Outline Construction Environment Management Plan

Stoneworthy Energy Storage System

Ref	05197-7899226

Revision History

Issue	Date	Name	Latest changes
01	28/05/2024	J Hills	For planning submission

Contents

1 Introduction & Scope

1.1 Introduction

The principal objective of this document is to provide details of the method for the construction of a Battery Energy Storage System (BESS) with associated infrastructure, a grid connection, a DNO substation compound and a new site access at Land South of Pyworthy substation, approximately 1.3km southwest of the village of Pyworthy - centred at approximate Grid Reference E230230, N101584.

1.2 Description of the Site

The proposed development site is gently sloping down to the east, and towards Derril Water watercourse. Site topography ranges between 97m-110m above Ordinance Datum (AOD). The site is agricultural grassland with a mixture of dense treelines, hedgerows and woodland.

1.3 Description of the Proposal

The proposed BESS comprises approximately 32no. battery enclosures, 16no. PCS (power conversion systems), 16no. MV skids (PCS transformer and switchgear), a 33kV substation building with a high voltage area containing auxiliary transformer and grid compliance equipment, a 132kV grid transformer with associated equipment and a grid connection to a National Grid Electricity Distribution (NGED) overhead line.

The ground surface is likely to comprise areas of gravel, concrete and/or asphalt, and a security fence will be located around the perimeter of the site, possibly with combined acoustic barriers on the South and East aspects of the BESS compound.

The grid connection will comprise electrical import/export cables from the site to the point of connection and is situated within private land.

1.4 Scope of the Assessment

The purpose of this Outline Construction Environmental Management Plan (OCEMP) is to consider how noise, vibration, dust and other airborne pollutants, smoke, and odour from construction work will be controlled and mitigated to prevent adverse impacts upon receptors. The plan shall also include monitoring, recording and reporting requirements. The construction of the development shall be completed in accordance with the approved plan.

This OCEMP will consider the effects from the traffic movements to and from site and the onsite construction activities, however, further detail on construction traffic is provided within the Transport Statement which is provided as a separate document.

A Principal Contractor will be appointed who will be responsible for the construction phase of the Development. The contractor will ensure that all measures and mitigation identified within this OCEMP are considered and formalised in a final CEMP to be implemented during the construction phase.

1.5 Programme

The programme of works is anticipated to take place over approximately a 12-month period. A preliminary indication of the programme of works is provided in Figure 1 below.

	12 Month Schedule											
ACTIVITY	1	2	3	4	5	6	7	8	9	10	11	12
Setup site welfare												
Construct site entrance												
Construct site tracks												
Construct drainage works												
Construct foundations												
Install battery enclosures												
Onsite cabling works												
Energisation												
Commissioning												
Testing												
Handover												

Figure 1 - Indicative programme of works

2 Site Management

2.1 Construction Facilities

Temporary on-site construction facilities will include self-contained offices and welfare units with an area for storage of large plant and materials. As the permanent works progress, the position of these facilities may vary and will be confirmed during the detailed design phase.

2.2 Parking

Construction operatives, staff and visitors will park at the Temporary Construction Compound. In the event additional parking is required during the period of works where the number of contractors will be greatest, contractors' personnel will park within the main works area or be requested to adopt alternative means of transport to minimise number of vehicles e.g. minibus or to park at other public parking areas, or in line with any other off-site private parking arranged by the contractor.

Heavy goods vehicles deliveries will be driven into the site and offloaded from within the site boundary. The site manager will evaluate details of upcoming deliveries for the coming week and, through discussions with hauliers, will ensure that deliveries are spread out across the week and each day. As such, deliveries will be managed and scheduled to ensure that no vehicles would have to wait on the surrounding road network or block the entrance / access road.

2.3 Traffic Management

Please refer to the Transport Statement for details regarding traffic management during the construction phase.

2.4 Storage of Plant and Materials

Due to the size of the construction area, plant will be stored and secured within the site boundary where possible. It is anticipated that materials will only be brought to site as and when they are needed to help facilitate working space. Where this is not achievable, such as delivery of battery storage enclosures, other storage areas may be temporarily used within the main site or remotely off site. Small plant items and materials will be stored in a dedicated spaces within the construction compound.

2.5 Temporary Security Fencing

During construction the site will be secured using temporary fencing, which shall be maintained by the main civil contractor until the permanent fencing is installed. 24hr CCTV monitoring will be provided via an external security company from a central control centre which shall cover the site and storage areas.

