EAST PARK ENERGY

East Park Energy

EN010141

Design Parameters and Principles Statement

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1.0 INTRODUCTION

1.1 Introduction

1.1.1 This Design Parameters and Principles Statement (the 'Statement') has been prepared to accompany the Development Consent Order (DCO) application for the East Park Energy project (the 'Scheme').

1.1.2 This Statement provides the parameters for the detailed design of the Scheme and is secured by a Requirement of the draft **DCO [EN010141/APP/3.1]**. When the detailed design is submitted for approval to the relevant planning authority, it must be in accordance with the design parameters set out in this Statement. In this way, the Statement supports the DCO application by defining the envelope of the Scheme's design, which in turn underpins the assessments reported in the Environmental Statement (ES).

1.1.3 Flexibility at the detailed design stage of the Scheme is necessary to account for ongoing technological advances in solar photovoltaic (PV) and Battery Energy Storage System (BESS) technology. These technologies are rapidly evolving, and the Scheme seeks to allow for innovation and improvements that may arise by the time of procurement and construction. By securing only the key design parameters in the DCO (rather than a fixed detailed design), the Scheme can incorporate new technology post-consent without undermining the consent or requiring amendments.

1.1.4 This necessary flexibility is facilitated by adopting the 'Rochdale Envelope' approach in the Environmental Impact Assessment (EIA) for the Scheme. Under the Rochdale Envelope, the **ES [EN010141/DR/6.1 / 6.2 / 6.3]** has assessed the reasonable maximum parameters and "worst-case" scenarios for the Scheme as set out in **ES Vol 1 Chapter 2: The Scheme [EN010141/DR/6.1]**, thereby defining a design envelope within which the project can vary. By requiring the eventual detailed design to stay within these

established parameters, the environmental effects of the built Scheme will not be materially new or materially different than those evaluated in the ES.

1.2 Design Parameters

1.2.1 The Scheme is defined in Schedule 1 of the **draft DCO [EN010141/DR/3.1]**, which sets out the different components of the development as specific "Work Nos." corresponding to areas shown on the Works Plan **[EN010141/DR/2.3]**.

1.2.2 Each Work Number delineates a part of the project with distinct elements or activities, and these work areas align with the description of the Scheme in the ES (see **ES Vol 1, Chapter 2: The Scheme [EN010141/DR/6.1]** for the full project description). For the purposes of EIA, the design parameters in this Statement reflect the limits of deviation for each of these works, ensuring that all components of the Scheme remain within the assessed envelope of effects.

1.2.3 Reference should be made to Schedule 1 of the **draft DCO [EN010141/DR/3.1]** for the elements of development authorised by the DCO. However, these have been summarised in the following paragraphs.

1.2.4 **Work No. 1 – Solar PV Generating Station:** Work No. 1 comprises a ground-mounted solar PV generating station with a gross electrical output capacity of over 50 megawatts. This includes the solar PV arrays, inverters, transformers, and switchgear. All design parameters for the solar array infrastructure (e.g. maximum height and arrangement) are controlled through this Statement (see Table 1 in Section 2) to ensure the detailed design remains within the assessed Rochdale Envelope.

1.2.5 **Work No. 2 – Battery Energy Storage System (BESS):** Work No. 2 covers the BESS compound. The BESS includes multiple battery storage units, battery transformers (and switchgear), power conversion systems, auxiliary transformer, control building, water storage tanks, fencing, surfacing and drainage, and internal access and parking areas. The principal dimensions and layout of the BESS components are controlled by the design parameters

in Table 2. However, certain safety elements of the BESS are governed by specific management plans rather than this Statement. In particular, the fire safety infrastructure and measures for the BESS are secured by the **draft DCO [EN010141/DR/3.1]** through the **outline Battery Safety Management Plan [EN010141DR/7.10]**.

