



# Mallard Pass

Solar Farm

## Mallard Pass Solar Farm

### **outline Operational Environmental Management Plan (oOEMP) [Clean]**

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## 1.0 Introduction

### 1.1. Purpose of this document

- 1.1.1. This document provides an outline Operational Environmental Management Plan (oOEMP) for the operation of Mallard Pass Solar Farm (hereafter referred to as ‘the Proposed Development’).
- 1.1.2. OEMP (s) will be produced for the Proposed Development in accordance with the Development Consent Order (DCO) Requirements prior to commencing operation, which will be required to be substantially in accordance with this oOEMP submitted as part of the DCO Application.
- 1.1.3. The Proposed Development is likely to become operational (or be commissioned) in phases or parts, and it is envisaged that the OEMP (s) may be prepared, approved and implemented for individual parts or phases of the Proposed Development. As a result, there could be multiple OEMP (s) prepared in accordance with this oOEMP. Each OEMP will be produced in line with this oOEMP following grant of the DCO and approved by the local planning authorities in consultation with the Environment Agency in advance of the date of final commissioning for the relevant phase of the Proposed Development.
- 1.1.4. This document does not address measures for the construction or decommissioning phases, which are provided in the separate ***outline Construction Environmental Management Plan (oCEMP) (Rev 4)*** and ***outline Decommissioning Environmental Management Plan (oDEMP) (Rev 1)***.
- 1.1.5. The aim of this oOEMP is to provide a clear and consistent approach to the control of operational and maintenance activities.
- 1.1.6. Likely significant effects have been identified through the Environmental Impact Assessment (EIA) process and are reported in the Environmental Statement (ES) **[EN010127/APP/6.1]**. A range of best practice mitigation and operational management measures are accounted for in the

assessments, which will be implemented during operation of the Proposed Development. This oOEMP details how these operational best practice and mitigation measures will be implemented. It also sets out the monitoring activities designed to demonstrate that such mitigation measures are carried out, and that they are effective.

- 1.1.7. This oOEMP is prepared with the objective of ensuring compliance with the relevant environmental legislation and mitigation measures set out within the ES. Any additional licences, permits or approvals that are required for the operation phase of the Proposed Development and that are not disapplied by the DCO, will be set out in the OEMP(s), including any environmental information submitted in respect of them (see also the Consents and Licenses required under other legislation **[EN010127/APP/3.3]**).
- 1.1.8. This document provides the likely structure of the OEMP(s) and relevant preliminary information. It also indicates what additional information or controls might be included under each sub-section within each OEMP.
- 1.1.9. The Applicant will be responsible for ensuring any works are undertaken in accordance with the environmental controls documented in the oOEMP and for the preparation and implementation of the OEMP(s).
- 1.1.10. This oOEMP is set out below in the context of the other environmental management plans that are submitted with the DCO Application in **Figure 1-1** below:

**Figure 1-1 Environmental Management Plans Hierarchy**



1.1.11. The following additional environmental management plans are secured by this oOEMP and will be prepared as part of the OEMP(s) prior to operation of the Proposed Development:

- a. Emergency Response Plan
- b. Health and Safety Plan (H&SP)

## **1.2. The Order limits**

1.2.1. The Order limits are described in **Chapter 3: Description of Order limits**, of the ES.

1.2.2. They comprise the Solar PV Site, Mitigation and Enhancement Areas, Highway Works Site and the Grid Connection Corridor.

## **1.3. The Proposed Development**

1.3.1. The Proposed Development is described in **Chapter 5: Project Description** of the ES.

## **2.0 Operation of the Proposed Development**

### **2.1. Introduction**

- 2.1.1. This section sets out the general activities and site arrangements for the operational phase of the Proposed Development.

### **2.2. Operation Activities**

- 2.2.1. During the operational phase, activity within the Order limits will be minimal and will be restricted principally to vegetation management (in line with the ***outline Landscape Ecological Management Plan (oLEMP) (Rev 3)*** equipment maintenance and servicing, replacement and renew of any components that fail, and monitoring. It is anticipated that maintenance and servicing would include the inspection, removal, reconstruction, refurbishment or replacement of broken or faulty (including as a result of reaching end of life) equipment.
- 2.2.2. During the operational lifetime of the Proposed Development, the Applicant will provide notification, which is not subject to approval, of planned maintenance activities to South Kesteven District Council and Rutland County Council for the forthcoming year on an annual basis (from the first anniversary of the approval of the first detailed Operational Environmental Management Plan).
- 2.2.3. Alongside the maintenance schedule, the Applicant will provide supporting environmental and traffic information to evidence that there are no materially new or materially different environmental effects arising from any planned maintenance activities when compared to those identified in the assessment of the operational phase in the ES. This supporting information must include confirmation that the traffic movements associated with the planned maintenance activities will be no more than 5 daily HGV two-way movements and that the approach to maintenance set out in the schedule is consistent with Section 5.17 of Chapter 5 of the ES [REP2-012] , and where the maintenance activities involve the

replacement of piles, information on how this is to be carried out, including the measures that will be put in place to ensure no materially new or materially different impacts to soils occur..

