the volume storage of fire water runoff. The NFCC guidance states firefighting supplies '*should be capable of delivering no less than 1,900 litres per minute for at least 2 hours*'. On top of this supply requirement, a 30% additional capacity has been applied for storage in the swale. This equates to approximately 300m^3. The 300m^3 storage is required for each group of BESS (i.e. 300m^3 will be required if there is one BESS container on its own or several BESS grouped together). This is based on the likely scenario that, in the unlikely event of a fire, only one BESS would be on fire at the any given time. By using the swale for fire water storage as well as surface water storage, there is the potential that, in the event of a fire, the swale may already contain surface water and reduce the capacity for fire water storage. Therefore, the swale should be sized to serve both purposes. It is considered overly conservative to provide the required fire water storage on top of the 1 in 100 year + 40% storage already provided, as it is extremely unlikely a fire will occur at the same time as the 1 in		Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		100 year event. Therefore, taking a pragmatic approach, an allowance has been made that a 1 in 2 year event could occur at the same time as a fire. Therefore, the swale will need to contain the 1 in 2 year event plus the fire water storage runoff or the 1 in 100 year + 40% event on its own, whichever is greater (thereby providing for the worst case scenario). In order to determine the attenuation volume required, a storage estimate calculation was made for a single Solar Station Compound based on the 1 in 2 year event (see Annex A of **Appendix 9-D: Framework Surface Water Drainage Strategy [EN010154/APP/6.3]**), which gave a value of 15m^3. A comparison was then made between the 1 in 2 year plus fire water storage and the 1 in 100 year + 40% event. See Table 13 within **Appendix 9-D: Framework Surface Water Drainage Strategy [EN010154/APP/6.3]**, which highlights the worst-case storage required in the design for each Solar Station Compound configuration and the single BESS Compound. Further detail on storage volumes are provided in the **Framework Surface Water Drainage Strategy** (**Appendix 9-D [EN010154/APP/6.3]**). The volume requirements for containment of fire water runoff within the swale and its configuration are subject to agreement with the Local Fire and Rescue Service.		
Water Environment		With regard to weed management, the Applicant has identified options for the management of the grassland created within the	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. WAT-O8 –

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		solar farm. This includes management by grazing and/or by mowing/strimming. Where mowing/strimming is required, as a worst case there may be localised use of herbicide or other spray chemical in small volumes. Should this be required, a method statement, operating procedure or similar will be prepared prior to the work commencing, this will include measures to protect ground and surface water, including working in dry weather and not in high winds, and maintaining appropriate buffers from watercourses. Application of chemicals would only be carried out by suitably competent personnel using products approved for UK use with adherence to manufacturer's instructions. This mitigation is secured through the **Framework OEMP** submitted as part of this DCO application **[EN010154/APP/7.8]**.		secured under Requirement 13: Operational environmental management plan **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan
Water Environment		Various water-related permissions may be required where it is not agreed with the relevant regulating authority to disapply them through the DCO. These permissions may include: a. Land drainage consent(s) under section 23 of the Land Drainage Act 1991 (Ref 15) for works affecting the flow in Ordinary Watercourses; b. Flood risk activity permit(s) from the Environment Agency under the Environmental Permitting Regulations (England and Wales) 2016 (Ref 10) in connection with watercourse crossings and drainage outfall installation. Note that the Applicant is seeking to disapply the need for Flood risk activity permit(s) under the draft DCO, with matters relating to flood risk to be agreed by way of	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. WAT-O9 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism

protective permissions for the benefit of the Environment Agency;

c. Water activity permit(s) from the Environment Agency under the Environmental Permitting Regulations (England and Wales) 2016 (Ref 10) for temporary construction and permanent operational discharges;
d. Trade effluent consent under the Water Industry Act 1991 (Ref 16) for the purposes of discharging trade effluent from welfare facilities during construction;
e. Full or temporary water abstraction licence(s) under section 24 of the Water Resources Act 1991 (Ref 9) (if more than 20 m^3/d is to be dewatered/over-pumped and exemptions do not apply) – see further detail below;
f. Temporary water impoundment licence under section 25 of the Water Resources Act 1991 (Ref 9) in connection with the laying of cables; and
g. Under IDB byelaws, prior written consent (outside of the planning process) is needed for certain works that may affect IDB watercourses such as any works within the channel or any drainage into an IDB watercourse.

There is the potential for the need for either full or temporary water abstraction licence(s) from the Environment Agency for the abstraction of water from the entry and exit pits associated with the underground watercourse crossings or other excavations where groundwater may be encountered, other than where exemptions apply. A full licence is required when more than 20m^3 per day of water may need to be abstracted for

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		more than 28 days. A temporary licence is applicable where the abstraction is less than 28 days. Where less than 20m^3 per day of water needs to be abstracted, no licence is required. However, in all circumstances it may be necessary to obtain a water activity permit(s) from the Environment Agency to discharge the water to ground or a watercourse if the water is considered to be 'unclean'.		
Water Environment		The design of the Proposed Development includes measures to avoid and minimise the risk of water pollution during its operation. These include: a. **Appendix 9-D: Framework Surface Water Drainage Strategy** of the ES **[EN010154/APP/6.3]** will be designed so as to mimic the natural drainage conditions within the DCO Site Boundary limits; As set out above, the **FBSMP [EN010154/APP/7.17]** includes measures to manage firewater runoff. Individual solar PV panels will be held above the ground surface on mounting structures. This prevents sealing the ground with an impermeable surface beneath the solar panels, allowing rainfall/runoff to infiltrate to ground throughout the Principal Site; In order to limit the potential for channelisation from rainfall dripping off the end of the panels, the areas between, under and surrounding the solar PV panels will be planted with native grassland and wildflower mix to intercept and absorb rainfall running off the panels, preventing it from	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. WAT-O4 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		concentrating and potentially forming channels in the ground; To prevent ponding occurring around the panels, a series of boundary (and some routing) swales will be constructed to mimic natural drainage conditions. Solar PV panels to be constructed and installed to accepted industry standards and appropriately maintained to mitigate the risk of escape of liquid substances into the water environment; Any areas of the Proposed Development containing oils, such as transformers, are to be bunded or have self-contained drainage systems. This would ensure that any leaks are contained and do not enter the surface water drainage system; and New access roads will be permeable.		
Water Environment		Regular inspections and maintenance of all equipment will be undertaken in order to identify any leaks or damage early. This will ensure that the structural integrity of the panels will be regularly observed. Any panels which require maintenance / replacement will be removed before there is any leakage of chemicals from the sealed units. Any leaks will be dealt with in a way that is compliant with the prevailing environmental legislation. The detailed OEMP(s) will include a regular schedule for visual inspection of the panels and all other solar infrastructure.	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. WAT-O5 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		There will also be regular inspection and maintenance of the drainage systems, proposed Sustainable Drainage Systems (SuDS), drainage outfalls, and watercourse crossings. This will be carried out in accordance with good practice guidance. If there is any evidence of excessive erosion or sedimentation associated with new structures further actions will be considered to remedy that impact as sustainably as possible.		
Water Environment		Regular inspection and maintenance of the drainage systems, SuDS and culverts will take place throughout the operational phase. This will be undertaken in accordance with good practice guidance. Details are included in **Appendix 9-D: Framework Surface Water Drainage Strategy** of the ES **[EN010154/APP/6.3]**. Regular inspection and maintenance of fencing will be undertaken throughout the operational phase. During these inspection and maintenance visits, debris build up would be identified and removed when necessary. Any fencing will be designed to prevent minor obstructions occurring allowing the continuation of flow routes (if present) unimpeded through the Principal Site.	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. WAT-O6 – secured under Requirement 13: Operational environmental management plan
Water Environment		As per Environment Agency requirements, all cables and subsurface infrastructure will be removed during decommissioning where they are located within an SPZ or areas of Principal aquifer (i.e. to the eastern extent of the Grid Connection Cable, east of Boothby Graffoe). The majority of the Principal Site would be returned to the landowner after decommissioning and will be available for its	Decommissioning	**Framework DEMP [EN010154/APP/7.7]**, ID ref. WAT-D1 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		original use. Areas of landscape and biodiversity mitigation and enhancement, as well as permissive paths delivered as part of the Proposed Development, would remain up until the land is returned to the previous landowners. Following this, the landowners would choose how the land is to be used and managed. The drainage of the land within the Principal Site will be checked after decommissioning. Should any agricultural drains be altered or removed, they will be restored such that agricultural activities could continue after decommissioning of the Proposed Development. The **Framework DEMP [EN010154/APP/7.9]** sets out the general principles to be followed in the decommissioning of the Proposed Development. A detailed DEMP will be prepared and agreed with the relevant authorities at that time of decommissioning, in advance of the commencement of decommissioning works, and would include timescales and transportation methods.		
Water Environment		Surface water management during decommissioning: b. 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 decommissioning activities. The measures will accord with the principles set out in industry guidelines Measures may include use and	Decommissioning	**Framework DEMP [EN010154/APP/7.7]**, ID ref. WAT-D2 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		maintenance of temporary lagoons, tanks, bunds and fabric silt fences etc., or silt screens as well as consideration of the type of plant used.Foul drainage during decommissioning will be provided by self-contained cess pit (or similar sealed tank), regularly emptied by a waste management Principal Contractor.The relevant sections of BS 6031: Code of Practice for Earthworks will be followed for the general control of site drainage.Where practical, any earthworks will be undertaken during the drier months of the year and earth moving works will avoid periods of very wet weather, to minimise the risk of generating runoff contaminated with fine particulates. However, it is likely that some working during wet weather periods will be unavoidable, in which case other mitigation measures (see below) will be implemented to control fine sediment laden runoff. Water may also be required to dampen earthworks during dry weather to reduce dust impacts, and any runoff generated will need to be appropriately managed by the Principal Contractor in accordance with the pollution prevention principles described in **Chapter 9: Water Environment** of the ES **[EN010154/APP/6.1]**. f. To protect watercourses from fine sediment runoff, topsoil/subsoil will be stored a minimum of 20 m from watercourses on flat lying land. Where this will not be practicable, and it is to be stockpiled for longer than a two-week period, the material will either be covered with geotextile mats, seeded to promote vegetation growth,		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		or runoff prevented from draining to a watercourse without prior treatment. g. Appropriately sized runoff storage areas for the settlement of excessive fine particulates in runoff will be provided. h. Site runoff will either be treated on-site and discharged under a Water Discharge Activity Permit to Controlled Waters from the Environment Agency (potentially also including infiltration to ground though this is unlikely to be suitable based on the geology of the area) or to the nearest public sewer with sufficient capacity for treatment following discussions with Anglian Water, or else removed from site for disposal at an appropriate and licensed waste facility i. Equipment and plant are to be washed out and cleaned in designated areas within the DCO Site only, where runoff can be isolated for treatment before disposal as outlined above. j. Mud deposits will be controlled at entry and exit points to the DCO Site using wheel washing facilities and/or road sweepers operating during earthworks activities or other times as required. k. 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.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		l. The Water Management Plan (WMP) (which will be produced pre-decommissioning) will include details of water quality monitoring. This will be based on a combination of visual observations and reviews of the Environment Agency's automatic water quality monitoring network.		
Water Environment		Management of flood risk: a. Topsoil and other decommissioning materials will be stored outside of the 1 in 100-year floodplain extent where feasible. If areas located within Flood Zone 2/3 are to be utilised for the storage of decommissioning materials, this will be done in accordance with the applicable flood risk activity regulations, if required. b. Connectivity will be maintained between the floodplain and the adjacent watercourses, with no changes in ground levels within the floodplain as far as practicable. c. During the decommissioning phase, the Principal Contractor will monitor weather forecasts on a monthly, weekly and daily basis, and plan works accordingly. For example, works in the channel of any watercourse will be avoided or halted were there to be a significant risk of high flows or flooding. d. The decommissioning laydown area site office and supervisor will be notified of any potential flood occurring by use of the Floodline Warnings Direct or equivalent service.	Decommissioning	**Framework DEMP [EN010154/APP/7.7]**, ID ref. WAT-D3 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		e. . All decommissioning compounds will be located outside of areas of fluvial flood zones 2 and 3 including allowances for climate change, where practicable. Details of the response to an impending flood will include: a. A 24-hour availability and ability to mobilise staff in the event of a flood warning. b. The removal of all plant, machinery and material capable of being mobilised in a flood for the duration of any holiday close down period where there is a forecast risk that the DCO Site may be flooded. c. Details of the evacuation and site close down procedures. d. Arrangements for removing any potentially hazardous material and anything capable of becoming entrained in floodwaters, from the temporary works areas. e. The Principal Contractor will sign up to Environment Agency flood warning alerts and describe in the Emergency Response Plan the actions it will take in the event of a flood event occurring. These actions will be hierarchical meaning that as the risk increases the Principal Contractor will implement more stringent protection measures. f. The temporary construction compounds proposed to be located on either side of the River Brant (illustrated on Figure 3-1 [EN010154/APP/6.2]), will be smaller 'HDD Camps'. These HDD Camps will be located around 20 – 40m from the HDD entry and exit points and will be		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		specifically for the HDD activities; they will be smaller in size and shorter in duration (set up, used and demobilised again within 2-4 days). HDD camps will be located in Flood Zone 2 land with a 1% probability of flooding each year. Due to the short duration of each HDD camp (typically a few days for a small crossing) the Contractor is able to avoid this activity coinciding with a flood event with good confidence. The Contractor will check the ground conditions onsite, the water levels in the watercourse, and weather forecasts daily and postpone the HDD works if the HDD camp locations are already flooded or if heavy rain is forecast in the few days before or during the HDD camp setup. Cleanup and demobilisation typically takes 0.5 -1 day for a HDD camp and therefore in the unlikely event that heavy rainfall occurs at the start of HDD, it should be possible to remove the camp before the location floods. g. In the instance of a relevant flood event (as notified in a flood warning alert from the Environment Agency), the HDD Camps either side of the River Brant within the Cable Corridor (within the Witham Washland Flood Compensation Area) will be demobilised if required; h. If water is encountered during below ground decommissioning, 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) and the		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Environmental Permitting Regulations (2016) or the equivalent legislation at the time. i. 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.		
Water Environment		Accidental spillage within the DCO Site: a. 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, which includes 10% more capacity than is needed). b. Any plant, machinery or vehicles will be inspected before every use and maintained to ensure they are in good working order and clean for use in a sensitive environment. This maintenance is to take place off site if practicable or, if on-site, only at designated areas within the site compounds. Only decommissioning equipment and vehicles free of all oil/fuel leaks will be permitted on the DCO Site. Drip trays will be placed below static mechanical plant. c. All washing down of vehicles and equipment will take place in designated areas and wash water will be prevented from passing untreated into watercourses. d. All refuelling, oiling and greasing of plant 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	Decommissioning	**Framework DEMP [EN010154/APP/7.7]**, ID ref. WAT-D4 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		reasonably practicable. Vehicles will not be left unattended during refuelling. e. As far as reasonably practicable, only biodegradable hydraulic oils will be used in equipment working in or over watercourses. f. All fixed plant used will be self-bunded. g. Mobile plant is to be in good working order, kept clean, fitted with absorbent plant 'nappies' at all times and are to carry spill kits. h. The WMP (which will be produced pre-decommissioning) will include details for pollution prevention and will be prepared and included alongside the final DEMP. Spill kits and oil absorbent material will be carried by mobile plant and located at high risk locations across the Proposed Development and regularly topped up. All decommissioning workers will receive spill response training and tool box talks. i. The area of decommissioning will be secured to prevent any vandalism that could lead to a pollution incident. j. Waste/debris are to be prevented from entering any surface water drainage or water body. k. Surface water drains on public roads trafficked by plant or within the decommissioning compounds 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.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		l. 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 DCO Site for appropriate disposal at a suitably licenced waste facility. m. Water quality monitoring of potentially impacted watercourses will be undertaken to ensure that pollution events can be detected against baseline conditions and can be dealt with effectively.		
Landscape and Visual Amenity		The following design principles are incorporated into the Proposed Development: a. All solar PV panels and associated infrastructure has been sited within the existing field pattern, protecting existing vegetation, and maximising the natural screening provided by field boundary vegetation. b. The solar PV panels and associated infrastructure have been sited to preserve, as far as possible, cross valley views from Thorpe on the Hill and important views towards Lincoln Cathedral available from Tunman Hill. c. Larger infrastructure, such as the Onsite Substation and BESS Compound, have been located within areas of enclosed landscape, bound by frequent small woodlands and hedgerows, in order to minimise potential visual effects. d. Solar PV panels are set back from settlement boundaries, such as fields immediately adjacent to	Operation	Design Parameters secured by Requirement 6: Detailed design approval