1.2.6 **Work No. 3 – On-site Substation:** Work No. 3 consists of the on-site substation (referred to as the 'East Park Substation') and its associated facilities. The substation compound will contain the substation control building, electrical equipment required to enable export of power to the grid including transformers, busbars and electrical apparatus, fencing, surfacing and drainage, rainwater harvesting, and access. The key dimensions of the East Park Substation (e.g. the footprint of buildings or maximum heights of equipment) are controlled by the design parameters set out in Table 3.

1.2.7 **Work No. 4 – Grid Connection to Eaton Socon Substation:** Work No. 4 comprises the underground electrical connection works linking the East Park Substation (Work No. 3) to the Eaton Socon Substation (Work No. 5). Work No. 4 covers the 400 kV electrical circuits, cable jointing chambers, and temporary access and laydown areas. The design of electrical infrastructure in Work No. 4 is controlled by the parameters in Table 4.

1.2.8 **Work No. 5 – Works at the Eaton Socon Substation:** Work No. 5 comprises the work to connect the Scheme into the Eaton Socon Substation, comprising a new 400 kV generation bay that will include air or gas insulated switchgear, electrical apparatus, circuit breakers, disconnectors, earth switches, bus-bars, steel supports insulation posts, cable sealing ends, surge arrestors, instrument transformers, metering equipment, protective equipment and cabling.

1.2.9 **Work No. 6 – Internal Cabling and Ancillary Infrastructure:** Work No. 6 comprises internal cabling and ancillary infrastructure required to build, operate and maintain the Scheme, consisting of 33 kV high voltage cabling, low voltage cabling, fencing and gates, access tracks, sustainable drainage

infrastructure, CCTV and monitoring systems, and utility connections. The design parameters related to Work No. 6 are set out in Table 6.

1.2.10 **Work No. 6A – Operations and Maintenance Area:** Work No. 6A comprises a storage, operations and maintenance building, surfacing and drainage, storage, rainwater harvesting tanks, car parking and access.

1.2.11 **Work No. 6B – Drainage Lagoon:** Work No. 6B comprises a surface water retention basin with associated drainage infrastructure, isolation valve, and control systems for the isolation valve.

1.2.12 **Work No. 7 – Construction and Decommissioning Compounds:** Work No. 7 consists of the temporary construction and decommissioning compounds required for the Scheme. These are areas within the Site that will be used during the construction phase (and again during decommissioning) and would provide an area of hardstanding and track matting, car parking and access, site and welfare offices and cabins, areas to store materials and equipment, security infrastructure, drainage infrastructure, and utility connections. The design and scale of the compounds is controlled by the parameters in Table 9.

1.2.13 **Work No. 8 – Works to create, enhance and maintain Green Infrastructure:** Work No. 8 encompasses the works to create, enhance, and maintain green infrastructure within the Order Limits. This includes measures such as planting of native hedgerows, trees and grassland, installation of ecological enhancements (such as bird nesting and bat roost features), and visitor amenities like permissive paths, signage, and furniture. The parameters and management prescriptions for these landscaping and ecological works are not controlled by this Statement, but instead by the commitments in the **outline Landscape and Ecological Management Plan (oLEMP) [EN010141/DR/7.7]**. The oLEMP sets out how habitats will be created and managed (e.g. planting densities, species mixes, maintenance regimes, etc.) in line with the EIA assumptions. Because Work No. 8 is controlled through the oLEMP and related requirements (ensuring these

enhancements are delivered as specified), the detailed elements of the green infrastructure and habitat creation are not included in this Statement.

1.2.14 **Work No. 9 – Works to Facilitate Access:** Work No. 9 comprises engineering works to create and maintain permanent means of access to the Scheme, including creation of access points from the public highway, creation of visibility splays, and works to widen the existing highway.