- 2.2.4. The maintenance schedule will include details of the operation and maintenance regime for underground cabling required in the forthcoming year.
- 2.2.5. If the maintenance schedule provided pursuant to paragraph 2.2.2 contains any activities that involve the replacement of the solar panels or solar stations (and/or their associated piles), those activities cannot take place until South Kesteven District Council or Rutland County Council have provided confirmation that they agree that the activities will not lead to materially new or materially different environmental effects to those identified in the assessment of the operational phase in the ES.
- 2.2.6. Typically four staff will be present onsite across the day and up to a total of 20 staff per day at any one time for maintenance replacement and cleaning activities.

### **2.3. Operation Programme**

- 2.3.1. Operation of the Proposed Development is expected to start following construction, anticipated to be 2028.

### **2.4. Provisions for Decommissioning if the Proposed Development Stops Generating Electricity**

- 2.4.1. The Applicant must provide notice to the relevant planning authority (for the part of the authorised development in question) once any part of the authorised development stops generating electricity for non-maintenance reasons.
- 2.4.2. If within 12 continuous months of the date of the notice, that part of the authorised development does not re-generate electricity, decommissioning works for that part of the authorised development must commence (having



in that period had a decommissioning environmental management plan approved by the relevant local planning authority as required by the DCO).

- 2.4.3. Paragraph 2.4.2 does not apply if it was a force majeure event or National Grid undertaking any activities to Ryhall Substation or the transmission network that cause that part of the authorised development to stop generating electricity.
- 2.4.4. Where paragraph 2.4.3 applies, the Applicant must provide 3 monthly updates (starting 3 months from the date of the notification given pursuant to paragraph 2.4.1) to the relevant local planning authority which must confirm either (a) the latest programme for that part of the authorised development to re-commence generating electricity as understood at that time or (b) that it does not intend to re-commence generating electricity for that part of the authorised development.
- 2.4.5. Where paragraph 2.4.4 (b) is the case, the Applicant must within 12 months of that confirmation being given, commence decommissioning works for that part of the authorised development (having in that period had a decommissioning environmental management plan approved by the relevant local planning authority as required by the DCO).
- 2.4.6. The period to commence decommissioning works given in paragraphs 2.4.2 and 2.4.5 can be extended if:
- a. the LPAs agree as such in approving the Decommissioning Environmental Management Plan pursuant to the DCO; or
  - b. a force majeure event occurs within that 12 month period, in which case the Applicant and the LPA must agree following that event the time period in which decommissioning works should take place.
- 2.4.7. For the purposes of this section of the oOEMP (and the detailed OEMPs that follow), a ‘force majeure event’ means an event or circumstance which is beyond the reasonable control of the Applicant which will include but is not limited to an act of God, war, civil disturbance, statutory prohibition, Government intervention, order or act of Government or local/public

authority, acts of terrorism, fire, lightning, flood, adverse weather conditions, prevention of access to any site as a consequence of any local, regional or national restriction on movement in consequence of a health emergency, or otherwise to prevent the spread of any communicable disease, explosion, accident, theft, vandalism or national strike action.

## **2.5. Roles and Responsibilities**

- 2.5.1. Key roles and responsibilities during the operation phase in managing environmental impacts will likely include, but are not limited to:
- a. Site Manager – Overall responsibility for activity onsite.
  - b. Environment Manager - Responsible for the overall management of environmental aspects onsite, ensuring environmental legislation and best practices are complied with, and environmental mitigation and monitoring measures identified are implemented. The Environment Manager will oversee environmental monitoring onsite and carry out regular environmental site inspections, reporting and responding to any incidents or non-compliance. The Environment Manager will liaise with relevant environmental bodies and other third parties as appropriate.
  - c. Ecological Clerk of Works (ECoW) - Management of the risks to ecological features (including watercourses) on construction sites, advising protecting valued ecological features and providing practical solutions in line with this oOEMP.
  - d. Flood Warden – There will be a dedicated responsibility to be prepared for, and manage, the response to flood incidents.
  - e. Health and Safety Manager – Responsible for the monitoring and controlling of health and safety compliance and related rules and regulations onsite.

## **2.6. Working Hours**

- 2.6.1. The Solar PV Site will generally be manned by four staff during normal working hours (08:00-18:00) five days a week.