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Bassingham, Thorpe on the Hill, and Morton Lane. Where this has not been possible, offsets (typically measuring in excess of 100m) and new planting have been incorporated to retain a sense of openness whilst screening the solar PV panels. e. The Principal Site mostly avoids land adjacent to the local road network to minimise the visual impact on people travelling. Where this has not been possible, bespoke offsets (measuring a minimum of 20m) and mitigation planting have been incorporated. f. The siting of solar PV panels and associated infrastructure seeks to minimise instances of development on both sides of Public Right of Way (PRoW). Where development is proposed adjacent to a PRoW, an offset of a minimum of 10m either side of the centre line has been incorporated. Where development is proposed on both sides of a PRoW, sections of wider offsets have also been integrated to avoid a 'canyon effect', and vary the extent of views experienced across the Principal Site where practicable. g. The grid connection cable within the Cable Corridor will be buried below ground and has been sited alongside existing large-scale pylons, which are themselves detracting features in the landscape, to avoid affecting new areas within the sensitive landscape character of Lincoln Cliff.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Landscape and Visual Amenity		Incorporation of offsets from trees and woodlands to ensure the health and longevity of vegetation, retaining the existing structure of the landscape. This includes minimum offsets of: a. appropriate buffers from individual trees (as determined by the root protection area); b. 15m from woodland; c. 5m from hedgerows; and d. 10m from watercourses. The design uses existing tracks and lanes that cross the Principal Site, wherever practicable, in order to minimise the disturbance of existing vegetation.	Operation	Design Parameters secured by Requirement 6: Detailed design approval
Landscape and Visual Amenity		The introduction of grassland beneath the Solar PV Panels, and across the extent of the wider Principal Site, will enhance biodiversity compared to the current agricultural landscape. Hedgerows will generally be improved through 'gapping up' where they are currently fragmented, improving landscape structure and ecological connectivity. A substantial offset has been integrated along the eastern edge of Witham St Hughs, which continues the green corridor along the drain to the north. Mitigation planting will include a publicly accessible orchard and hedgerows with trees.	Operation	Design Parameters secured by Requirement 6: Detailed design approval **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		The grassland and new planting that has been embedded into the Proposed Development to provide landscape and visual mitigation will require management and maintenance in order to provide the intended effect, as set out in the **Framework LEMP [EN0101054/APP/7.15]**.		
Landscape and Visual Amenity		The underground cable connection between the Onsite Substation and the proposed National Grid substation near Navenby (which is subject to a separate TCPA application) has been selected to avoid long term landscape and visual impacts on the sensitive landscape of Lincoln Cliff by being below ground and closely following the route of existing large scale pylons. Fencing around the Principal Site perimeter will be wooden posts with stock proof fencing, measuring up to 2m high, allowing visual permeability, thereby minimising its visual impact.	Operation	Design Parameters secured by Requirement 6: Detailed design approval Requirement 9: Fencing and other means of enclosure
Landscape and Visual Amenity		The **Framework Landscape and Ecological Management Plan (LEMP) [EN010154/APP/7.15]** sets out the measures proposed to mitigate the potential impacts and effects on landscape (and biodiversity) features during construction, and to enhance the landscape and biodiversity value of land within the DCO Site Boundary (i.e. the green infrastructure), including: a. During construction the retained vegetation will be protected. Measures to be employed will include the use of clearly defined stand-offs, managing the structure and integrity of the retained vegetation, and undertaking any	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. LV-C1 – secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		pruning outside of the bird breeding season and in accordance with hedgerow regulations. a. Retained trees will be periodically inspected by an arboriculturist during construction. Where construction works are adjacent to retained trees, works will be undertaken under a watching brief to record root loss and to recommend further arboricultural works where required. A grassland buffer will be maintained around retained individual trees. b. Removal of existing hedgerow or existing trees will only occur where access is required. These crossings will, wherever practical, be located at current field access locations or in areas where there are existing gaps in the hedgerow and no trees. c. Where hedgerows are present within visibility splays at access and egress points from the local highway network, vegetation management will be used to maintain safety during the period of construction. These hedgerows will be reduced in height to 0.9m to allow suitable visibility, whilst avoiding hedgerow removal. d. An Environmental Clerk of Works (EnvCoW) will be tasked with ensuring that construction-related environmental mitigation measures are properly implemented, monitored, and maintained. These measures will include, but are not limited to, vegetation clearance, species identification, and exclusion of protected or non-protected species. The EnvCoW's responsibilities will encompass activities that could impact		**Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		biodiversity, such as providing advice on methods to prevent or minimise light spill, as well as delivering Toolbox Talks before starting any work that might affect habitats and species. e. The Contractor will be responsible for establishing, managing, and monitoring the implementation of landscape and ecological mitigation during the five-year establishment aftercare period. The Applicant will inspect and record the success of this establishment during that time. A detailed LEMP, which takes into account and is prepared in accordance with the principles of the **Framework LEMP [EN010154/APP/7.15]**, will be submitted to and approved by the relevant planning authority (secured through DCO Requirement). During construction, as far as is practicable, construction works will be limited to daylight hours, with focussed task specific lighting provided where this is not practicable. In winter months, mobile lighting towers will be used in isolated work areas. There will be lighting at the main construction compounds while construction is underway.		
Landscape and Visual Amenity		The **Framework LEMP [EN010154/APP/7.15]** sets out the measures proposed to mitigate the potential impacts and effects on landscape (and biodiversity) features, and to enhance the landscape and biodiversity value of the sites (i.e. the green	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. LV-O1 – secured under