1.2.15 **Work No. 10 – Works to create an 'Agrisolar Research Area':** Work No. 10 comprises an 'Agrisolar' research area within East Park Site D. The Applicant has partnered with Rothamsted Research ('Rothamsted') to undertake scientific research on co-locating agricultural production with solar generation in the UK. To enable this research it is necessary to provide greater flexibility in the design than is secured under Work No. 1. For example, Rothamsted may undertake research projects that explore different arrangements of solar panels, at different heights, or at different densities. Work No. 10 will be able to generate electricity and connect to the East Park Substation at Work No. 3 in the same way as Work No. 1. The design of Work No. 10 is controlled by the parameters in Table 12.

1.2.16 **Further Associated Development:** In addition to the specific Works described above, Part 1 of Schedule 1 of the **draft DCO [EN010141/DR/3.1]** lists further associated development that may be undertaken in connection with Work Nos. 1 to 10. This ancillary development (described in the final part of Schedule 1 of the **draft DCO [EN010141/DR/3.1]**) includes such other works as may be necessary or expedient to deliver the project. These items are broadly defined and may occur across the Order Limits as required, but only insofar as they do not give rise to any materially new or materially different environmental effects than those assessed in the **Environmental Statement [EN010141/DR/6.1]**.

1.3 Control Documents

1.3.1 While the design parameters tables secure the physical envelope of the main components, the construction, operation, and decommissioning of the

Scheme will be governed by a suite of detailed management plans. These control documents form part of the application for development consent and are secured by Requirements in Schedule 2 of the **draft DCO [EN010141/DR/3.1]**, to be approved by the relevant local planning authority in consultation with named organisations where appropriate. They ensure that, for aspects not fixed by design parameters, the Scheme will nonetheless be carried out in accordance with agreed best-practice measures and limits. The key plans and strategies include:

- **outline Construction Environmental Management Plan (oCEMP) [EN010141/DR/7.3]**;
- **outline Construction Traffic Management Plan (oCTMP) [EN010141/DR/7.4]**;
- **outline Operational Environmental Management Plan (oOEMP) [EN010141/DR/7.5]**;
- **outline Decommissioning Environmental Management Plan (oDEMP) [EN010141/DR/7.6]**;
- **outline Landscape and Ecological Management Plan (oLEMP) [EN010141/DR/7.7]**;
- **outline Public Rights of Way Management Plan (oPROWMP) [EN010141/DR/7.8]**;
- **outline Soil Management Plan (oSMP) [EN010141/DR/7.9]**;
- **outline Battery Safety Management Plan (oBSMP) [EN010141/DR/7.10]**;
- **outline Skills, Supply Chain and Employment Plan (oSSEMP) [EN010141/DR/7.11]**;
- **outline Waste Management Plan (oWMP) [EN010141/DR/7.12]**;
- **outline Surface Water Management Plan (oSWMP) [EN010141/DR/7.13]**;
- **outline Archaeological Mitigation Strategy (oAMS) [EN010141/DR/7.15]**; and
- **outline Heritage Enhancement Strategy (oHES) [EN010141/DR/7.16]**.

1.3.2 All of these control documents – for construction, operation, and decommissioning – work in tandem with the design parameters in Tables 1 to 10 to ensure that every aspect of the Scheme's design and implementation is properly regulated and consistent with the environmental envelope assessed in the ES.

2.0 DESIGN PARAMETERS

Table 1: Design Parameters for Work No. 1

Work No. 1 – a ground mounted solar photovoltaic generating station with a gross electrical output capacity of over 50 megawatts including: **a) solar photovoltaic (PV) modules and mounting structures;** **b) inverters;** **c) transformers;** **d) switchgears; and** **e) electrical and communication cables.**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
Solar PV Modules and Mounting Structures	Location	The solar PV modules will be fixed to ground mounted structures arranged in arrays only within the area identified as Work No. 1 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The maximum height of the highest part of the solar PV panels will be 3m above existing ground level.
	Scale	The minimum height of the lowest part of the solar PV panels will be 0.8m above existing ground level.
	Scale	Panel bottom edges will be set a minimum of 300mm above the maximum surface water levels for the design (1.0% climate change) event.
	Scale	The minimum pitch will be 7.5m and the maximum pitch will be 12m.
	Design	The solar PV panels will be set out in rows facing south, with a fixed angle of between 15 and 25 degrees from horizontal.
	Design	The solar PV panels will be orientated with an azimuth angle of between 175 and 185 degrees.

