



Mallard Pass

Solar Farm

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Appendix 05.1 - Proposed Development Parameters

1.1. Introduction

- 1.1.1. This Proposed Development Parameters document has been prepared to accompany the Development Consent Order (DCO) Application for Mallard Pass Solar Farm (the Proposed Development). It provides the parameters for the detailed design of the Proposed Development and is secured via a requirement in the draft DCO [EN010127/APP/3.1]. When the detailed design for Proposed Development is submitted for approval to the relevant planning authorities, those details must be in accordance with the design parameters set out within this document.
- 1.1.2. Securing the detailed design post consent is necessary to achieve technological and design flexibility for the Proposed Development because technology is rapidly evolving for example the output of the individual PV Modules and the capacity of the inverters and transformers.
- 1.1.3. Mallard Pass Solar Farm seeks to allow provisions in the DCO for technological innovation and improvements that may be realised at the time of the procurement and construction, in order to ensure that the project will prioritise sustainable techniques and technologies in construction and operation and positively contribute to delivering the UK to net zero by 2050.
- 1.1.4. In order to facilitate this flexibility, the approach to the ES has been to adopt the 'Rochdale Envelope' approach, whereby the maximum parameters and realistic worst case have been assessed. The envelope is controlled by the **Works Plans [EN010127/APP/2.2]** and the parameters set out in Table 1 below. In addition to the parameters set out in this table, Design Guidance has also been established for the Mallard Pass Solar Farm, as set out in the **Design and Access Statement [EN010127/APP/7.3]**, and a Green Infrastructure Strategy has been developed, as set out in the **Outline Landscape and Ecological Management Plan [EN010127/APP/7.9]**. Both are secured through DCO Requirements.

1.1.5. The detailed design of the Proposed Development must be in accordance with the **Works Plans**, Parameters, the Design Guidance and the **oLEMP**, which will provide confidence to the relevant planning authorities that the environmental effects would be the same as or no worse than those assessed and reported in the ES.

1.2. Management Plans

1.2.1. The construction, operation and decommissioning activities are subject to the controls included within the following documents, which are secured by requirements of the draft DCO:

- a. **Outline Construction Environmental Management Plan [EN010127/APP/7.6];**
- b. **Outline Operational Environmental Management Plan [EN010127/APP/7.7];**
- c. **Outline Decommissioning Management Plan [EN010127/APP/7.8];**
- d. **Outline Construction Traffic Management Plan [EN010127/APP/7.11];** and
- e. **Outline Soils Management Plan [EN010127/APP/7.12].**

1.3. Project Principles and Design Guidance

1.3.1. As described in the **DAS**, a set of Project Principles were established at the start of the project, ‘to act as reminders to the delivery organisation, a steer in the right direction, and a means of restoring focus to the big picture. Design Principles should be a point of departure, setting out a common understanding of the issues to be addressed.’ The Project Principles adopted for the Mallard Pass Solar Farm, reflect both its vision and the National Infrastructure Commission’s Design Principles Guidance. These Project Principles have been a set of decision-making reference points that have transcended and informed the design process up to the point of DCO application. Moving forward, to inform the design process for post-DCO consent, the Applicant has developed Design Guidance, which will support the practical application of the Project

Principles within the spatial extent parameters set by the **Work Plans [EN010127/APP/2.2]**; the quantitative Parameters set out in this document; and the Green Infrastructure proposals set out in the **oLEMP**, through the setting of specific design requirements for the detailed design stage. The Design Guidance is set out within Section 4.5 of the **Design and Access Statement**.

Table 1 Project Development Parameters

Element of Proposed Development	Parameter Type	Parameter Description
<p>Work No. 1— a ground mounted solar photovoltaic generating station with a gross electrical output capacity of over 50 megawatts including—</p> <ol style="list-style-type: none"> a. solar modules fitted to mounting structures; b. inverters; d. transformers; d. switchgear; and e. electrical cables. 		
PV Tables and Mounting Structures	Scale	The maximum height of highest part of the PV Modules will be 3.3m above ground level (AGL) (existing levels).
	Scale	The minimum height of the lowest part of the PV Panels will be 0.8m AGL (existing levels)
	Scale	The minimum pitch between consecutive rows of PV Tables will be: <ul style="list-style-type: none"> • 8.25m for Fixed South Facing • 5m for Single Axis Tracker
	Scale	The maximum surface area of the PV Modules shall not exceed 164.73 ha within the Solar PV Site.
	Scale	The minimum spacing gap between consecutive rows of PV Tables will be 2m.
	Design	The Fixed South Facing PV Modules will face south and be positioned on the PV Tables at an angle of between 18 and 25 degrees from the horizontal
	Design	The Single Axis Tracker PV Modules will be positioned on the PV Tables