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		infrastructure). Details of monitoring and maintenance required are set out in the Framework LEMP.		Requirement 13: Operational environmental management plan **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan
Landscape and Visual Amenity	Arboriculture	the detailed design stage, all Solar PV panels will be positioned outside the RPAs of retained trees. Retained trees will require periodic inspection to assess their structural condition and safety. Occasional removal of dead wood or other remedial works to address significant defects may be required in areas of frequent access. This is unlikely to be overly onerous and will be the responsibility of the tree owner. Further detail can be found in the **Arboricultural Impact Assessment** (**Appendix 10-H** of the ES **[EN01054/APP/6.3]**).	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. LV-O2 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Landscape and Visual Amenity	Ecology and Nature Conservation	The proposed lighting has been designed to avoid and minimise the potential for adverse landscape and visual effects. The following mitigation has been embedded: a. No areas of the Proposed Development will be continuously lit. b. Operational lighting will be triggered by Passive Infra-red Detector (PID) systems, which will be installed around the perimeter of the Proposed Development. c. Lighting will be directional with care to minimise potential for light spillage beyond the DCO Site particularly towards neighbouring properties, habitats, highways or waterways. d. Lights installed will be of the minimum brightness and/or power rating capable of performing the desired function. e. Light fittings will be used to reduce the amount of light emitted above the horizontal (reduce upward lighting). f. The lighting of the primary substation will be motion sensor triggered, that would operate from dusk. g. Low level lighting on specific operational units will be triggered by motion sensors, from dusk. h. The inward facing CCTV cameras will typically use night-vision technology and will not require additional lighting. i. During maintenance (as relevant) the cleaning of the solar PV panels will require tractor mounted lighting, which is similar to that used during night-time arable	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. LV-O3 and ECO-O3 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		harvesting operations currently undertaken within the Principal Site.		
Landscape and Visual Amenity	Arboriculture	Areas of habitat and biodiversity mitigation and enhancement, as well as permissive paths delivered as part of the Proposed Development would remain up until the Proposed Development is decommissioned. Hedge and tree planting will be retained as far as possible where its removal is not required to facilitate decommissioning, with the Principal Site then handed over the landowners following decommissioning. The following measures to minimise impacts from decommissioning works would apply. **Screening:** a. Existing vegetation along the boundary of the Proposed Development will be retained and managed where practicable to ensure its continued presence and to aid the screening of low-level views. **Site Management:** a. Ensuring a tidy and neat working area, covering stockpiles and storing topsoil in accordance with good practice measures as detailed the **Framework Soil Management Plan** submitted alongside the DCO application **[EN010154/APP/7.10]**. **Tree Protection:**	Decommissioning	**Framework OEMP [EN010154/APP/7.8]** ID ref. LV-D1 and ARB-D1– secured under Requirement 13: Operational environmental management plan **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		a. All decommissioning works to be in line with Wildlife and Countryside Act 1981 (or equivalent). b. Any hedgerow removal that may be required as part of decommissioning works are to be carried out in line with the provisions in the DCO and (where applicable) the latest regulations at the time of decommissioning (currently the Hedgerow Regulations 1997 and The Management of Hedgerows (England) Regulations 2024-Draft). c. Tree works will be undertaken in accordance with **Appendix 10-H: Arboriculture Impact Assessment** of the ES **[EN01054/APP/6.3]**. Should the requirement for additional tree works be identified, this will be discussed with an arboriculturist and no works will be undertaken without the prior consent of the relevant Local Planning Authority. d. 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 and Recommendations and National Joint Utilities Group (NJUG) Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees; and e. All necessary protective fencing will be installed prior to the commencement of decommissioning works in accordance with an Arboricultural Method Statement, if required. **Lighting Strategy:**		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		a. Temporary site lighting during decommissioning required to enable safe working during decommissioning in hours of darkness will be designed as far as reasonably practical so as not to cause a nuisance outside of the DCO Site. Standard best practice measures will be employed to minimise light spill, including glare during decommissioning.		
Noise and Vibration	Traffic and Transport	Best Practicable Means that would be implemented during construction and decommissioning works, as set out in the **Framework CEMP** (**[EN010154/APP/7.7]**) and **Framework DEMP [EN010154/APP/7.9]**, are presented below: a. Ensuring that all appropriate processes, procedures and measures are in place to minimise noise before works begin and throughout the construction programme. b. 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. c. Ensuring that, where reasonably practicable, noise and vibration are controlled at source (e.g., the selection of inherently quiet plant and low vibration equipment), review of the construction programme and methodology to consider quieter methods, consideration of the location of equipment on-site and control of working hours. d. Use of modern plant, complying with applicable UK noise emission requirements.	Construction and Decommissioning	**Framework CEMP [EN010154/APP/7.7]**, ID ref. NV-C1 and NV-D1 – secured under Requirement 12: Construction environmental management plan **Framework CTMP [EN010154/APP/7.18]** Requirement 14: Construction traffic management plan **Framework DEMP [EN010154/APP/7.7]**, ID ref. NV-D1 – secured under

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		e. Hydraulic techniques for breaking concrete or rocks to be used in preference to percussive techniques, where reasonably practicable. f. When piling, use of lower noise piling where reasonably practicable. g. Off-site pre-fabrication where reasonably practicable. h. Regular and effective maintenance by trained personnel will be undertaken to keep plant and equipment working to manufacturer's specifications. i. All construction plant and equipment to be properly maintained, silenced where appropriate, operated to prevent excessive noise and switched off when not in use. j. Loading and unloading of vehicles, dismantling of site equipment or moving equipment or materials around the DCO Site to be conducted in such a manner as to minimise noise generation, as far as reasonably practicable. k. All vehicles used on-site shall incorporate broadband reversing warning devices as opposed to the typical tonal reversing alarms to minimise noise disturbance, where reasonably practicable. l. Appropriate routing of construction traffic on public roads and along access tracks to avoid sensitive areas where practicable in line with the **Framework CTMP** (**[EN010154/APP/7.18]**).		Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		m. Unnecessary revving of engines will be avoided, and equipment will be switched off when not in use. n. Drop heights of materials will be minimised. o. Plant and vehicles will be sequentially started up rather than all together. p. Plant will always be used in accordance with manufacturers' instructions. Care will be taken to site equipment away from noise-sensitive areas. Where possible, loading and unloading will also be carried out away from such areas. q. Any percussive piling works within 400m of residential properties will only occur for two periods of four hours (between 08:00 to 18:00) with at least one hour break between the two periods. Core working hours onsite will be as set out in the **Framework CEMP [EN010154/APP/7.7]**. A construction noise monitoring scheme shall be developed as per the **Framework CEMP** (**[EN010154/APP/7.7]**) following appointment of a principal contractor and prior to commencement of construction works. Monitoring during the decommissioning phase will be undertaken in accordance with the **Framework DEMP [EN010154/APP/7.9]**. The effect of noise and vibration on nearby sensitive receptors can be minimised through a good communication strategy. Prior		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		to construction works being undertaken, liaison will be undertaken with occupiers of sensitive receptors that may be adversely affected by construction noise and vibration. Noise complaints will be monitored and reported to the Applicant for immediate investigation and action. A display board will be installed on-site, and a website will be set up. These will include contact details for the Community Liaison Officer or alternative with whom nuisance or complaints can be lodged. A logbook of complaints will be prepared and managed by the Site Manager. The communication strategy and noise complaint system will be secured as part of the **Framework CEMP [EN010154/APP/7.7]** and **Framework DEMP [EN010154/APP/7.9]**. Where high noise generating works are required to be undertaken outside of core daytime working hours, they will comply with the restrictions stated in the **Framework CEMP [EN010154/APP/7.7]**, and consents will be sought from the relevant local authority under Section 61 of the Control of Pollution Act 1974 (Ref 17) for the proposed construction works, excluding non-intrusive surveys, as relevant. The Section 61 application will set out the specific method of working, calculations of noise levels at nearby receptors, the actual working hours required, noise monitoring locations, details of communication measures and the mitigation measures implemented to minimise noise and vibration impacts.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		As requirements for HDD activities will not be finalised until a principal contractor is appointed, a hierarchy of mitigation measures is contained in the **Framework CEMP** (**[EN010154/APP/7.7]**) to ensure that significant noise effects do not occur due to potential night-time works: a. Where practicable, avoid HDD works within 200 m (the distance at which significant effects are predicted at night) of residential receptors (although this will depend on the results of the ground investigation survey); b. Where HDD activities may occur within 200 m of sensitive receptors, the option for open cut cable laying will be explored as an alternative to HDD. (This is not viable if HDD is a commitment in specific locations due to stakeholder requests or other environmental issues); c. Where HDD activities may occur within 200m of sensitive receptors, the timing of the HDD activities will be delayed until after 10am to avoid more sensitive time periods; d. The potential for the use of quieter equipment than listed in **Appendix 11-D: Construction and Operational Noise Modelling** of the ES (**[EN010154/APP/6.3]** will be explored by the principal contractor; and e. Depending on the location, plant and timing of works, temporary acoustic fencing will be installed around the HDD site boundary to screen receptors from noise emission if HDD works are required within 200 m of a sensitive receptor. This mitigation could provide 10 dB of		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		attenuation when the noise screen completely hides the sources from the receptor. Consideration has been given to traffic routing, timing, and access points to the Proposed Development to minimise noise impacts at existing receptors as detailed in **Chapter 13: Traffic and Transport** of the ES (**[EN010154/APP/6.1]**. Management of Heavy Goods Vehicles (HGV) on the highway network will be managed through the **Framework CTMP** (**[EN010154/APP/7.18]**). Appropriate routing of construction and decommissioning traffic on public roads and along access tracks will be pursuant to the CTMP.		
Noise and Vibration		If driven piling is to be undertaken, a commitment is included in the **Framework CEMP** (**[EN010154/APP/7.7]**) to undertake a construction vibration risk assessment such that significant effects would be avoided. The risk assessment would identify the probability of significant levels of vibration at residential properties (i.e. exceeding a PPV of 1mm/s) resulting from any proposed driven piling activities. This risk assessment will identify techniques least likely to cause disturbance to occupants of surrounding residential properties. If it is unavoidable that the Significant Observed Adverse Effect Level (SOAEL) would be exceeded, the risk assessment would focus on limiting the exposure of nearby receptors to levels of vibration exceeding the SOAEL as far as reasonably practicable. The timing of any driven piling within 60m to residential receptors will be delayed until after 10am to avoid more sensitive time periods.	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. NV-C1 – secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Mobile acoustic screening will be applied using temporary barriers where any construction activities are proposed within 20 m of a residential property. If driven piling is to be undertaken, a risk assessment identifying the probability of damage to underground services as a result of construction induced vibration will be undertaken. The risk assessment would be undertaken with reference to conservative criteria from section B.4.4 of BS 5228-2, which identifies the maximum level of vibration that underground services should be subjected to as: a. maximum PPV for intermittent or transient vibrations 30 mms^{-1}; b. maximum PPV for continuous vibrations 15 mms^{-1}.		
Noise and Vibration		Embedded mitigation measures that will be applied for the operational phase of the Proposed Development are summarised as follows: a. Plant selection (noise emissions will be one of the criteria evaluated when procuring equipment for use on the DCO Site); and b. Design, location, and orientation of Solar Stations, BESS, and the Onsite Substation to minimise noise at receptors. Plant that will be used in the Proposed Development has not yet been finalised. Consequently, a conservative approach has	Operation	Requirement 16: Operational noise **Framework OEMP [EN010154/APP/7.8]** ID ref. NV-O1 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		been taken when defining sound data for noise sources and the Applicant will consider at detailed design if it is possible that quieter plant can be incorporated into the final design. Quieter plant would be the most effective way of controlling noise emissions. The Proposed Development layout has been optimised to locate inverters and BESS, in both the centralised and distributed layouts as far as practically possible from sensitive receptors where the highest levels of noise were predicted. The illustrative site layout (**Figure 3-2A: Indicative Fixed South Facing Site Layout Plan [EN010154/APP/6.2],** and **Figure 3-2B: Indicative Single Axis Tracker Site Layout Plan [EN010154/APP/6.2]**) has been designed to locate Solar Stations at least 200m from residential properties. Although the indicative Proposed Development layout has been optimised to minimise noise levels at sensitive receptors, there is a requirement to retain some flexibility on where infrastructure will be located on-site. Consequently, if there is a decision in the future to move noise generating infrastructure closer to sensitive receptors than shown in **Figure 11-1: Receptor and Noise Monitoring Positions** of the ES **[EN010154/APP/6.2]**), the Applicant commits that noise at sensitive receptors will be no higher than the levels presented below. The measures to achieve this are discussed in Section 11.8 of **Chapter 8: Noise and Vibration** of this ES **[EN010154/APP/6.1]** and secured in the **Framework OEMP [EN010154/APP/7.8]** in accordance		Design Parameters secured by Requirement 6: Detailed design approval