	Scale	The maximum depth the mounting structure posts will be driven into the ground will be 3m below ground level.
	Design	The solar PV panels will be either monofacial or bifacial and have an anti-reflective coating.
	Design	The PV mounting structure will be a metal frame fixed to the ground by galvanised steel posts which are driven into the ground. In 'Areas of Archaeological Constraint', the PV mounting structure will be mounted in accordance with the **outline Archaeological Mitigation Strategy [EN010141/DR/7.15]**.
String Inverters	Location	The string inverters would be mounted to the rear of Solar PV tables, directly to the mounting structures, within the area identified as Work No. 1 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The string inverters would have maximum dimensions of 1.2m width x 1m height, x 0.5m depth.
Centralised Inverters	Location	The centralised inverters would be co-located with solar transformers within the area identified as Work No. 1 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The centralised inverters would have a maximum dimension of 6.5m length x 2.5m width x 3.15m height.
	Scale	The centralised inverters would have a concrete strip footing foundation with a levelling layer of aggregate extending up to 1m beyond the maximum area of the centralised inverter, up to a maximum depth of 0.4m below ground level.
	Design	Where required by the operational noise assessment, an acoustic screen will be provided around the centralised inverters. The acoustic screen will be positioned 2m away from the centralised inverters and solar transformers, around three sides of the co-located centralised inverters and solar

		transformers. The maximum height of the acoustic screen will be 4m.
	Design	The centralised inverters will have an external finish of either grey, green, or white according to manufacturer specifications, and subject to agreement with the relevant planning authority.
Solar Transformers	Location	The solar transformers would be distributed throughout the Solar PV areas within the areas identified as Work No. 1 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The solar transformers would have a maximum dimension of 6.5m length x 2.5m width x 3.15m height.
	Scale	The solar transformers would have a concrete strip footing foundation with a levelling layer of aggregate extending up to 1m beyond the maximum area of the transformer, up to a maximum depth of 0.4m below ground level.
	Design	Where required by the noise assessment, an acoustic screen will be provided around the solar transformers. The acoustic screen will be positioned 2m away from the solar transformers, around three sides solar transformers. The maximum height of the acoustic screen will be 4m.
	Design	The solar transformers will have an external finish of either grey, green, or white according to manufacture specifications, and subject to agreement with the relevant planning authority.

Table 2: Design Parameters for Work No. 2

Work No. 2 – works in connection with a Battery Energy Storage System (BESS) including: **a) battery storage units and power conversion systems;** **b) battery transformers and switchgears;** **c) auxiliary transformers;** **d) control building;** **e) water storage tanks;** **f) fencing;** **g) surfacing and drainage; and** **h) internal access and parking.**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
Battery Storage Units	Location	The battery storage units would be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The battery storage units will have a maximum footprint of 16m^2 and a maximum height of 4.4m.
	Scale	The foundations of the battery storage units would be concrete to a maximum depth of 0.4m below ground level.
	Design	The battery storage units will have an integrated HVAC, or liquid cooling system.
	Design	The battery storage units will have an external finish of either grey, green, or white according to manufacture specifications, and subject to agreement with the relevant planning authority.
Battery Transformers	Location	The battery transformers would be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The battery transformers will have a maximum footprint of 22m^2 and a maximum height of 3.15m.