## **2.7. Control of Light**

- 2.7.1. During operation, no part of the Solar PV Site will be continuously lit. CCTV cameras would use night-vision technology, which would be monitored remotely and avoid the need for night-time lighting. For security

requirements, Passive Infra-red Detector (PID) systems (or similar) will be installed around the perimeter of the PV Arrays to provide night vision functionality for the CCTV.

- 2.7.2. The lighting of the Onsite Substation would be in accordance with Health and Safety requirements, particularly around any emergency exits where there would be lighting, similar to street lighting that operates from dusk. Otherwise, lighting sensors for security purposes will be implemented around the Onsite Substation.
- 2.7.3. The lighting design would seek to limit any impact on sensitive receptors as lighting will be directed downward and away from boundaries as captured within the Design Guidance set out within the Design and Access Statement [EN010127/APP/7.3].

## **2.8. Management of Vegetation Planting**

- 2.8.1. An **oLEMP** has been prepared and submitted as part of the DCO.
- 2.8.2. The **oLEMP** provides a framework for delivering the landscape strategy and the successful establishment and future management of proposed landscape works associated with the Proposed Development. It sets out the short and long-term measures and practices that will be implemented to establish, monitor and manage landscape and ecology mitigation and enhancement (biodiversity net gain) measures embedded in the design, and to ensure compliance with relevant national and local planning policies.
- 2.8.3. LEMP(s) will be prepared in accordance with the **oLEMP** and will be submitted to and approved by the relevant local planning authority prior to construction. This will include provisions in respect of on-going maintenance and management of the landscape and ecology.

## **2.9. Security**

- 2.9.1. There will be regular security risk management threat assessments during the construction, operation, and ultimately decommissioning phases of the Proposed Development. These security risk management threat assessments will be conducted by suitable qualified and experienced persons (SQEP) and will determine security risks.
- 2.9.2. The security arrangements will contribute to the overall safety of all who will, or may, enter the Proposed Development. The security arrangements will be reviewed by SQEP at identified points commensurate to the Security Risk rating and will further assess any changes in a Security Risk Management Threat Assessment.
- 2.9.3. A security fence will enclose the Solar PV Site. The fence is likely to be a 'deer fence' (wooden or metal) and approximately 2m in height. Access gates into the PV Arrays will be of similar construction and height as the perimeter fencing. Clearances above ground, or the inclusion of mammal gates, will be included to permit the passage of wildlife.
- 2.9.4. The access points from the public highway into the Solar PV Site will be the same as those used during the construction phase. A single secure point of vehicular access from the highway into each area of the Solar PV Site will be used for maintenance.
- 2.9.5. Pole mounted internal facing closed circuit television (CCTV) systems installed at a height of up to 3.5m are also likely to be deployed around the perimeter of the PV Arrays. CCTV cameras would use night-vision technology.

## **3.0 Management and Mitigation Plan**

- 3.1.1. This section of the oOEMP outlines the potential impacts, mitigation measures to be included as a minimum within the OEMP(s). It also provides the monitoring requirements for mitigation and/or enhancement measures where required. The measures identified in **Table 3-1 - Table 3-**

**12** below will be reviewed and updated following the consent of the DCO Application as part of the preparation of the OEMP(s).

- 3.1.2. Not all of these measures have been identified to address specific adverse effects assessed through the EIA process. Some of the measures have been included as best practice.
- 3.1.3. Nothing in this oOEMP would prevent the modification or omission of the control measures set out in **Tables 3-1 – 3-12** where the operational strategy means that the measures can be so modified or omitted. This will be confirmed (including confirming that the absence or change to such control measures would not lead to any materially new or materially different effects) at the time of submission of the OEMP(s).
- 3.1.4. The responsibility for ensuring that the measures set out in **Tables 3-1 – 3-12** are implemented will lie with the Applicant of the Proposed Development. The Applicant will also be responsible for appointing and managing personnel responsible for fulfilling particular roles identified in this document such as the Environmental Manager and ECoW.