		between 60 degrees from the horizontal (facing east in the morning) and up to 60 degrees from the horizontal (facing west in the evening).
	Design	The maximum depth of the Mounting Structure piles will be 2.5m
	Design	The PV Modules will have an anti-reflective coating.
Solar Stations	Scale	The Solar Station will not exceed 3.2m in height AGL (existing levels)
	Scale & Location	There will be up to 1 storage container for every 30MW of installed DC Capacity located at a Solar Station.
<p>Work No. 2— works in connection with an onsite substation including—</p> <ul style="list-style-type: none"> a. substation, switch room buildings and ancillary equipment including reactive power units; b. control building housing offices, storage, welfare facilities, parking areas and access; c. workshop, store and ancillary structures; d. monitoring and control systems for this Work No. 2 and Work No. 1 housed within the control building in Work No. 2(b) or located separately in their own containers or control rooms; and e. harmonic filters. 		
Onsite Substation	Location	The Onsite Substation will be located 12m away from Uffington Lane
	Scale	The maximum height of the electrical infrastructure within the Onsite Substation will be 13m AGL
	Scale	The maximum footprint of the Onsite Substation compound will 2ha.
	Scale	The maximum footprint the ancillary buildings (i.e. a structure with a roof and wall) located within the Onsite Substation will be 1,375m ² with a maximum height of 6m AGL (existing levels)
<p>Work No. 3— works to lay high voltage electrical cables, access and temporary construction laydown areas for the electrical cables including—</p> <ul style="list-style-type: none"> a. Work No. 3A— <ul style="list-style-type: none"> i. works to lay electrical cables including one 400 kilovolt cable circuit connecting Work No. 2 to the existing substation; and 		

<p>ii.laying down of internal access tracks, ramps, means of access, footways, including the laying and construction of drainage infrastructure, signage and information boards for the purposes of paragraph (ii);</p> <p>b. Work No. 3B– temporary construction laydown areas for the purposes of Work No. 3A.</p>		
Grid Connection Cables	Design	The 400kV cable will be underground and the trench will be up to 2m deep. The 400kV cables will have a minimum separation distance of 500mm.
<p>Work No. 4— works including electrical cables and communication cables including electrical cables and communication cables connecting to Work No. 1 to Work No. 2, where the environmental effects will be no worse than those identified in the environmental statement;</p>		
Electrical Cables	Location	The maximum underground cable trench dimensions will be up to 1.5m wide and up to 1.3m below existing ground level (except where other separation is required to avoid existing services, or where trenches converge at connections)
	Design	Electrical cables will be installed beneath the West Glen River using horizontal directional drilling (HDD) at least 1.5m below the watercourse bed. Trenching will maintain a minimum 10m buffer from the watercourse to avoid trenching or disturbance of the watercourse bed and banks.
<p>Work No. 5— temporary construction and decommissioning laydown areas including—</p> <p>a. a main temporary construction and decommissioning laydown area in connection with Work Nos. 1-4, comprising—</p> <ul style="list-style-type: none"> i.areas of hardstanding; ii.parking; iii.site and welfare offices, canteens and workshops; iv.area to store materials and equipment; v.storage and waste skips; vi.area for download and turning; vii.security infrastructure, including cameras, perimeter fencing and lighting; viii.site drainage and waste management infrastructure (including sewerage); and ix.electricity, water and telecommunications connections. 		

Temporary Construction Compound(s)	Scale	There will be one primary construction compound.
	Scale	There will be up to 7 secondary temporary construction compounds
<p>Work No. 6— works to facilitate access to Work Nos. 1 to 5 including–</p> <ul style="list-style-type: none"> a. creation of accesses from the public highway; b. creation of visibility splays; c. works to widen and surface the streets; and d. making and maintaining passing places. 		
Access	Scale	There will be 1 primary point of access and up to 8 secondary points of access.
	Scale	Each access will have a gate 20m from the edge of the public highway.
	Scale	Up to 8 temporary construction passing bays along Uffington Lane.
<p>Work No. 7— works to create, enhance and maintain green infrastructure, including–</p> <ul style="list-style-type: none"> a. landscape and biodiversity mitigation and enhancement areas; b. habitat creation and management, including earthworks, landscaping, means of enclosure, and the laying and construction of drainage infrastructure; and c. laying down of permissive paths, signage and information boards. 		
Green Infrastructure	Location	The Green Infrastructure measures are set out within the oLEMP , with spatial extents shown on the Green Infrastructure Strategy Plans incorporated within the oLEMP .
Other Items not restricted to individual Works Areas		
Fencing	Scale	The fence will to be a 'deer fence' (wooden posts and metal wire mesh) and will be up to 2m in height.
	Scale	Fence Post Height will be up to 2.1m in height.
	Scale	Palisade fencing will be up to 3m in height and only utilised around the perimeter of the Onsite Substation.
CCTV	Scale	Camera Height will be up to 3.5m
Fencing/CCTV Poles	Scale	The depth of poles shall not be greater than the maximum depth of the Mounting Structure piles.