	Scale	The foundations of the battery transformers will be concrete to a maximum depth of 0.4m below ground level.
	Design	The battery transformers will have an external finish of either grey, green, or white according to manufacture specifications, and subject to agreement with the relevant planning authority.
Auxiliary Transformer	Location	The auxiliary transformer would be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The auxiliary transformer will have a maximum dimension of 3.5m length x 3.5m width x 3m height.
	Scale	The foundations of the auxiliary transformer will be concrete to a maximum depth of 0.4m.
BESS Control Building	Location	The BESS control building would be located within the area identified as Work No. 2 on the Works Plan [EN010141/DR/2.3].
	Scale	The control building will have a maximum dimension of 13m length x 5.5m width x 4m height.
	Scale	The foundations of the control building will be concrete to a maximum depth of 0.4m.
Water Storage Tanks	Location	The water storage tanks would be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The water storage tanks will have a maximum diameter of 10m, and a maximum height of 4.5m above ground level.
	Scale	The water storage tanks will sit on a reinforced concrete base up to a maximum depth of 1m.
	Design	Two water storage tanks will be provided, one at each point of access into the BESS.

BESS Fencing	Location	The BESS fencing will be located within the area identified as Work No. 2 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	Steel palisade fencing would have a maximum height of 3m.
	Design	Steel palisade fencing would have an external finish of either galvanised steel or a green coating, subject to agreement with the relevant planning authority.
BESS Surfacing and Drainage	Design	The entirety of the BESS compound will have an impermeable surface finish (likely to be concrete or an impermeable membrane). The BESS compound will drain to the BESS compound drainage lagoon located within Work No. 6B on the **Works Plan [EN010141/DR/2.3]**.
BESS Internal Access	Design	The BESS compound internal access roads will be up to 6m wide and up to 0.5m depth.

Table 3: Design Parameters for Work No. 3

Work No. 3 – works in connection with an on-site substation including: **a) substation control building;** **b) transformers;** **c) switchgear;** **d) electrical equipment;** **e) fencing;** **f) surfacing and drainage; and** **g) internal access.**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
Substation Control Building	Location	The East Park Substation control building would be located within the area identified as Work No. 3 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The control building will have a maximum footprint of 1,030m^2 and a maximum height of 6m above ground level.
	Scale	The control building will have a sub-surface structure to facilitate cable connections with internal switchgear. The sub-surface part of the structure will have a maximum footprint of 250m^2 and a maximum depth of 3m below ground level.
Electrical Equipment	Location	The East Park Substation electrical equipment will be located within the area identified as Work No. 3 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The maximum height of the electrical equipment within the East Park Substation Compound will be 13.6m above ground level.
Substation Fencing	Location	The East Park Substation fencing will be located within the area identified as Work No. 3 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	Steel palisade fencing would have a maximum height of 3m.

	Design	Steel palisade fencing would have an external finish of either galvanised steel or a green coating, subject to agreement with the relevant planning authority.
Substation Internal Access	Design	The East Park Substation compound internal access roads will be between 3m and 6m wide and up to 0.5m depth.

Table 4: Design Parameters for Work No. 4

Work No. 4 – an underground electrical connection from East Park Substation (Work No. 3) to Eaton Socon Substation (Work No. 5) including: **a) a 400 kV electrical circuit;** **b) fibre optic cables;** **c) protective plates;** **d) cable jointing chambers; and** **e) temporary access and laydown areas.**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
400 kV Electrical Circuit	Location	The 400 kV electrical circuit will be located within the area identified as Work No. 4 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The 400 kV electrical circuit will be laid in a single circuit in a trench up to 1.5m wide and up to 2m deep, with a minimum depth of 1m.
	Design	Horizontal Drilling or Horizontal Directional Drilling (or similar method) will be used to install the 400kV electrical circuit beneath certain watercourses, areas of archaeological constraint, and roads.
Cable Jointing Chambers	Scale	The cable jointing chambers will be up to 15m in length, by 3m in width, by 2.6m in depth.
	Design	The top of the cable jointing chambers will be between 1m and 1.5m below ground level.
	Design	The cable jointing chambers will be between 700m and 1000m apart.