**Table 3-1 Landscape and Visual**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
<p>Loss of existing landscape features, e.g. vegetation Visibility of operational activities</p>	<p>The <b>oLEMP</b> 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 Order limits (i.e. the green infrastructure).</p> <p>A LEMP will be prepared in accordance with the principles of the <b>oLEMP</b> and will be submitted to and approved by the relevant planning authority. This will include measures to ensure landscape mitigation and enhancements are established and maintained into and throughout the operational phase.</p> <p>Pole mounted internal facing closed circuit television (CCTV) systems will be installed at a height of up to 3.5m around the perimeter of the PV Arrays. CCTV cameras would use night-vision technology, which would be monitored remotely and avoid the need for night-time lighting. During operation, no part of the Proposed Development would be continuously lit; manually operated and motion-detection lighting would be utilised for operational and security purposes within the Onsite Substation.</p> <p>Visible lighting would be installed at Solar Stations but only used in emergencies.</p> <p><b>Screening</b></p> <p>Existing vegetation along the field boundaries of the Solar PV Site will be retained and managed where practicable to ensure its continued presence and to aid the screening of low-level views into the Solar PV Site.</p>	<p>Refer to the <b>oLEMP</b>.</p>

**Table 3-2 Ecology and Biodiversity**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
<p>Impacts on biodiversity features during the operation of the Proposed Development.</p> <p>Disturbance to wildlife from artificial lighting.</p>	<p>The <b>oLEMP</b> will be used to manage the areas of landscaping to maximise the benefits for biodiversity and the monitoring requirements to ensure the successful establishment of the proposed planting.</p> <p>Any repair or maintenance work which requires vegetation or ground clearance or intrusive works will be reviewed by the ECoW to determine whether additional impacts may arise. This assessment may be supported by a localised survey of the areas to be affected.</p> <p>Vegetation clearance will be undertaken in line with the <b>oLEMP</b> at an appropriate time of year when so as to avoid incidental injuring or killing of reptiles and amphibians.</p> <p>Works will avoid the nesting bird period i.e. March to August (inclusive) for any management of vegetated areas. Any management of vegetated areas or works that could cause disturbance to nesting birds within the nesting bird period should be checked for the presence of any nests by a suitably qualified ornithologist, prior to such works in line with legislative requirements. If active nests are found, dependent upon the bird species and status of the nesting attempt, then appropriate buffer zones may need to be required upon advice sought from an appropriately qualified ornithologist and the area monitored until the young birds have fledged.</p> <p>Subject to the nature of the maintenance activities, reasonable avoidance measures to avoid impacts on badgers and bats will be employed, including buffers of 30m around any identified badger setts, 15m buffer around trees with bat roost</p>	<p>Refer to the <b>oLEMP</b>.</p>

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
	<p>potential, 15m buffer zone adjacent to Local Wildlife Sites and, woodland and a 10m buffer zone to main watercourses.</p> <p>CCTV cameras would use night-vision technology, which would be monitored remotely and avoid the need for night-time lighting.</p>	



**Table 3-3 Cultural Heritage and Archaeology**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
Impacts from security lighting, operational noise, associated traffic and glint and glare.	<p>The <b>oLEMP</b> describes how existing and new habitats will be maintained during the first five years following implementation and managed in the long-term until decommissioning, including hedgerows and planting which provide screening to nearby heritage assets.</p> <p>CCTV cameras would use night-vision technology, which would be monitored remotely and avoid the need for night-time lighting. For security requirements, Passive Infra-red Detector (PID) systems (or similar) will be installed around the perimeter of the PV Arrays to provide night vision functionality for the CCTV.</p> <p>Measures to minimise impacts from noise and traffic during operation are provided in the relevant sections.</p>	Refer to the <b>oLEMP</b> .

**Table 3-4 Access and Highways**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
Vehicle movements during operation and effects on access/PRoW users	<p>The existing PRoW will be unaffected during operation. All PRoW will have a minimum 15m spacing (either side) between the centreline of the PRoW and security fencing and located within a minimum 3m wide undeveloped passageway.</p> <p>During the operational phase, four new permissive paths (a total of 8.1km) will be provided to improve pedestrian and bridleway connectivity throughout the Order limits connecting with the existing PRoWs. It is not expected that any temporary traffic management, PRoW diversions or closures will be required and the majority of vehicles accessing the Order limits will be maintenance vehicles/ Light Goods Vehicles (LGVs).</p> <p>The operational phase of the Proposed Development is set to promote many benefits by creating new access, improving connectivity across the network and allowing more opportunities to engage with nature. This includes:</p> <ol style="list-style-type: none"> <li>Maintaining access to all existing PRoW within the Order limits, with no diversions or closures (any PRoW temporarily diverted during the construction phase will be reinstated during the operational phase);</li> <li>Creating four new permissive routes (8.1km in total) across the Order Limits, opening up new areas for access, improving connectivity across the existing network and, principally through the provision of the nature area in the West Glen River, allowing more opportunities to engage with natural environment.</li> </ol>	Refer to the <b>oLEMP</b> .