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		with the relevant Requirement in Schedule 2 of the DCO. Modelling will be undertaken at the detailed design phase to confirm the noise levels at sensitive receptors will be no higher than the levels presented below. Low frequency noise can be very difficult to predict with a high level of certainty and similarly hard to identify and resolve if present. This is because it can be generated by the unexpected interactions between system components and can be amplified by the geometry of the site and receptor buildings. The issue of low frequency noise will be considered during the detailed design post consent for the Onsite Substation and eliminated through design or appropriately mitigated through isolation and/ or attenuation measures, where appropriate.		
Noise and Vibration		Operational noise levels no greater than noise predictions will be achieved. To accommodate this requirement but retain flexibility in the design, operational noise limits are defined based on the highest predicted operational noise levels from the centralised BESS layout and the distributed BESS layout. Modelling will be undertaken at the detailed design phase to confirm the noise levels at sensitive receptors will be no higher than the levels established. Operational noise limits are defined in the table below, with reference to the receptors defined in **Chapter 11: Noise and Vibration** of the ES **[EN010154/APP/6.1]**: **Receptor Reference** — **Noise Limit LAr,Tr dB** R1 — 30	Operation	Requirement 16: Operational noise **Framework OEMP [EN010154/APP/7.8]** ID ref. NV-O1 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)		Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		R2	29		
		R3	31		
		R4	28		
		R5	37		
		R6	33		
		R7	29		
		R8	26		
		R9	28		
		R10	34		
		R11	33		
		R12	30		
		R13	34		
		R14	23		
		R15	28		
		R16	33		
		R17	26		
		R18	31		
		R19	32		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)		Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		R20	30		
		R21	33		
		R22	28		
		R23	33		
		R24	29		
		R25	24		
		R26	42		
		R27	37		
		R28	38		
		R29	32		
		R30	27		
		R31	23		
		R32	24		
		R33	28		
		R34	35		
		R35	38		
		R36	36		
		R37	29		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)		Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		R38	32		
		R39	31		
		R40	29		
		R41	34		
		R42	36		
		R43	37		
		R44	32		
		R45	36		
		R46	34		
		R50	31		
		R51	31		
Noise and Vibration	Traffic and Transport	Consideration will be given to traffic routing, timing and access points to the Proposed Development in the Decommissioning Traffic Management Plan (DTMP). Scheduling of decommissioning traffic from different work teams will be undertaken to avoid overlap of route usage to minimise noise impacts at existing receptors.			**Framework OEMP [EN010154/APP/7.8]** ID ref. NV-O2 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
Socio-Economics and Land Use	Noise and Vibration Traffic and Transport Landscape and Visual Amenity	Mitigation measures embedded into the design of the Proposed Development comprise the following: a. Positioning the above ground infrastructure to avoid Best and Most Versatile (BMV) land as far as practicable; b. PV panel arrangement designed to provide a minimum 0.8 m ground clearance to facilitate sheep grazing under the panels; c. Locating noise-emitting equipment away from residential receptors; d. Providing additional planting to sympathetically integrate the Proposed Development into the local area; e. Avoiding closure of PRoW and existing permissive paths and keeping any PRoW diversions as localised as reasonably practicable. Additional permissive paths are proposed to further enhance the local connectivity (the **Framework PRoW Management Plan [EN010154/APP/7.14]** details mitigation measures to reduce impacts on PRoW); and f. Developing an optimal access strategy for construction, operation, and decommissioning to mitigate effects relating to transport, which in turn will mitigate the effects on the local community and existing facilities from a Socio-Economic and land use perspective. The siting of solar PV panels and associated infrastructure seeks to minimise instances of development on both sides of	Construction, Operation and Decommissioning	**Framework CEMP [EN010154/APP/7.7]**, ID ref. SOC-C1 and SOC-C2 – secured under Requirement 12: Construction environmental management plan **Framework DEMP [EN010154/APP/7.7]**, ID ref. SOC-D1 – secured under Requirement 20: Decommissioning Requirement 16: Operational noise **Framework OEMP [EN010154/APP/7.8]** ID ref. SOC-O1 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		PRoW. Where development is proposed adjacent to a PRoW, an offset of a minimum of 10m from the centre line has been incorporated. Where development is proposed on both sides of a PRoW, sections of wider offsets have also been integrated to vary the extent of views experienced across the Principal Site where practicable. A **Framework Public Rights of Way Management Plan (PRoWMP) [EN010154/APP/7.14]** is submitted as part of the DCO application which sets out how PRoW would be managed during the Proposed Development construction phase to ensure the safety of users and site staff. During the decommissioning phase, there are not expected to be any PRoW closures although some minor diversions are likely to be required to provide safe access across the DCO Site whilst decommissioning activities are taking place as set out within the **Framework PRoW Management Plan** submitted alongside the Application **[EN010154/APP/7.14].** These diversions will be temporary and expected to be for a short duration. Detailed DEMP(s) will confirm PRoWs affected and management measures in consultation with the LPA.		Design Parameters secured by Requirement 6: Detailed design approval **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan Requirement 17: Permissive paths Requirement 18: Public rights of way
Socio-Economics and Land Use		The agricultural land within the Cable Corridor is only temporarily required during construction and will be restored to the current ALC grade. The development of a detailed Soil Management Plan will document good practice requirements for	Construction, Operation and Decommissioning	**Framework CEMP [EN010154/APP/7.7]**, ID ref. SOC-C3 – secured under

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		soil handling and protection during cabling. Agriculture use above the cable route will continue during operation, with cabling below the depth of agricultural cultivations. The soil survey of a defined cable route is proposed to be undertaken post-consent, secured in the **Framework CEMP [EN010154/APP/7.7]**. The restoration to pre-construction condition of the soil resource is included in the **Framework Soil Management Plan [EN010154/APP/7.10]** which is secured under the **Framework CEMP [EN010154/APP/7.7]**). Good practice recommendations on soil handling and protection within the Principal Site will be established within the detailed Soil Management Plan and the ALC grade will be unaltered through operation and decommissioning. A **Framework Soil Management Plan** has been prepared and is submitted with the DCO application **[EN010154/APP/7.10]**. The **Framework Soil Management Plan** submitted alongside the DCO application **[EN010154/APP/7.10]** details the threats to the soil resource during the operational phase and required management measures. In summary, all vehicle movements should be confined to access tracks unless there is a specific need to take a vehicle onto the grassed surface. All use of plant and transport vehicles within the DCO Site for maintenance during the operational phase should comply with good practice guidance for handling soils. Vehicle movements for mowing and/or supervision of livestock will be confined to periods of		Requirement 12: Construction environmental management plan **Framework OEMP [EN010154/APP/7.8]** ID ref. SOC-O2 – secured under Requirement 13: Operational environmental management plan **Framework Soil Management Plan [EN010154/APP/7.10]** secured under Requirement 15: Soil management plan **Framework DEMP [EN010154/APP/7.7]**, ID ref. SOC-D2 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		higher grass growth and naturally dryer soil conditions. Where the DCO Site does have wet conditions and plastic soils during the growing season, mowing operations and/or livestock grazing should be postponed until field tests demonstrate that topsoil within the DCO Site has dried to a friable consistence. The **Framework Soil Management Plan** submitted alongside the DCO application **[EN010154/APP/7.10]** also details the threats to soil resource during the decommissioning phase. Full details will be provided in the detailed SMP which will be secured by a DCO Requirement.		
Traffic and Transport		The following will be implemented: • Implementation of a **Framework CTMP [EN010154/APP/7.18]** and **Framework CEMP [EN010154/APP/7.7]** details and formalises the measures that will mitigate construction-related effects, as well as the **Framework DEMP [EN010154/APP/7.9]** that details and formalises the measures to mitigate decommissioning-related effects; a. Providing suitable points of access for construction vehicles with adequate visibility, with any supporting improvements (e.g. vegetation clearance) to take place within the highway boundary and the DCO Site Boundary if required; b. Delivering internal construction routes through the Principal Site, to allow vehicles to access all areas via the site access points;	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. TT-C1 – secured under Requirement 12: Construction environmental management plan Requirement 17: Permissive paths Requirement 18: Public rights of way

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		c. Maintaining access to and along PRoW and the existing permissive paths or otherwise providing temporary or permanent PRoW and permissive path diversion routes where necessary to avoid any closures or potential conflicts with the Proposed Development where possible. The diversion routes will be agreed with the local authorities prior to construction. The **Framework PRoW Management Plan [EN010154/APP/7.14]** contains further measures for PRoW and permissive path management; d. Managing areas where the proposed construction route crosses any existing local access roads, including by maximising visibility between construction vehicles and other users (including pedestrians and road users), implementing traffic management e.g. advanced signage to advise other users of the works, as well as manned controls at each crossing point (marshals/ banksmen), with a default priority that construction traffic will give-way to other users; e. Restricting HGV movements to certain routes (see HGV routing plan in **Figure 13-4: Heavy Goods Vehicle (HGV) Routing [EN010154/APP/6.2]**); f. Reducing HGV deliveries during certain times of the day (e.g. between 07:00 and 09:00, as well as between 17:00 and 19:00), to avoid increasing traffic levels on the surrounding highway network during the traditional weekday peak hours;		**Framework CTMP [EN010154/APP/7.18]** Requirement 14: Construction traffic management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		g. Implementing a Delivery Management System to control the bookings of HGV deliveries from the start of the construction period. This will be used to regulate the arrival times of HGVs via timed delivery slots, as well as to monitor compliance of HGV routing; h. Implementing a monitoring system to record the route of all HGVs travelling to and from the Proposed Development, to record any non-compliance with the agreed routing plan/ delivery hours and to communicate any issues to the relevant suppliers to ensure the correct routes are followed; i. Developing a communications strategy including regular meetings with contractors to review and address any issues associated with travel to/ from the Proposed Development, as well as to relay information including any restrictions and requirements which should be followed; j. Implementing Temporary Traffic Management (TTM) where required during the period when the Cables are installed to connect the proposed National Grid substation near Navenby with the Proposed Development Onsite Substation. k. Encouraging local construction staff to car share to reduce single occupancy car trips, by promoting the benefits of car sharing such as reduced fuel costs and by providing dedicated parking spaces within the compounds for those car sharing. A Car Share scheme will be implemented to match potential sharers and to		