Table 5: Design Parameters for Work No. 5

Work No. 5 – works at the Eaton Socon Substation to create a new 400 kV generation bay to connect with Work No. 4, including: **a) an electrical bay to connect into the Eaton Socon Substation, including associated outdoor air insulated switchgear (AIS) or indoor gas insulated switchgear (GIS) and electrical apparatus, circuit breakers, disconnectors and earth switches;** **b) substation electrical apparatus, including bus-bars, steel supports, insulation posts, cable sealing ends, surge arrestors, instrument transformers, metering equipment, and protection equipment; and** **c) underground and above ground electrical cables and electrical connectors, including cables for power, control and communication with electrical bays and to connect into the Eaton Socon Substation, including associated outdoor AIS or indoor GIS and electrical apparatus.**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
Work No. 5	Location	The works will be located within the area identified as Work No. 5 on the **Works Plan [EN010141/DR/2.3]**.

Table 6: Design Parameters for Work No. 6

Work No. 6 – works comprising internal cabling and ancillary infrastructure required to construct, operate and maintain the authorised development: **a) 33 kV high voltage cabling;** **b) low voltage cabling;** **c) fencing and gates;** **d) access tracks;** **e) drainage;** **f) CCTV and monitoring systems; and** **g) utility connections**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
33 kV High Voltage Cabling	Location	The high voltage 33 kV electrical cabling works will be undertaken within the area identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The high voltage 33kV electrical cabling will be below ground laid in trenches a minimum of 1m deep and of varied width dependent on the number of circuits at any point. A single circuit will be laid in a trench up to 0.4m wide. Additional circuits will be laid in parallel up to a maximum trench width of 15m.
	Design	Horizontal Drilling or Horizontal Directional Drilling (or similar method) may be used to cross features such as roads, utilities, watercourses, or vegetation.
Low Voltage Cabling	Location	The low voltage cabling works will be undertaken within the area identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	Where buried, the low voltage cable trenches would be a minimum of 1m deep and 0.4m wide.
Fencing and Gates	Location	The fencing and gates will be located within the area identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.

	Scale	Fencing and gates around the Solar PV Areas will be up to 2.1m in height above ground level. Posts will be installed to a maximum depth of 1m below ground level.
	Design	Small mammal gates will be provided at the base of the fence with maximum dimensions of 0.3m in height by 0.25m in width. A minimum of two small mammal gates will be provided to each fenced area.
	Design	The fencing will be either deer fencing comprising timber posts and metal stock fencing, or green paladin fencing.
Access Tracks	Location	The access tracks will be located within the area identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The access tracks will have a width of up to 4m, and a depth of up to 0.25m.
	Design	At watercourses, the access tracks will utilise existing agricultural crossings wherever feasible. Where this is not feasible the watercourse will be crossed using an open-span crossing.
Temporary Access Tracks	Location	The temporary access tracks will be located within the areas identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The temporary access tracks will be up to 4m wide.
	Design	At watercourses, the temporary access tracks will utilise existing agricultural crossings wherever feasible. Where this is not feasible the watercourse will be temporarily culverted, or a bailey bridge will be used. Culverts will be designed to reduce any alteration of watercourse alignment where feasible, and will be sunken so as to allow a natural bed substrate to be maintained through the culvert.

	Design	The temporary access tracks will be formed of heavy-duty construction matting that does not require excavation to install.
BESS and Substation Drainage Lagoon (Work No. 6B)	Location	The East Park BESS and Substation retention basin associated with Work No. 2, Work No. 3, and Work No. 6A will be located within the area identified as Work No. 6B on the **Works Plan [EN010141/DR/2.3]**.
	Design	The East Park BESS and Substation retention basin will have a design capacity sufficient to hold rainwater run-off from Work No. 2, Work No. 3 and Work No. 6A, and in addition store all water from the two water storage tanks if they were to both be discharged.
	Design	The East Park BESS and Substation retention basin will have an isolating valve such that it can closed off in an emergency situation.
CCTV and Monitoring Systems	Location	CCTV and other monitoring systems will be located in the areas identified as Work No. 6 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The CCTV and other monitoring systems will be located on poles and will have a maximum height of 4m above ground level.