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
	<p>c. Controlling areas where the internal access tracks cross any existing PRow or existing agricultural roads (such as by providing signage), permitting only operational traffic to utilise these internal access tracks, where there isn't shared access with the landowner within the Order limits. Operational traffic would give-way to other users when utilising the crossing points. Visibility will be maximised between operational vehicles and other users, with warning signage provided if required.</p> <p>The detailed OEMPs will require that if at any time in the operational phase, the existing PRows or new permissive paths need to be diverted or temporarily closed to facilitate maintenance activities, this will require approval of the local planning authority.</p> <p>This is only likely to be required for a limited number of temporary PRow diversions to allow the potential for access tracks to be repaired where they cross PRow. The PRow and diversions will be managed throughout the repair work to ensure that they can continue to be used safely.</p> <p>The existing PRow will be reinstated when repairs to access tracks have been completed, albeit public access will be retained throughout as a result of the PRow diversions. The minimum PRow widths of 2m for footpaths and 3m for bridleways will be maintained.</p> <p>The proposed internal access tracks will cross the following PRow within the Order Limits:</p> <p>a. Bridleway E169/1</p>	

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
	<p>b. Bridleway BrAW/1/1</p> <p>Should a diversion be required it will be clearly marked out, along with appropriate signage at either end of the diversion which will take the most direct route possible. The diversion routes will be agreed with the relevant local authority.</p> <p>The Solar PV Site access points to be used during the operational phase are to be the same as those used during the construction phase. These secondary access points, along with a network of internal access tracks, will provide operational access to the PV Arrays, Solar Stations and associated infrastructure for the purposes of management and maintenance.</p> <p>Measures such as planting of hedgerows, maintained to a height of at least 3m, in order to conceal any potential for solar reflections and to mitigate the overall impacts on receptors.</p>	

**Table 3-5 Noise and Vibration**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
Noise and vibration from operational equipment.	<p>Operational noise levels at residential properties, determined in line with BS 4142, will be controlled by the OEMP based on this oOEMP. Cumulative rated noise levels <math>L_{Ar}</math>, including the applicable character correction, should not exceed 35dB at neighbouring residential properties as secured by the DCO Requirements.</p> <p>The inverter type (Central or string) (see <b>Chapter 5: Project Description</b> of the ES) will be determined at detailed design stage. Solar Stations will be located at a minimum distance of 250m and 50m from residential properties and PRoWs respectively. The final electrical plant layout and specification will be designed such that noise levels predicted at residential properties do not exceed the limits set out in the DCO Application.</p> <p>As part of this, users of public rights of ways and permissive paths (associated with the DCO Application) will also be considered. The detailed OEMP will explain how final electrical plant layout and specification will have been designed such that noise levels will not exceed 50 dB <math>L_{Aeq}</math> on these paths.</p> <p>The detailed OEMP will explain how the final electrical plant layout and specification has considered the sound output levels of all mechanical and electrical plant, low frequency and/or tonal components of any sound sources and the noise from inverters and cooling fans.</p> <p>The detailed OEMP will also set out procedures for undertaking acoustic measurements, following construction and commissioning of the equipment, to demonstrate that the expected noise levels are achieved in practice. The results of these measurements would be shared with the relevant planning authority. In the event that the measurements show that noise levels are such</p>	The Environmental Manager will respond to complaints and coordinate noise monitoring where required.

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
	<p>that an excess of the noise limits discussed above is likely, the contractor would set out a mitigation scheme for implementation and would undertake additional testing and reporting following implementation of these measures to demonstrate compliance with the relevant noise limits.</p> <p>Site staff will carry out regular maintenance of equipment. This will include identifying any changes in sound pitches or volume early and carrying out the relevant maintenance. Further details are to be confirmed in the OEMP(s).</p> <p>The OEMP(s) will set out a complaints procedure for members of the public to report noise disturbance at residential properties. Where required, monitoring would be undertaken by a suitably qualified practitioner in accordance with the latest version of the BS 4142 to determine if noise levels are above the limits set out above. If noise levels are in excess of these limits, then remedial action would be undertaken. Where such monitoring is required, a log book of the monitoring and remedial actions must be kept, and made available for inspection by the relevant planning authority on request.</p>	

**Table 3-6 Air Quality**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
Dust emissions	<p>Dust emissions during maintenance activities in the operation phase will be managed through the following:</p> <ul style="list-style-type: none"> <li>a. 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.</li> <li>b. Ensuring an adequate water supply for effective dust/particulate matter suppression/mitigation for any dust generating activities, using non-potable water where possible and appropriate; and</li> <li>c. Ensuring equipment is readily available onsite to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.</li> </ul>	Not required.