Fencing required for arboriculture management (e.g. tree protective fencing) shall be installed in accordance with the Arboricultural Impact Assessment if required.

2.6 Future Site Maintenance

The site will normally be unmanned. During the operation of the project, the site will be typically visited by operations personnel one to two times per month by car, van or light goods vehicle during normal operation. Routine servicing is expected to be performed annually and require elevated site activity for 1-2 weeks. As with any operational facility, additional personnel, vehicles and plant may be required for unplanned, major maintenance.

Access for normal operation, routine services and unplanned maintenance will be via the site main entrance located to the north of the site.

2.7 Site Hours

It is anticipated that all traffic movements will be carried out between 08.00 to 18.00 on Monday to Friday and 08.00 to 13.00 on Saturdays and at no time on Sundays or Bank or National Holidays unless otherwise agreed in advance with Torridge District Council.

2.8 Emergency Services

The Police, Fire and Ambulance service will be given written notice of the construction works and invited to site for an additional briefing.

An Indicative Fire Safety Management Plan accompanies this submission.

A site-specific Health and Safety plan will be implemented and followed during construction of the Proposed Development. All work will be carried out in accordance with the Health and Safety at Work Act 1974. A full CEMP will be prepared by the chosen contractor prior to the commencement of works.

3 Construction Works

3.1 Potential Ecological Receptors

Following the ecology survey undertaken in January of 2024, the following receptors with the potential to be adversely affected by unmitigated construction works were identified:

- Badger
- Otter
- Breeding Birds
- Bats
- Other notable or protected species
- Brendon and Vealand Fen SSSI (designated for otter)

3.2 Prior to Commencement

To mitigate potential impacts to the above receptors, pre commencement surveys for badger and otter will be conducted by a suitably experienced ecologist within 72 hours of commencement to identify any presence of these highly mobile species or newly created setts/holts. In the event that evidence of these species or their resting places (both protected by law) is identified, appropriate mitigation measures will be implemented prior to commencement of works.

Additionally to the above, in the event works are to be commenced in March to August inclusive, the target species for this survey will include breeding birds. Any other species of potential note or importance (such as dormouse or invasive plants), whilst not anticipated to be present, shall be recorded if incidental evidence of the species is found whilst undertaking the pre-commencement survey. Following this a suitably experienced ecologist will be contacted and appropriate mitigation measures will be implemented, if necessary, prior to the commencement of works.

In the event any mature trees are required to be removed as a result of the Proposed Development, if they were identified as having bat roost potential during the initial habitat survey (details found in Technical Appendix 2, Ecological Assessment), they should be appropriately surveyed for bat roosts. Subsequent mitigation and feature measures will then be determined according to the results of this survey. In the event that significant time has passed since the initial habitat survey, it is recommended that any tree proposed to be removed is resurveyed for bat roost potential, and suitable mitigation implemented accordingly.

3.3 Civil Works

3.3.1 Site

Following site clearance, drainage features will be installed, and a compacted layer of granular material will be laid across the compound area. Once the infrastructure has been installed areas of gravel / asphalt will be added as necessary.

During the construction phase a silt fence will be installed upstream of the proposed drainage features to ensure adequate protection against any silt and debris run-off occurring as a result of construction activities. To prevent impacts upon badger, and other mammals, all excavations will be securely covered at the end of each working day to prevent accidental trapping of protected species.

A temporary security fence will be installed around the perimeter of the main site.

3.3.2 Onsite Services

An existing private water supply is located at the site entrance. Prior to construction of the compound hardstanding in this area, the water pipe will be rerouted around the eastern site boundary. Moling or hand digging techniques will be used for areas where the private supply encroaches onto any root protection areas.

An existing buried 33kV cable associated with the neighbouring solar farm is located along the north-eastern and northern boundaries of the site. Where the project infrastructure crosses these buried cables, suitable protection will be installed, and is subject to detailed design.

Where the proposed new entrance and access route turns off the existing highway, an existing drainage ditch is present within the highway's extent. It is proposed that this will be permanently culverted to allow continued access to the site along with retaining adequate drainage for the highway. The design of this culvert will be included within the detailed design phase.

3.4 Electrical Works

3.4.1 Site

Electrical works will comprise installation of buried and surface mounted electrical, earthing, and communication cables across the site, connection of the batteries, PCSs and other electrical equipment, and testing and commissioning of the site, including construction of concrete upstands to support electrical equipment.