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		help staff identify any colleagues who could potentially be collected along their route to/ from site; l. Implementing a shuttle bus service to transfer staff to/ from nearby catchment areas to reduce vehicle trips on the surrounding highway network. At this stage it is expected that the majority of shuttle services would travel to/ from Lincoln (northeast), with the remainder travelling to/ from Newark on Trent (southwest), Grantham and Sleaford (south) and Retford and Worksop (northwest) to collect/ drop off construction staff from 'hubs' at each of these six locations. Up to eight shuttle bus services will be provided, each with a capacity of 50 staff, to transfer the expected peak demand (330 construction workers) to the Principal Site compounds; m. Implementing shuttle bus service to transfer staff internally within the Principal Site and Cable Corridor working areas as required e.g. between/across the different land parcels (where possible) to minimise external trips on the surrounding highway network, where utilising trips on the surround highway network, consolidating the trips to minimise the number of trips undertaken by construction workers; n. Providing sufficient on-site car parking within the construction compounds across the Principal Site to accommodate the expected peak parking demand of construction staff within the site. Construction workers		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		will also be able to access other areas of the Principal Site using the shuttle bus service if required; o. Positioning of suitably qualified banksmen at the proposed accesses for the Principal Site and Cable Corridor, to allow all vehicle arrivals and departures to be safely controlled during the construction period; p. Vegetation clearance at the proposed access points where required to achieve appropriate levels of visibility at these locations; q. Providing sufficient cycle parking spaces within the Principal Site to encourage construction staff to travel by bicycle where viable; r. A specialised haulage service will be employed to allow abnormal loads to transport components with the necessary escort, permits and traffic management, with the contractor consulting with the relevant highways authorities to ensure the correct permits are obtained. The police will also be given advanced notification under The Road Vehicles (Authorisation of Special Types) (General) Order 2003; and s. A Stage 1 Road Safety Audit (RSA) will be carried out.		
Traffic and Transport		The following will be implemented: a. Providing suitable points of access for operational vehicles (**Figure 3-2A: Indicative Fixed South Facing Site Layout Plan and Figure 3-2B: Indicative Single Axis Tracker Site Layout Plan [EN010154/APP/6.2]**) including on Haddington Lane, Bassingham Road, Moor	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. TT-O1 – secured under Requirement 13: Operational

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Lane, Clay Lane, The Avenue, Fosse Lane, Morton Lane and Fen Lane; b. Converting the internal construction routes to maintenance routes, to allow operational vehicles to access all areas of the Principal Site via the proposed access points during the operational phase; c. Maintaining access to all existing PRoW within the Proposed Development, with suitable alternative routes provided for the PRoW sections that will be permanently diverted in line with the **Framework PRoW Management Plan [EN010154/APP/7.14]**; and d. Controlling areas where the internal maintenance route crosses any existing PRoW or local access roads (such as providing gates), permitting only operational traffic to utilise these internal routes within the Principal Site. Operational traffic will give-way to other users (including pedestrians and road users) when utilising the crossing points. Visibility will be maximised between operational vehicles and other users, with warning signage provided if required.		environmental management plan Requirement 17: Permissive paths Requirement 18: Public rights of way
Traffic and Transport		A Decommissioning Traffic Management Plan (DTMP) will be developed by the Principal Contractor prior to decommissioning in consultation with the LPAs. This will include a Decommissioning Worker Travel Plan (DWTP) to utilise sustainable modes of transport for journeys to and from the DCO Site. Both the DTMP and DWTP will use, as their starting point, the measures detailed in **Framework CTMP** submitted alongside the DCO application **[EN010154/APP/7.18]** updated	Decommissioning	**Framework DEMP [EN010154/APP/7.7]**, ID ref. TT-D1 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		to reflect the circumstances prevailing during the period in which decommissioning is to be carried out. During the decommissioning phase, there are not expected to be any PRoW closures although some minor diversions are likely to be required to provide safe access across the DCO Site whilst decommissioning activities are taking place. These diversions will be temporary and expected to be for a short duration. Detailed DEMP(s) will confirm PRoWs affected and management measures in consultation with the LPA.		Requirement 18: Public rights of way **Framework CTMP [EN010154/APP/7.18]** Requirement 14: Construction traffic management plan
Air Quality	Traffic and Transport	Mitigation measures relevant to air quality are incorporated into the **Framework CEMP [EN010154/APP/7.7],** the **Framework OEMP [EN010154/APP/7.8],** and the **Framework DEMP** (**[EN010154/APP/7.9].** The adoption of good Site practice will be implemented via the detailed CEMP and DEMP through measures to control dust as outlined within the IAQM guidance. It is proposed that the measures from the IAQM "High Risk Site" category are adopted where relevant, regardless of the level of risk identified in the assessment and the construction phase activities for the Proposed Development. Whilst the DCO Site is not considered to be a "high risk" site, a precautionary approach has been taken which involves adopting the measures from the "high risk" category. As decommissioning operations are predicted to be similar to construction, the same good practice measures are predicted to apply.	Construction, Operation and Decommissioning	**Framework CEMP [EN010154/APP/7.7]**, ID ref. AQ-C1 – secured under Requirement 12: Construction environmental management plan **Framework DEMP [EN010154/APP/7.7]**, ID ref. AQ-D1 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		The table below shows good practice measures to be adopted for the Proposed Development where relevant to the activities being undertaken. **Activity** / **Mitigation Measure** Communications: Develop and implement a stakeholder communications plan that includes community engagement before work commences on-site. Display the name and contact details of person(s) accountable for air quality and dust issues on the DCO Site boundary. This may be the environment manager/engineer or the site manager. Display the head or regional office contact information. Develop and implement a Dust Management Plan (DMP) as part of the CEMP, which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and should		**Framework OEMP [EN010154/APP/7.8]** ID ref. AQ-O1 – secured under Requirement 13: Operational environmental management plan **Framework CTMP [EN010154/APP/7.18]** Requirement 14: Construction traffic management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)		Phase (Construction, Operation or Decommissioning)	Securing Mechanism
			include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the DCO Site. The DMP may include monitoring of dust deposition, dust flux, real time PM_{10} continuous monitoring and/or visual inspections.		
		Site Management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.		
			Make the complaints log available to the local authority when asked.		
			Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.		
			Hold regular liaison meetings with other high risk construction sites within 500m of the DCO Site boundary, to ensure plans are co-		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)		Phase (Construction, Operation or Decommissioning)	Securing Mechanism
			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.		
		Monitoring	Undertake daily on-site and off-site visual 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 visual dust soiling checks of surfaces (for example, street furniture) within 100m of the DCO Site Boundary.		
			Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)		Phase (Construction, Operation or Decommissioning)	Securing Mechanism
			Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions		
		Preparing and maintaining the site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is practicable.		
			Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period where operations are within 100m of receptors.		
			Fully enclose site or specific operations 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.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Keep site fencing, barriers and scaffolding clean using wet methods.		
		Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.		
		Cover, seed or fence stockpiles to prevent wind whipping.		
		Ensure all vehicles switch off engines when stationary - no idling vehicles.		
		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 15mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)		Phase (Construction, Operation or Decommissioning)	Securing Mechanism
			provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).		
			Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.		
			Implement a Travel Plan (in the case of the Proposed Development, within the Construction Traffic Management Plan) that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).		
			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.		
		Operations	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		non-potable water where possible and appropriate.		
		Ensure vehicles are inspected and cleaned as required, prior to accessing the public highway.		
		Use enclosed chutes and conveyors and covered skips.		
		Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.		
		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.		
		Avoid bonfires and burning of waste materials.		
	Waste management	Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)		Phase (Construction, Operation or Decommissioning)	Securing Mechanism
			hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.		
		Earthworks	Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.		
			Only remove the cover in small areas during work and not all at once		
			Avoid scabbling (roughening of concrete surfaces) if possible.		
		Construction	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.		
			Ensure bulk cement and other fine powder materials are		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)		Phase (Construction, Operation or Decommissioning)	Securing Mechanism
			delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.		
			For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.		
		Trackout	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 log book.		
			Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		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 site 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.		
		Access gates will be located at least 10m from receptors.		
Glint and Glare	Landscape and Visual Amenity	The design of the Proposed Development includes embedded design mitigation for Glint and Glare, including landscaping to screen the Proposed Development from view of receptors to Glint and Glare, as well as landscape and visual impacts. This is described further in **Chapter 10: Landscape and Visual Amenity** of the ES **[EN010154/APP/6.1]** and the **Framework LEMP [EN010154/APP/7.15]**. The embedded mitigation measures include: a. Careful siting of the Proposed Development in the landscape with offsets from existing residential areas, vegetation patterns, and road networks;	Construction and Operation	Design Parameters secured by Requirement 6: Detailed design approval **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		b. Conserving existing vegetation patterns; c. Creating new Green Infrastructure (i.e., vegetation planting) within the Principal Site with extensive planting proposals; and d. Native hedgerows are to be planted/infilled and maintained to deliver a minimum height at least the same as the upper edge of the panels, which is currently proposed to be 3.5m based on the maximum parameters, along panel boundaries, field boundaries, and bridleway boundaries as shown in **Figure 7.15-1: Landscape Masterplan**, presented within the **Framework LEMP [EN010154/APP/7.15]**.		ecological management plan **Framework CEMP [EN010154/APP/7.7]**, ID ref. GG-C1 – secured under Requirement 12: Construction environmental management plan **Framework OEMP [EN010154/APP/7.8]** ID ref. GG-O1 – secured under Requirement 13: Operational environmental management plan
Ground Conditions	Ecology and Nature Conservation	Several environmental design and management measures will be employed as standard best practice to minimise impacts to human health, controlled waters, sensitive ecological receptors, buildings/infrastructures, and property during the construction	Construction, Operation and Decommissioning	**Framework OEMP [EN010154/APP/7.8]** ID ref. GC-O1 – secured under

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
	Water Environment Air Quality	and decommissioning phases of the Proposed Development. These are outlined in the **Framework CEMP [EN010154/APP/7.7]** and **Framework DEMP [EN010154/APP/7.9]**. Delivery of a detailed version of these plans prior to construction/decommissioning and implementation of the measures they contain will be secured through the Requirements in the Draft DCO **[EN010154/APP/3.1]**. During construction, the Proposed Development works will be undertaken in compliance with Construction Design and Management (CDM) 2015 Regulations. Mitigation to prevent surface runoff, discharge into watercourses and dust generation will form part of the construction phase obligations and requirements. These measures are outlined within the **Framework CEMP [EN010154/APP/7.7**]. On-site activities when the Proposed Development is complete and operational will be limited to the maintenance of the infrastructure. During maintenance activities, there may be the need to use oils, grease, fuels, lubricants and cleaning agents on-site. There is a small risk of chemical pollution arising from accidental spillages during these operations. An OEMP will be prepared following grant of DCO and prior to the date of final commissioning of any part of the Proposed Development to address all operational related issues, building on the **Framework OEMP [EN01054/APP/7.8]** which sets out a number of best practice measures for implementation during the		Requirement 13: Operational environmental management plan **Framework CEMP [EN010154/APP/7.7]**, ID ref. GC-C1 – secured under Requirement 12: Construction environmental management plan **Framework DEMP [EN010154/APP/7.7]**, ID ref. GC-D1 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		operation of the Proposed Development. This will include the provision of a spillage Emergency Response Plan (ERP) (specified within Paragraph 2.8.1 of the **Framework OEMP [EN010154/APP/7.8]**), which maintenance staff will be required to have read and understood. On-site provisions will be made to contain a serious spill or leak through the use of booms, bunding and absorbent material.		
Ground Conditions		Ground investigation works will be undertaken prior to commencing construction. The scope of the ground investigation will be discussed and approved with the LPA and the Environment Agency prior to commencement. Results would be reviewed by the appointed Principal Contractor, including any additional investigation or mitigation measures beyond the impact avoidance measures stated here. Best practice avoidance and mitigation measures proposed for both construction, operation (e.g. any maintenance activities which require ground disturbance) and decommissioning include: a. All workers would be required to wear Personal Protective Equipment (PPE) such as dust masks as applicable; b. Containment measures would be implemented, including drip trays, bunding or double-skinned tanks of fuels and oils; all chemicals would be stored in accordance with their COSHH guidelines, whilst spill kits would be provided in areas of fuel/oil storage; c. All plant and machinery would be kept away from surface water bodies wherever possible, checked regularly and, where necessary, the use of drip trays would be employed.	Construction, Operation and Decommissioning	**Framework CEMP [EN010154/APP/7.7]**, ID ref. GC-C1 – secured under Requirement 12: Construction environmental management plan **Framework OEMP [EN010154/APP/7.8]** ID ref. GC-O1 – secured under Requirement 13: Operational environmental management plan **Framework DEMP [EN010154/APP/7.7]**, ID ref. GC-D1 –