**Table 3-7 Water Resources and Ground Conditions**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
<p>The following impacts may occur without adequate mitigation:</p> <p>Impacts on water quality in waterbodies that may receive surface water runoff or be at risk of chemical spillages from supporting infrastructure for the Proposed Development (e.g. substations, solar stations, local site offices and car parking etc.) and maintenance activities;</p> <p>Potential for reduced chemical loading of watercourses associated with cessation of nitrate, pesticide, herbicide</p>	<p><b>Drainage Strategy</b></p> <p>The drainage design provides for the attenuation of surface water runoff from the operational Order limits, whilst minimising flood risk to the Proposed Development and surrounding areas.</p> <p>The <b>outline Surface Water Drainage Strategy</b> which is provided in <b>Appendix 11.6</b> of the ES [EN010127/APP/6.2], sets out the management of surface water.</p> <p>The <b>outline Water Management Plan</b> [EN010127/APP/7.13] sets out measures to manage drainage during the operational phase of Proposed Development through a maintenance programme.</p> <p><b>Solar PV Site</b></p> <p>The Solar PV Site is located outside of the modelled 1:100-year (with an allowance for climate change) fluvial flood extents. The minimum height of the lowest part of the PV Modules is 0.8m above ground level. Solar Stations will be located within Flood Zone 1, as required by the <b>Design Guidance</b> set out within the <b>Design and Access Statement</b> [EN010127/APP/7.3]. The foundations of the Mounting Structures will generally be driven or screwed into the ground to a maximum depth of 2.5m.</p> <p>The PV Arrays have the potential to concentrate rainfall under the drip lines. The area under the PV Arrays will be seeded with a suitable grass/flower mix to prevent rilling (incisions in soil caused by concentrated water flow) and an increase in surface water runoff rates. The ground under the PV Arrays will be inspected to check that bare ground is not forming and re-seeded where necessary.</p>	<p>Regular recording of compliance in a log book. The OEMP(s) will detail the frequency.</p>



Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
<p>and insecticide applications on arable fields, or reduction in fine sediment/soil erosion, which would be beneficial;</p> <p>Hydromorphological impacts to waterbodies including changes to physical form (for example where outfalls or watercourse crossings are required) which underpin habitats;</p> <p>Impacts on flood risk from increased runoff from new impervious areas across the Solar PV Site;</p> <p>Potential impacts on hydrology as a result of the Proposed Development by</p>	<p><b>Watercourse Buffers</b></p> <p>There will be a minimum offset of 6m from drains (measured from the water/channel edge under normal flows) within which there will be no built development (with the exception of access track and electrical cable crossings). However, for main rivers a 10m offset measured from the centre line of the watercourse as marked on Ordnance Survey mapping has been allowed for as well as an offset of 10m around the margin of. These offsets are secured through a combination of the Works Plans [EN010127/APP/2.2] and the <b>Design Guidance</b> set out within the <b>Design and Access Statement</b> [EN010127/APP/7.3].</p> <p><b>Pollution Controls</b></p> <p>The design of the Proposed Development has included measures to avoid and minimise the risk of water pollution during its operation. These include:</p> <ol style="list-style-type: none"> <li>All hazardous materials including chemicals, cleaning agents and solvent containing products to be properly sealed in sealed containers at the end of each day prior to storage in appropriately protected and bunded storage areas;</li> <li>Regular inspections and maintenance of all equipment will be undertaken in order to identify any leaks or damage early. 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 OEMP(s) will include a regular schedule for visual inspection of the panels and all other equipment.</li> </ol>	

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
<p>changing the way water infiltrates into the ground; and</p> <p>Potential beneficial impacts on local waterbodies where local abstractions are made for spray irrigation and therefore need will reduce.</p>	<p>c. Preparation of an Emergency Spillage Action Plan setting out procedures on the response to a spillage including how it is contained and reported to the Environment Agency if necessary.</p> <p><b>Resilience to Flooding</b></p> <p>Regular inspection and maintenance of all existing and proposed drainage systems, SuDS and culverts will take place throughout the operational phase within the Solar PV Area. This will be undertaken in accordance with good practice guidance. Checks will also be undertaken of SuDS structures and features following prolonged or intense rainfall to ensure their functionality. The detailed OEMP will also require that following an emergency flooding event, if the Applicant's drainage features have been overtopped/overwhelmed, a review will be undertaken and presented to the relevant planning authority for the area in question to set out how the features performed, any lessons to be learned, and any remedial actions that will be undertaken if any feature underperformed, such remedial actions to then be carried out.</p> <p>SuDS features will be utilised to ensure the surface water drainage strategy adequately attenuates and treats runoff from the Proposed Development, whilst minimising flood risk to the Order limits and surrounding areas.</p>	
<p>Potential for pollutants to enter the ground.</p>	<p>The design of the Proposed Development has included measures to avoid and minimise the risk of pollution to the ground and water during its operation. These include:</p>	<p>The Environmental Manager will regularly record compliance in a logbook. The</p>