Table 7: Design Parameters for Work No. 6A

Work No. 6A – works to create an operations and maintenance area, including: **a) storage, operations and maintenance building;** **b) surfacing and drainage;** **c) storage;** **d) rainwater harvesting tanks; and** **e) car parking and access.**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
Work No. 6A	Location	The operations and maintenance area will be located within the area identified as Work No. 6A on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The maximum dimensions of the storage, operations and maintenance building will be 40m in length, by 20m in width, by 6m in height.
	Design	The storage, operations and maintenance building will be designed to have a pitched roof, and finished with green walls and a white roof.

Table 8: Design Parameters for Work No. 6B

Work No. 6B – works to create a drainage lagoon, including: **a) surface water retention basin;** **b) drainage infrastructure; and** **c) isolation valve and control systems.**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
Work No. 6B	Location	The East Park BESS and Substation retention basin associated with Work No. 2, Work No. 3, and Work No. 6A will be located within the area identified as Work No. 6B on the **Works Plan [EN010141/DR/2.3]**.
	Design	The East Park BESS and Substation retention basin will have a design capacity sufficient to hold rainwater run-off from Work No. 2, Work No. 3 and Work No. 6A, and in addition store all water from the two water storage tanks if they were to both be discharged.
	Design	The East Park BESS and Substation retention basin will have an isolating valve such that it can be closed off in an emergency situation.

Table 9: Design Parameters for Work No. 7

Work No. 7 – works for the creation of construction and decommissioning compounds, including: **a) areas of hardstanding and track matting;** **b) car parking and access;** **c) site and welfare offices and cabins;** **d) areas to store materials and equipment;** **e) security infrastructure, including cameras, perimeter fencing and lighting;** **f) site drainage and waste management infrastructure (including sewerage); and** **g) electricity, water, waste water and telecommunications connections.**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
Temporary Construction and Decommissioning Compounds	Location	The construction and decommissioning compounds will be located within the areas identified as Work No. 7 on the **Works Plan [EN010141/DR/2.3]**.
	Design	The construction and decommissioning compounds will have a base of heavy duty matting which would be removed following completion of the construction and decommissioning phases.

Table 10: Design Parameters for Work No. 8

Work No. 8 – works to create, enhance and maintain green infrastructure, including: **h) planting of native species hedgerows, individual trees and grassland;** **i) installation of ecological enhancements such as bird and bat boxes;** **j) improvements to existing public rights of way;** **k) creation of permissive paths;** **l) fencing, gates, boundary treatment and other means of enclosure;** **m) improvement, maintenance repair and use of existing streets and private tracks;** **n) signage and information boards; and** **o) benches.**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
Work No. 8	Location	The works will be located within the area identified as Work No. 8 on the **Works Plan [EN010141/DR/2.3]**.

Table 11: Design Parameters for Work No. 9

Work No. 9 – works to facilitate access, including: **a) creation of access from the public highway;** **b) creation and maintenance of visibility splays; and** **c) works to widen the existing highway.**		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
Work No. 9	Location	The works will be located within the area identified as Work No. 9 on the **Works Plan [EN010141/DR/2.3]**.
Work No. 9A (visibility splays outside of the public highway)	Location	The works will be located within the area identified as Work No. 9A on the **Works Plan [EN010141/DR/2.3]**.
	Design	The works in the area identified as Work No. 9A will be restricted to measures to maintain required visibility splays.