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Refuelling and delivery areas would be located away from surface water drains; d. An emergency spillage action plan (or similar title) will be produced, which staff would have read and understood, and provisions made to contain any leak/spill; e. Should any potentially contaminated ground, including isolated 'hotspots' of contamination and/or potential deposits of asbestos containing materials (ACM), be encountered, the contractor would be required to investigate the areas and assess the need for containment or disposal of the material. The contractor would also be required to assess whether any additional health and safety measures are required; f. To further minimise the risks of contaminants being transferred and contaminating other soils or water, construction workers would be briefed as to the possibility of the presence of such materials; g. In the event that contamination is identified, appropriate remediation measures would be agreed with the appropriate authorities and undertaken to protect construction workers, future site users, water resources, structures, and services; h. The contractor would be required to place arisings and temporary stockpiles away from watercourses and drainage systems, whilst surface water would be directed away from stockpiles to prevent erosion; i. The risk to surface water and groundwater from run-off from any contaminated stockpiles during construction works would be reduced by implementing suitable measures to minimise rainwater infiltration and/or capture runoff and		secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		leachates, through use of bunding and/or temporary drainage systems. These mitigation measures would be designed in line with current good practice, follow appropriate guidelines and all relevant licences/permits; j. The contractor would ensure that all material is suitable for its proposed use and would not result in an increase in contamination-related risks on identified receptors, including any landscaped areas and underlying groundwater; k. Any waters removed from excavations by dewatering would be discharged appropriately, subject to the relevant permits being obtained from the Environment Agency; l. The contractor will implement a dust suppression/management system in order to control the potential risk from airborne contamination migrating off-site to adjacent sites; m. Piling design and construction works will be completed following the preparation of a piling risk assessment; n. The maintenance and replacement works contractors will ensure that all material is suitable for its proposed use and would not result in an increase in contamination-related risks on identified receptors, including any landscaped areas and underlying groundwater; and o. The maintenance and replacement works contractors will implement a dust suppression/management system in order to control the potential risk from airborne contamination migrating off-site to adjacent sites.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Prior to work commencing, a health and safety risk assessment will be undertaken by the appointed Principal Contractor and developed in accordance with current health and safety regulations. This assessment should cover potential risks to construction staff, permanent site staff and the local population. Based on the findings of this risk assessment, appropriate mitigation measures should be implemented during the construction period. Dust generation should be kept to a minimum in accordance with general industry good practice, as outlined in, for example, 'Environmental Good Practice on Site Guide', CIRIA Publication C811 5th Edition. If potentially contaminated land is encountered during construction works (including groundwater), works will be stopped in the affected area while further investigation is carried out in order to reduce the potential for contamination to be spread further before its extent and severity is identified, and appropriate remediation is agreed. Where the placement of the cables and piles takes place in land affected by contamination, the management of the waste material will be carefully managed. A detailed Unexploded Ordnance (UXO) Assessment will be undertaken prior to the commencement of any intrusive works		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		to assess and potentially zone the UXO hazard level at the DCO Site. During construction, work will be undertaken in accordance with Construction Design and Management (CDM) 2015 Regulations. Mitigation to prevent surface runoff, discharge into watercourses and dust generation will be implemented, as set out in the **Framework CEMP [EN010154/APP/7.7]**.		
Materials and Waste		Measures relating to materials and waste during construction are set out in the **Framework CEMP [EN010154/APP/7.7]**. The Proposed Development will aim to prioritise waste prevention, followed by preparing for reuse, recycling and recovery and lastly disposal to landfill as per the waste hierarchy. This would be achieved by a combination of measures, including: A Site Waste Management Plan (SWMP) will be produced by the Principal Contractor, which will set out: a. The waste streams that will be generated; b. How the waste hierarchy will be applied to these wastes; c. Good practice measures for managing waste; and d. Roles and responsibilities for waste management. All management of waste will be in accordance with the relevant regulations and waste will be transported by licensed waste carriers to waste management sites which hold the	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. MW-C1 – secured under Requirement 12: Construction environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		necessary regulatory authorisation and/or permits for those wastes consigned to them. If required, a Materials Management Plan (MMP) would be developed under the CL:AIRE Definition of Waste: Development Industry Code of Practice by the appointed Principal Contractor to support the reuse of excavated materials, minimise off-site disposal; and to demonstrate the necessary lines of evidence to support the proper reuse/off-site disposal of materials and ensure compliance with regulatory guidance. To reduce the potential impacts from materials and waste, and to achieve high levels of sustainability in the Proposed Development as a whole, the Principal Contractor will apply the principles of the waste hierarchy and adopt best practice measures (BPM) which go beyond statutory compliance. This may include BPMs set out in construction industry guidance for example, guidance from the Considerate Constructors Scheme (CCS), Waste & Resources Action Programme (WRAP) and Construction Industry Research and Information Association (CIRIA). The following approaches will be implemented, where practicable, to minimise the quantity of waste arising and requiring disposal: a. Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme; Implementation of a 'just-in-time' material delivery system where practicable to avoid materials being stockpiled, which		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		can increase the risk of damage and subsequent disposal as waste; Attention to material quantity requirements to avoid overordering and the generation of waste materials due to surplus; Reuse of materials on-site wherever feasible, e.g. reuse of excavated soil for landscaping; Off-site prefabrication, where practical, including the use of prefabricated structural elements; Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling; and Off-site reuse, recycling and recovery of materials and waste where reuse on-site is not practical, e.g. through use of an off-site waste segregation or treatment facility or for direct reuse or reprocessing off-site.		
Materials and Waste		Measures relating to the management of waste during operation are outlined in the **Framework OEMP [EN010154/APP/7.8]**. During operation, the Proposed Development will prioritise waste prevention, followed by preparing for reuse, recycling and recovery and lastly disposal to landfill as per the waste hierarchy. All management of waste will be in accordance with the relevant regulations and waste will be transported by licensed waste hauliers to waste management sites which hold the necessary	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. MW-O1 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		regulatory authorisation and/or permits for those wastes consigned to them. It is not proposed to store waste batteries on site. They will be removed from the containers and taken away straight away, following waste duty of care.		
Materials and Waste		As outlined in the **Framework DEMP [EN010154/APP/7.9]** the Proposed Development will aim to prioritise waste prevention, followed by preparing for reuse, recycling and recovery and lastly disposal to landfill as per the waste hierarchy. All management of waste will be in accordance with the relevant regulations and waste will be transported by licensed waste carriers to waste management sites which hold the necessary regulatory authorisation and/or permits for those wastes consigned to them. To reduce the potential impacts from materials and waste, and to achieve high levels of sustainability in the Scheme as a whole, the Principal Contractor will apply the principles of the waste hierarchy and adopt best practice measures (BPM) which go beyond statutory compliance. This may include BPMs set out in construction industry guidance for example, guidance from the Considerate Constructors Scheme (CCS), Waste & Resources Action Programme (WRAP) and Construction Industry Research and Information Association (CIRIA). The	Decommissioning	**Framework DEMP [EN010154/APP/7.7]**, ID ref. MW-D1 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		following approaches will be implemented, where practicable, to minimise the quantity of waste arising and requiring disposal: a. Segregation of waste at source, where practical, to facilitate a high proportion and high-quality recycling; and b. Off-site reuse, recycling and recovery of materials and waste, e.g. through use of an off-site waste segregation or treatment facility or for direct reuse or reprocessing off-site. c. Reuse of materials on-site wherever feasible, e.g. reuse of any excavated soil. Excavated material reuse will be in accordance with the CL:AIRE Code of Practice, an Environmental Permit or exemption. It is not proposed to store waste batteries on site. They will be removed from the containers and taken away straight away, following waste duty of care.		
Major Accidents and Disasters		Minimising the risk of major accidents during construction, operation and decommissioning will be addressed through appropriate risk assessments and measures as required in the **Framework CEMP [EN010154/APP/7.7]**, **Framework OEMP [EN010154/APP/7.8]** and **Framework DEMP [EN010154/APP/7.9]** including: a. All works will be undertaken in accordance with relevant Health and Safety legislation and guidance and plans will be put in place. Details of fire, police, emergency	Construction, Operation and Decommissioning	**Framework OEMP [EN010154/APP/7.8]** ID ref. MAD-O1 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		services and hospitals will be publicised and included in the site induction. b. A Biosecurity Management Plan will be prepared prior to construction, which will include measures such as appropriate cleaning and or/ disinfection of machinery and equipment in areas considered to be at high risk. c. A **Framework Battery Safety Management Plan (FBSMP) [EN010154/APP/7.17]** is submitted with the DCO application and a detailed Battery Safety Management Plan will be prepared prior to construction (secured through DCO Requirement). The management strategy for battery fire safety is provided in the **FBSMP [EN010154/APP/7.17]**. The BESS containers will include an internal fire suppression system. As stated in the **FBSMP [EN010154/APP/7.17]**, internal BESS water based fixed suppression systems will have a separate water containment system because water runoff is likely to contain higher levels of pollution. The expected Hydrogen Fluoride emissions will be checked against the assumptions in **Appendix 14-G: Unplanned Emissions Assessment [EN010154/APP/6.3]** at detailed design stage once the make, model and layout of the BESS is known and confirmed, and, if necessary, consequence modelling will be undertaken to demonstrate that the impacts associated with an unplanned fire would not exceed the effects outlined in this report or cause any significance adverse health effects to the local community.		**Framework CEMP [EN010154/APP/7.7]**, ID ref. MAD-C1 – secured under Requirement 12: Construction environmental management plan **Framework DEMP [EN010154/APP/7.7]**, ID ref. MAD-D1 – secured under Requirement 20: Decommissioning **Framework BSMP [EN010154/APP/7.17]** secured under Requirement 7: Battery safety management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		d. A summary of the anticipated safety provisions to comply with National Fire Chiefs Council (NFCC) provided in the FBSMP includes: - There shall be suitable access roads for emergency services vehicles with safe routes to BESS sites and appropriate fire service infrastructure. - The BESS fire and gas detection system will comply with NFPA 855 (2023) and NFPA 69, this means that smoke, fire and gas detection equipment will be installed. New BESS multisensor equipment in development which measures combinations of air temperature, hydrogen, VOCs, overpressure, shock and vibration, and moisture ingress will also be considered if fully tested with the BESS design. The gas detection systems will have external BESS beacon and audible alert facility. All fire detection systems shall all be installed and commissioned to BS EN 54, BS EN 9999, NFPA 855, NFPA 850. - At area level, in each BESS cluster area hydrants shall be located with adequate suppression pressure and flow for extinguishing operations. Hydrant supplies for boundary cooling purposes should be located close to BESS containers (but considering safe access in the event of a fire) and will be capable of delivering no less than 1,900 litres per minute for at least 2 hours. - All process water used in the system shall be prevented from contaminating potable water sources		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism

in accordance with local regulations through the use of check valves or other means as part of the system design.