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
	<p>Regular inspections and maintenance of all equipment will be undertaken in order to identify any leaks or damage early. Any panels which require maintenance / replacement will be removed before any potential 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 OEMP(s) will include a regular schedule for visual inspection of the PV Modules and all other associated infrastructure.</p> <p>During the operational phase there would be surface water runoff from the permanent structures, roofs, PV Modules and access roads.</p> <p>There will be a minimum offset of 6m around drains (measured from the water/channel edge under normal flows) within which there will be no built development (with the exception of access track and electrical cable crossings). However, for main rivers a 10m offset measured from the centre line of the watercourse as marked on Ordnance Survey mapping has been allowed for as well as an offset of 10m around the margin of ponds.</p> <p>The usual annual cleaning of solar PV arrays will involve clean water with no chemicals.</p>	<p>OEMP(s) will detail the frequency.</p>

**Table 3-8 Agriculture and Land Use**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
<p>Potential for surface soil compaction in some areas. For example, grassed access alleys traversed by light vehicles for site maintenance could cause surface compaction in damp or wet soil conditions. If sheep grazing is used for vegetation management surface compaction can result if numbers grazing are too great in wet conditions. Surface compaction can cause run-off.</p>	<p>The management of trafficking onsite and traversing the land when the soil is in a suitable dry condition is key to managing the risk of soil compaction.</p> <p>As a broad guide, planning of the maintenance and replacement works should take this into consideration and seek to undertake minimal traversing across the Solar PV Site and soil handling during the period early December to early April, and/or to develop appropriate procedures to do so such as the use of matting. An onsite inspection of the soil condition prior to vehicle movement across the Solar PV Site is essential.</p> <p>When travelling across the Order limits all machinery and vehicles should keep to internal access tracks where possible to minimise the risk of soil compaction.</p> <p>Soil mounds will be maintained at least annually during the life of the Proposed Development to prevent the establishment of woody growth or brambles, in accordance with the <b>oLEMP</b>.</p> <p>The detailed OEMP (s) must include the measures set out in the <b>oSMP</b> for managing soils during operation of the Proposed Development.</p> <p>The detailed OEMP (s) must set out a programme of soil health monitoring to be undertaken throughout the operation of the Proposed Development.</p> <p>Sheep numbers will be controlled in liaison with farmers to ensure that excessive grazing and trampling does not compact/degrade soils. Grazing land will be periodically inspected to check if overgrazing/trampling is occurring and this will be communicated with the farmers.</p>	<p>Soil assessments and monitoring will be undertaken as detailed in the <b>oSMP</b> [EN010127/APP/7.12].</p>

**Table 3-9 Climate Change**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
<p>Greenhouse gas emissions from the operational maintenance activities required during operation of Proposed Development.</p> <p>Increased ambient temperature due to climate change.</p>	<p>Regular planned maintenance of the Proposed Development will be conducted to optimise efficiency of the Proposed Development.</p> <p>Increasing recyclability by segregating waste to be re-used and recycled where reasonably practicable.</p> <p>Operating 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.</p> <p>Encouraging the use of lower carbon modes of transport by identifying and communicating local bus connections and pedestrian and cycle access routes to/from the Proposed Development to all staff, and providing appropriate facilities for the safe storage of cycles.</p> <p>Liaising with operational personnel for potential to implement car sharing options.</p> <p>Switching off vehicles and plant when not in use and ensuring vehicles conform to current EU emissions standards.</p> <p>Ensuring air conditioning/heating is only used when needed and that windows and doors in the site office, storage and welfare buildings are kept closed while it is in use.</p> <p>Monitoring of weather forecasts to anticipate extreme temperatures and ensure cooling or heating plant are operating effectively. In the event that cooling or heating plant are anticipated to fail then plant will be temporarily shutdown until maintenance has taken place.</p> <p>Monitoring and maintenance of infrastructure to ensure it remains in adequate condition to provide resilience against the increased frequency and severity of extreme weather events associated with climate change. For example, ensuring that</p>	<p>None</p>

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
	<p>mounting structures continue to be capable of withstanding maximum force wind speeds.</p> <p>The following measures are required to ensure safety of staff from increased flood risk onsite due to climate change:</p> <p>Health and safety plans will be required to account for potential climate change impacts on workers, such as flooding and heatwaves;</p> <p>Storing materials outside of flood extent as far as reasonably practicable; and</p> <p>Appointing at least one designated Flood Warden who is familiar with the risks and remains vigilant to news reports, Environment Agency flood warnings and water levels of the local waterways.</p>	