Table 12: Design Parameters for Work No. 10

Work No. 10 – works to create an agrisolar research area.		
Scheme Component	**Parameter Type**	**Applicable Design Parameter**
Agrisolar Research Area	Location	The Agrisolar research area will be sited within the area identified as Work No. 10 on the **Works Plan [EN010141/DR/2.3]**.
	Scale	The maximum height of the highest part of the solar PV panels will be 6.5m above existing ground level.
	Scale	The minimum height of the lowest part of the solar PV panels will be 0.4m above existing ground level.
	Scale	The maximum depth the mounting structure posts will be driven into the ground will be 3m below ground level.

3.0 DESIGN PRINCIPLES

3.1.1 The **Design Approach Document [EN010141/DR/5.6]** explains how the design of the Scheme has evolved from project inception through to submission of this application for development consent. The Design Approach Document sets out the project vision and design principles, the way the design has evolved, and how good design is secured.

3.1.2 As set out in the Design Approach Document, a series of Design Principles have been developed for the Scheme. Table 13 below sets out each Design Principle. The detailed design of the Scheme will have regard to these principles.

Table 13: Design Principles

Design Principle	Sub-Principle
Design Principle 1: The Scheme will seek opportunities to deliver solar development as efficiently as practicable to support national electricity network decarbonisation targets.	**Principle 1.1:** Maximise the contribution of renewable electricity generation towards national Net Zero targets.
	Principle 1.2: Minimise waste and embodied carbon during construction.
	Principle 1.3: Design with resilience to climate change.
Design Principle 2: The Scheme will be sensitive to landscape and views, and how people perceive the landscape.	**Principle 2.1:** Protect views towards tall church spires, which are visually prominent landmarks in the landscape and contribute towards creating a sense of place.
	Principle 2.2: Protect the sense of openness, wide views and skylines with long views from elevated positions across the Kym valley.
	Principle 2.3: Protect the pattern of dispersed farmsteads and rural villages with their distinctive structure of ‘ends’ and associated small irregular fields.
	Principle 2.4: Protect hedgerows and hedgerow trees.

Design Principle	Sub-Principle
	Principle 2.5: Protect the nature conservation value of the rivers, and protect and restore riverside meadows.
	Principle 2.6: Protect recreational access via rights of way network and the network of quiet lanes.
Design Principle 3: The Scheme will be sensitive to heritage assets, looking to protect the most valuable assets that contribute to a sense of place.	**Principle 3.1:** Protect the setting of the most significant built heritage assets, recognising the contribution that they make to local distinctiveness.
	Principle 3.2: Protect known and unknown archaeology through archaeological investigation and mitigation.
	Principle 3.3: Further our knowledge and understanding of the historic environment through transparency of research.
Design Principle 4: The Scheme will be sensitive to biodiversity, and look to provide enhancement where possible.	**Principle 4.1:** Deliver a biodiversity net gain through a responsible approach to environmental management.
	Principle 4.2: Improve habitat connectivity through a holistic approach to landscape and ecological design.
Design Principle 5: The Scheme will be sensitive to the water environment, looking to avoid harm to watercourses and improve water quality where practicable.	**Principle 5.1:** Avoid development at risk of fluvial flooding, and minimise the impact of pluvial flooding to the development.
	Principle 5.2: Enhance watercourses through the provision of green infrastructure to provide more natural bankside environments.
	Principle 5.3: Utilise sustainable drainage measures to minimise surface water run-off from the development area.
Design Principle 6: The Scheme will be sensitive to local amenity and human health.	**Principle 6.1:** Avoid and minimise taking construction traffic through local settlements.
	Principle 6.2: Avoid and minimise impacts arising from noise, vibration, dust or other pollution.
Design Principle 7: The Scheme will seek opportunities	**Principle 7.1:** Respond to community feedback to improve the project wherever practicable.

Design Principle	Sub-Principle
to leave a positive legacy through the delivery of multiple social and environmental benefits.	**Principle 7.2:** Provide opportunities for engagement with communities across the lifecycle of the project.