- An extra layer of protection will be provided for containment of firewater external of the BESS enclosure in case of rupture or overflow of contaminants.
- Each BESS enclosure will be provided with a sump and drain valve to allow extraction of contaminated fire water and / or electrolyte spill without having to open the door of the enclosure and will prevent contamination of surrounding environment with the extracted liquid being taken off-site for treatment.

e. To identify any existing infrastructure constraints, both consultation and a desk-based study will be undertaken prior to construction so that appropriate mitigation such as buffers can be incorporated into the design. Cable Avoidance Tool (CAT) scans will also be used by Contractors to check for buried utilities prior to earth breaking site activities. The Applicant will endeavour to engage with utilities providers as appropriate.

f. Undertake a risk assessment of potential damage to underground services due to construction induced vibration which could arise as a result of driven piling or Horizontal Directional Drilling (HDD).

g. The relevant risk assessments for safety during construction, operation and decommissioning will be required and produced by the Principal Contractor prior

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		to decommissioning, which will be implemented to minimise the risk of accidents and disasters on-site.		
Major Accidents and Disasters		The Proposed Development will be developed in line with the measures set out in the **Framework BSMP [EN010154/APP/7.17]**. The management strategy for battery fire safety is provided in the **Framework BSMP [EN010154/APP/7.17]**. The BESS containers will include an internal fire suppression system. As stated in the **Framework BSMP [EN010154/APP/7.17]**, internal BESS water based fixed suppression systems will have a separate water containment system because water runoff is likely to contain higher levels of pollution.	Operation	**Framework BSMP [EN010154/APP/7.17]** secured under Requirement 7: Battery safety management plan
Electric and Electromagnetic Fields	Ecology and Nature Conservation	The electricity export cable will be located at least 10m from permanent receptors due to the need for construction vehicles to manoeuvre both sides of the trench within the working width. Where the cables associated with the Proposed Development are proposed to cross watercourses, the cables will be installed a minimum of 2m below minor/ordinary watercourses (except where minor/ordinary watercourses have minimal or no water flow and water management is easily managed) and 5m beneath Main Rivers, which will provide sufficient distance to attenuate EMF and avoid impacts on river species such as fish.	Construction and Operation	**Framework CEMP [EN010154/APP/7.7]**, ID ref. EMF-C1 – secured under Requirement 12: Construction environmental management plan **Framework OEMP [EN010154/APP/7.8]** ID ref. EMF-O1 – secured under

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		The assets associated with the Proposed Development would be fully compliant with the relevant Government policy. Specifically, all the EMFs produced would be below the relevant exposure limits.		Requirement 13: Operational environmental management plan Design Parameters secured by Requirement 6: Detailed design approval
Telecommunications, Television Reception and Utilities		Precautionary measures will be included as part of the embedded mitigation for the Proposed Development, including: a. Locating the Proposed Development outside of utilities protected zones; b. The use of ground penetrating radar before excavation to identify any unknown utilities; and c. Consultation and agreement with relevant utility operators regarding construction/demobilising methods prior to works commencing Additionally, measures in relation to safe working beneath overhead lines will be in place at all stages of the Proposed Development, for example ensuring adequate clearances are in place when plant and equipment is being moved beneath the overhead lines.	Construction, Operation and Decommissioning	**Framework OEMP [EN010154/APP/7.8]** ID ref. TEL-O1 – secured under Requirement 13: Operational environmental management plan **Framework CEMP [EN010154/APP/7.7]**, ID ref. TEL-C1 – secured under Requirement 12: Construction

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		The Proposed Development consists of low-lying infrastructure so will not interfere with telecommunication infrastructure during the operational phase. Telecommunications and utilities infrastructure that crosses the Proposed Development has been mapped and strategically avoided through the detailed design of the Proposed Development. Any maintenance and replacement activities will be undertaken with due regard to the existing telecommunications and utilities records to avoid impacting on these. The **draft DCO [EN010154/APP/3.1]** includes protective provisions for the protection of electronic communication networks and utilities.		environmental management plan **Framework DEMP [EN010154/APP/7.7]**, ID ref. TEL-D1 – secured under Requirement 20: Decommissioning Design Parameters secured by Requirement 6: Detailed design approval
Arboriculture	Landscape and Visual	The **Arboricultural Impact Assessment** (**Appendix 10-H** of this ES **[EN01054/APP/6.3]**) and **Framework CEMP [EN010154/APP/7.7]** set out a number of measures to be implemented, including: a. A pre-construction check of ash trees within the DCO Site Boundary will be undertaken and trees removed where appropriate (e.g. where they pose an unacceptable risk to people or property). Trees will be monitored annually in summer during full leaf flush during the construction period where	Construction	**Framework CEMP [EN010154/APP/7.7]**, ID ref. ARB-C1 – secured under Requirement 12: Construction environmental management plan **Framework LEMP [EN010154/APP/7.15]**

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		trees may pose a risk to infrastructure constructed as part of the Proposed Development. Ash trees showing late-stage symptoms of ash dieback may become embrittled, either due to degradation/dysfunction of the wood substrate from ash dieback or from secondary pathogens. The subsequent removal of trees in the late stages of ash dieback may become hazardous to contractors undertaking tree removal. Removal of ash trees prior to this stage is therefore recommended. b. Where practicable the detailed design will be further developed to avoid or minimise impacts to trees. The final level of arboricultural impacts will be assessed and recorded as part of an Arboricultural Method Statement which will be produced as part of the detailed CEMP(s). c. At the detailed design stage the final alignment of the export connection cable will be positioned to minimise tree related impacts where feasible and the final extent of tree loss will be detailed within the Arboricultural Method Statement which will be produced as part of the detailed CEMP(s). d. A pre-construction check will be undertaken of trees within the DCO Site and remedial works actioned where appropriate (e.g. where they pose an unacceptable risk to people or property). Trees will be monitored during the construction period, and during operation where they		secured under Requirement 8: Landscape and ecological management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		pose a risk to infrastructure constructed as part of the Proposed Development. All staff operating on the DCO Site are to be made aware of the need to look out for obvious signs of tree defects and to report them to the Site Manager who will seek further advice as necessary. e. No veteran or ancient trees or ancient woodland are to be removed. f. No trees subject to TPO or within a CA are to be removed. g. The impacts of tree removals will be compensated by the proposed tree planting and associated landscaping works as detailed in the **Framework LEMP [EN010154/APP/7.15]**. h. Where possible, tree groups and especially windward edges should be retained intact. Where partial removal of tree groups and/or woodlands is to be undertaken, trees at the new edge should be assessed for retention suitability by a qualified arboriculturist to determine the final extent of tree loss (noting that this cannot generally be confirmed until initial site clearance works have been completed). i. One tree (T167 – see **Appendix 10-H**: **Arboricultural Impact Assessment** of this ES **[EN01054/APP/6.3]**) has been identified to require a significant crown reduction (monolith) to circa 4-5 m. This is a dead standing tree that is located within falling distance of a proposed access road. Therefore, to mitigate this safety risk the tree should		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		be pruned prior to the commencement of site works. This tree is located beyond the DCO Site Boundary and therefore prior consent from the tree owner should be obtained in writing before any tree works outside those permitted under established rights in common law are carried out. No additional pruning has been identified at this stage. The requirement for any pruning will be reviewed and confirmed at the detailed design stage as part of an Arboricultural Method Statement. The final extent of pruning will be the minimum feasible and will be agreed on site with the project arboriculturist. j. All tree work is to follow the principles of BS3998: 2010 Treework – Recommendations and must be carried out by suitably qualified contractors. The Arboricultural Association provides a list of contractors who meet these requirements. Should the requirement for additional tree works be identified, this will be discussed with the project arboriculturist and no works will be undertaken without the consent of the NKDC. k. Significant pruning works are best undertaken when trees are dormant or outside periods of high functional activity to reduce the overall impact on energy available to the tree for growth and processes. In general, the optimum period for works is between November to February and July to August (subject to the presence of protected species) when the tree is less active and better placed to respond to wounding and a reduction in leaf area.		

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Soils

The advice of a suitably qualified engineer must be obtained to inform any potential issue of heave.

Access Roads

The Proposed Development will require the construction of a number of new access tracks across the DCO Site. New access tracks have predominantly been positioned outside of Root Protection Areas (RPAs), however where access tracks cannot avoid the RPAs of retained trees specialist construction measures will be implemented.

Within RPAs, new hard surfacing will be constructed utilising a proprietary three-dimensional cellular raft system (such as Cellweb) or equivalent, filled with washed angular stone and installed on the existing ground level and specified to the highest expected load. The raft then acts as a subbase for any new hard surfacing, mitigating the requirement for excavation and reducing compaction. This methodology is likely to increase the final level of the hard surfacing and this must be taken into consideration. Soil levels should not be increased within RPAs. Where level increases are unavoidable it may be possible to increase levels (where this would not result a change to drainage or aeration) within discrete sections of an RPA through the use of compaction resistant materials, such as sharp sand, three-dimensional cellular rafts or equivalent. Extensive level changes are less likely to be acceptable and any change in