**Table 3-10 Socio-Economics**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
Disruption to local residents, businesses and community facilities	<p>Measures to mitigate the effects of operational noise are outlined in <b>Table 3-5</b>.</p> <p>Measures to mitigate the effects of visual impacts from operation are outlined in <b>Table 3-1</b>.</p> <p>Measures to mitigate the effects of operational traffic are outlined in <b>Table 3-4</b>. Transport and Access.</p> <p>The anti-reflective coating on PV Modules will be visually inspected at regular intervals, to be specified in the oOEMP (s), to identify defects and replace the coating where required.</p> <p>A Health and Safety Plan (H&amp;SP) will be prepared to ensure the safe operation of the Proposed Development.</p>	Regular recording of compliance in a log book. The OEMP(s) will detail the frequency.

**Table 3-11 Waste**

<b>Potential Impact</b>	<b>Mitigation / Enhancement Measure</b>	<b>Monitoring Requirements</b>
<p>Impacts of waste to the surrounding environment.</p> <p>Potential to impact on sensitive receptors (humans, wildlife and controlled waters) if not stored and managed appropriately.</p>	<p>Materials requiring removal from the Order limits during operation would be transported using licensed carriers and records kept, detailing the types and quantities of waste moved and the destinations of this waste, in accordance with the relevant regulations.</p>	<p>A register of waste loads leaving the Order limits would be maintained to provide a suitable audit trail for compliance purposes and to facilitate monitoring and reporting of waste types, quantities and management methods.</p>



**Table 3-12 Major Accidents and Disasters**

Potential Impact	Mitigation / Enhancement Measure	Monitoring Requirements
Incidence of major accidents and disasters as a result of the Proposed Development. Potential impacts on the Proposed Development as a result of major accidents and disasters	<p>All works will be undertaken in accordance with relevant Health and Safety legislation and guidance. Details of fire, police, emergency services and hospitals will be publicised and included in the site induction.</p> <p>An appropriate risk assessment will be produced to minimise the risk of major accidents during operation. An Emergency Response Plan will be in place setting out procedures on how to respond to an emergency.</p> <p>Further risks of major accidents and disasters are covered in the following Tables: <b>Table 3-5</b> Water Resources and Ground Conditions, <b>Table 3-4</b> Access and Highways and <b>Table 3-11</b> Waste.</p>	Regular recording of compliance in a logbook. The OEMP (s) will detail the frequency.

## **4.0 Implementation**

4.1.1. Each OEMP(s) will set out all roles, responsibilities and actions required in respect of implementation of the measures described in this oOEMP, including:

- a. An organogram showing team roles, names and responsibilities;
- b. Training requirements for relevant personnel on environmental topics;
- c. Information onsite briefings and toolbox talks that will be used to equip relevant staff with the necessary level of knowledge to follow environmental control procedures;
- d. Measures to advise employees of changing circumstances;
- e. Communication methods;
- f. Document control;
- g. Monitoring, inspections and audits of site operations; and
- h. Environmental emergency procedures.

## **5.0 Monitoring and Recording**

### **5.1. Monitoring**

- 5.1.1. Monitoring and recording will be undertaken for the duration of the operational phase in order to demonstrate the effectiveness of the measures set out in the OEMP(s) and related construction controls, and allow for corrective action to be taken where necessary.
- 5.1.2. As part of the monitoring process a designated Environmental Manager will observe site activities and report any deviations from the OEMP(s) in a logbook, along with the action taken and general conditions at the time. In addition, the Environment Manager will conduct regular walkover surveys which will be documented, and arrange regular formal inspections to ensure the requirements of the OEMP (s) are being met.
- 5.1.3. The Environmental Manager would also act as day-to-day contact with relevant local authorities and other regulatory agencies such as the Environment Agency.
- 5.1.4. The Environmental Manager will inspect and review of the performance of drainage measures following prolonged or intense rainfall to confirm how the measures performed and suggest adaptations or additional measures, if required. A photographic record will be logged and sent to the relevant regulators such as the Environment Agency and the LLFA.

### **5.2. Records**

- 5.2.1. The Environmental Manager will retain records of environmental monitoring and implementation of the OEMP (s). This will allow provision of evidence that the OEMP(s) are being implemented effectively. These records will include:
  - a. Results of routine site inspections by Environmental Manager;

- b. Environmental surveys and investigations;
- c. Environmental Action Schedule;
- d. Environmental equipment test records;
- e. Licences and approvals; and
- f. Corrective actions taken in response to incidents, breaches of the approved OEMP(s) or complaints received from a third party.

5.2.2. The OEMP(s) will be updated if it is necessary to add additional control measures, with a full review as required. Existing control measures and mitigation will not be amended without prior agreement with the local authorities.