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		levels should avoid the area immediately surrounding the base of the tree and its buttressing. Alternatively, hand excavated trial pits (agreed in advance with the NKDC Tree Officer) may be utilised to determine the presence or absence of significant roots (>25 mm in diameter) which could justify standard construction techniques in cases where only the very outer extent of the RPA is impacted (such as for T7, T449, T519, T668, W990 (TPO), G997 (TPO), W1011 and T1425), where the ground is currently subject to disturbance or where existing levels and tie in requirements may make raised surfacing less viable (e.g. bellmouths for T668 and T1425) - see **Appendix 10-H**: **Arboricultural Impact Assessment** of this ES **[EN01054/APP/6.3]**). Where roots present are under 25 mm in diameter, these typically may be severed back to the face of an excavation with a sharp hand-tool (preferably 100 mm beyond the face of the excavation to a lateral root, but no further). Construction works may then utilise standard installation methods. Where significant roots (>25mm in diameter) or bundles of smaller roots are present, roots must be preserved (e.g., by back filling the trial hole to match the original soil profile and structure and utilising a three-dimensional cellular raft system on the existing ground level). All works within RPAs must be supervised by the project arboriculturist. The final specification for mitigation measures will be detailed in the Arboricultural Method		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Statement. The detailed design will seek to further reduce the impacts from proposed access roads on retained trees. **Existing Access Roads** The Proposed Development proposes to utilise a number of existing access roads where present. Existing access roads vary in condition from formal road surfaces to gravel tracks and are predominantly used for agricultural purposes. Where existing access roads are to be utilised for the Proposed Development but no change from the existing use is required (e.g. no change in width, height or ground loading from vehicle use) these situations are not considered to require any mitigation measures and are unlikely to negatively impact the physiological or structural condition of the trees. Where the use of existing roads is expected to change there will be a requirement to implement mitigation measures to ensure that trees are not negatively impacted. Mitigation measures are likely to include the use of a three-dimensional cellular raft system (such as Cellweb or equivalent), specified to the highest expected load in accordance with Appendix D Outline Tree Protection Measures of **Appendix 10-H**: **Arboricultural Impact Assessment** of this ES **[EN01054/APP/6.3]**. The final specification for mitigation measures will be detailed in the Arboricultural Method Statement.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Existing access roads are proposed to be used where they are within the RPAs of veteran trees. **Security Fencing** The Proposed Development will require extensive security fencing across the DCO Site and is currently shown on the TPP to be within the RPAs of numerous retained trees. The detailed design will seek to reduce these impacts and the final location of security fencing will be amended to avoid the RPAs of retained trees or positioned as far from tree stems as possible. Where security fencing cannot avoid the RPAs of retained trees fence posts will be driven, to reduce the total footprint and requirement for any potential excavation within RPAs. Where posts may not be driven within the RPAs of retained trees, post hole excavations are to be undertaken by hand-dig techniques only (such as using compressed air and a soil vacuum or hand tools). Significant roots (greater than 25mm in diameter or clumps of roots <25mm in diameter) are to be retained and protected; fence post positions are to be sensitively positioned/adjusted as to avoid significant roots of retained trees. Roots under 25mm in diameter may be severed with a sharp hand tool (such as a sharp knife or secateurs) back to the face of the excavation (or preferably up to 100mm beyond). Spoil from excavations must be stored on appropriate ground protection where within RPAs. Excavations are to be		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		lined with impermeable sheeting to prevent the leaching of any toxic chemicals into the surrounding soil. All works within the RPAs of retained trees must be supervised by the project arboriculturist. **Veteran and Ancient Trees** A total of five RPA incursions will be required for veteran trees to facilitate the use of existing access roads for construction traffic. Existing access roads vary in condition from formal road surfaces to gravel tracks and are predominantly used for agricultural purposes. Where existing access roads are to be utilised for the Proposed Development but no change from the existing use is required (e.g. no change in width, height or ground loading from vehicle use) these situations are not considered to require any mitigation measures. This is likely to apply to trees T708, T709, T1004 and T1120 see **Appendix 10-H**: **Arboricultural Impact Assessment** of the ES **[EN01054/APP/6.3]**). The existing access road adjacent to T572 (see **Appendix 10-H**: **Arboricultural Impact Assessment** of this ES **[EN01054/APP/6.3]**) is considered to be an informal grass track and due to the anticipated high frequency of use from construction traffic mitigation measures will be required. Mitigation measures are likely to include the use of a three-		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		dimensional cellular raft system to prevent negative impacts to the structure of the soil within the RPA. Where existing access roads are utilised or where appropriate mitigation measures are utilised soil structure will be maintained, resulting in no likely adverse impact on the physiological or structural condition of the trees. The final specification for mitigation measures will be detailed in the Arboricultural Method Statement. **New Services within RPAs** Where existing services become redundant within the RPA of a retained tree, the default position must be that they be decommissioned and left in situ. Where this is not feasible the following principles are to be observed; a. Existing services are to be removed by winching out from an access/inspection chamber located outside of an RPA. It may be acceptable to fill redundant pipe work with an inert material or undertake pipe bursting where necessary within the RPA of retained trees; and Excavation to install services has the potential to result in unacceptable root severance which could result in instability, dysfunction or the death of trees. Repeated incursions are particularly damaging and must be avoided by bundling services wherever possible. The default position will therefore		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		be that all services be routed outside of the RPA of retained trees. The following general principles will apply and where services must be routed within the RPA of a retained tree this process will be subject to a detailed method statement with approval from NKDC. The principles of NJUG Volume 4 guidance must be adhered to. All services must be bundled as far as possible and installed within RPAs using hand/compressed air excavation (e.g., for shallow service runs where all roots >25 mm diameter can be retained and worked around) or trenchless techniques such as Horizontal Directional Drilling (HDD) or impact moling (thrust boring) with all access pits and inspection chambers being located outside of the RPA. The route must run as far from the main stem of a retained tree as possible and must be at a minimum depth so that the upper 2 m of the soil profile is undisturbed. The depth of the run may need to be adjusted to account for soil type and species variation and this must be determined subject to the advice of the project arboriculturist. Services must be constructed so as to be resistant to ingress by tree roots (both existing trees, and newly planted trees) which could include the use of root barriers where appropriate.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		These works must take place as specified in an Arboricultural Method Statement. **Tree Planting** Existing areas of unsurfaced ground must be protected during the construction phase if they are to be re-used for new plantings. Protection can be achieved using fit for purpose ground protection measures as set out in BS5837:2012 Section 6.2.3 or by creating a fenced exclusion zone. Where protection is not feasible, soil amelioration or replacement works will be required to ensure suitable growing conditions for new trees to fully establish. Where new trees are to be planted, the minimum planting distances detailed in Table A.1 of BS5837:2012 (British Standards Institute, 2012) must be adhered to along with Proposed Development specific offsets to prevent direct damage to services and structures from future tree growth. New tree planting should be implemented in accordance with the guidance set out in BS8545:2014 (British Standards Institute, 2014) Trees: from nursery to establishment in the landscape – Recommendations. The UK Forest Standard (2023) recommends that no more than 65% of a forest management unit area is allocated to a single species, with a minimum of 5% native broadleaved trees or		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		shrubs, 10% of other tree species and 10% open ground, or ground managed for biodiversity as the primary objective is utilised for new tree planting. **Tree Protection** Retained trees are vulnerable to damage from construction activities which can include physical damage to stems and branches following impacts with plant, root severance following trenching, root death or dysfunction following damage to soil structure (caused by the movement of people or machinery on unsurfaced ground) or via the spillage of materials toxic to tree health. The default position is that the RPA and canopy spread of trees to be retained will form an effective Construction Exclusion Zone, secured with robust fencing where no access will be permitted. Where access is necessary within this area special measures such as the use of ground protection and arboricultural supervision are generally required. Outline tree protection measures are considered in Appendix D of **Appendix 10-H**: **Arboricultural Impact Assessment** of this ES **[EN01054/APP/6.3]**. The Arboricultural Method Statement will set out the phasing of site operations, the finalised tree protection measures for the DCO Site and provide detail on how sensitive elements of work are to be achieved in proximity to retained trees. The final specification for tree protection measures will be detailed in the Arboricultural Method Statement.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		Site Organisation, Storage and Use of Materials, Plant and Machinery All construction site facilities including site huts, staff and contractor parking and areas for storage will be located outside of the RPA or crown spread of retained trees, including those not specifically covered in this report. Space is likely to be constrained within the DCO Site Boundary at some locations and so the construction compounds set up will need to be carefully considered. The Construction Exclusion Zones identified on the Tree Protection Plans must be fully respected and their location and significance is to be highlighted to all site staff and contractors during the formal site briefing. This will be addressed in the Arboricultural Method Statement. The use, mixing and washing of materials can lead to run off or inadvertent spillage into tree root zones. Many substances often used on construction sites can be toxic to tree roots (such as concrete, fuels, salts, builders' sand and herbicides) and can result in the death of tree roots and beneficial soil organisms and can have a significant impact on the future health and appearance of the tree. The storage of materials and arising's can result in an effective raised soil level. This buries tree roots at depths where air and water are less available and can lead to the decline or death of the tree.		

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		For these reasons the storage of materials and any washing, mixing or refuelling will take place in agreed allocated areas at least 5 m from the edge of the RPA of retained trees and at least 5 m from the edge of an ancient woodland buffer zone. Any slope effect must be taken into account and where there is a potential for run off, heavy duty polythene sheeting and sandbags must be in place as bunding to prevent toxic materials reaching RPAs and/or ancient woodland and its buffer zone. Particular care is required where high sided vehicles, long reach machinery and plant with jibs, booms and counterweights are to operate with in proximity to retained trees. A banksman will be used where the movement of plant or long reach machinery occurs within 5 m of any part of a retained tree to ensure no damage is sustained.		
Arboriculture		Sycamore/maple/lime trees are often associated with aphids which secrete a sticky liquid called 'honeydew'. This can be a nuisance for parked cars and potentially areas of hard surfacing and structures as the deposits can lead to the development of sooty moulds and staining. This can be easily cleaned with warm soapy water or equivalent and is likely to be less visible on darker surfaces. Deciduous trees will drop leaves each autumn; evergreen trees will deposit leaves/needles, seeds and other detritus throughout	Operation	**Framework OEMP [EN010154/APP/7.8]** ID ref. ARB-O1 – secured under Requirement 13: Operational environmental management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		the year. This is likely to result in a maintenance requirement to manage leaves on hard surfaced footways and to clear gutters where tree canopies extend over or immediately adjacent to roofs. Leaf fall can be easily cleared as required from hard surfacing. Nonslip surfacing can reduce the frequency that this is required. Measures such as gutter guards or equivalent can be used to reduce the potential for leaves to block guttering and these should be employed where trees overhang or grow in close proximity to structures. Retained trees will require periodic inspection to assess their structural condition and safety. Occasional removal of dead wood or other remedial works to address significant defects may be required in areas of frequent access. This is unlikely to be overly onerous and will be the responsibility of the tree owner. All tree works recommended in the Tree Survey Schedule (Appendix B of **Appendix 10-H: Arboricultural Impact Assessment** of the ES **[EN010154/APP/6.3]**) as a result of the preliminary tree surveys considered trees in the context of the present use of the DCO Site (i.e., prior to the Proposed Development being in place). Where these works are not superseded by proposed tree removal, they are recommended to be actioned by the tree owner. Tree management is not considered to be a significant constraint to developing the DCO Site; however, the tree survey identified many large trees of varying condition and where the land use is subject to change, tree condition and the requirement for remedial works or exclusion zones must be		Design Parameters secured by Requirement 6: Detailed design approval **Framework LEMP [EN010154/APP/7.15]** secured under Requirement 8: Landscape and ecological management plan

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		reviewed with further advice from an arboriculturist obtained as appropriate. Trees will be monitored during operation where they pose a risk to infrastructure constructed as part of the Proposed Development. At the detailed design stage, all Solar PV panels will be positioned outside the RPAs of retained trees.		
Arboriculture		The following measures to minimise impacts from decommissioning works would apply. **Screening:** a. Existing vegetation along the boundary of the Proposed Development will be retained and managed where practicable to ensure its continued presence and to aid the screening of low-level views. **Tree Protection:** b. All decommissioning works to be in line with Wildlife and Countryside Act 1981 (or equivalent). c. Any hedgerow removal that may be required as part of decommissioning works are to be carried out in line with the provisions in the DCO and (where applicable) the latest regulations at the time of decommissioning (currently the Hedgerow Regulations 1997 and The Management of Hedgerows (England) Regulations 2024-Draft).	Decommissioning	**Framework DEMP [EN010154/APP/7.7]**, ID ref. ARB-D1 – secured under Requirement 20: Decommissioning

Primary Topic (primary driver for commitment)	Other Topics relevant to the commitment	Commitment Measures (including any monitoring required)	Phase (Construction, Operation or Decommissioning)	Securing Mechanism
		d. Tree works will be undertaken in accordance with **Appendix 10-H: Arboriculture Impact Assessment** of the ES **[EN01054/APP/6.3]**. Should the requirement for additional tree works be identified, this will be discussed with an arboriculturist and no works will be undertaken without the prior consent of the relevant Local Planning Authority. e. Where works in close proximity to retained trees cannot be practically avoided, these works will be undertaken in accordance with current best practice; and f. All necessary protective fencing will be installed prior to the commencement of decommissioning works in accordance with an Arboricultural Method Statement, if required. Hedge and tree planting will be retained as far as possible where its removal is not required to facilitate decommissioning, with the Principal Site then handed over the landowners following decommissioning.		

2. References

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