All electrical works shall be performed by suitably skilled, experienced and trained personnel in supervised site conditions.

3.4.2 Grid Connection

Any buried grid connection cables will be installed in accordance with all relevant legislation and the requirements of National Grid Energy Distribution. The associated ground works will be subject to an archaeological watching brief in accordance with the Written Scheme of Investigation – Archaeological Brief.

3.5 Battery Storage Enclosures, PCS and Substation

The PCSs, MV skids and substation units will be predominantly prefabricated offsite and delivered to site as complete units. All units will be lifted into position by crane, telehandler or jacks and skids. The grid transformer shall be delivered in more than one part due to its size and shall then be constructed on site.

The battery storage enclosures will be delivered as complete units to site with batteries pre-installed, minimising the number of deliveries to site and waste associated with packaging.

4 Environment

4.1 Pollution Control

Environmental assessments undertaken in support of the planning application identified sensitivities to any potential pollutants which may results from the Proposed Development. These are in the form of ecologically valuable habitats, protected species and designated sites, primarily connected via hydrological pathways. These receptors are as follows:

- On site and adjacent habitats
- Notable habitats connected via hydrological pathways
- Brendon and Vealand Fen SSSI
- Monk's Farm CWS
- Lower Hopworthy CWS
- Hopworthy CWS
- Tinneymoor CWS

This OCEMP identifies elements of the development which are potentially capable of giving rise to pollution and identifies pollution prevention and mitigation measures.

The associated infrastructure will require earthworks, including the foundation construction for the accompanying electrical infrastructure and cable trench excavation.

Suitable protection for watercourses potentially affected by the works will be installed prior to relevant works proceeding. Protection measures will include:

• Minimum 10m buffer of integral site design elements from watercourses

• Plant and equipment will be stored on dedicated hardstanding within the construction compound. This will minimise the risk of pollution caused by leakages occurring out of hours. Drip trays will be used where appropriate.

• All plant and equipment will utilise biodegradable hydraulic oil where available.

• Spill kits will be readily available to all personnel. The spill kits will be of an appropriate size and type for the materials held on site.

• Diesel fuel will be stored in a bunded diesel bowser which will be located within a fenced off area in the construction compound.

• Refuelling and maintenance of vehicles and plant will take place in designated areas of hardstanding.

• All other chemicals will be stored within a storage container with accompanying COSHH datasheets.

- Wastewater from the temporary staff toilets and washing facilities will be discharged to sealed containment systems and removed from site via licensed contractors.

All staff on site will be made aware of the pollution prevention measures being implemented throughout the construction and decommissioning phases using appropriate toolbox talks and the site induction.

4.2 Wheel Washing Facilities

During the works, a compacted granular sub-layer will be formed as early as possible within the construction programme, which will largely avoid any mud deposits finding their way onto the public highway. Within the site, a manual wheel cleaning equipment (jetwash or similar), shall be made available and used as necessary to clean vehicles prior to leaving site. It will not have any cleaning additives and will drain into the temporary drainage feature at the site compound.

The site gateman will be responsible for ensuring no vehicles leave the site until wheels are cleaned to a suitable standard. The public highway will be regularly inspected, and any deposited debris or mud will be dealt with immediately.

4.3 Dust Suppression

The ground surface of the site will be prepared and predominantly covered with a granular sub-base. At the earliest opportunity the surface will be covered in a gravel which will limit any dust generation and minimise any airborne particles both on and off site. Nonetheless, where necessary, a water supply or bowser will be made available on site and will be used to suppress any hazardous levels of dust.

Any fine material (e.g. cement) shall be stored in enclosed container and suitably controlled to prevent escape.

4.4 Noise and Vibration

Noise and vibration related to construction activities will not result in any significant effects and will be below standard required thresholds. It is also noted that, with the exception of the project landowner, there is one residential property within the vicinity of the site.

Plant operations will be kept within the time periods and standards dictated for the site. Any non-complying plant will be stopped and stood down until it can be rectified and/or removed from site.

The following mitigating measures will help to minimise potential noise and vibration effects:

- Vehicles and machinery shall be switched off when not in use,
- Correct fitting and maintenance of silencers and/or enclosures,
- Avoid excessive and unnecessary revving of engines,
- Traffic movement limited to the hours defined in 2.11.

Any noise complaints will be immediately directed to the Site Manager. Depending on the nature of the complaint, the initial response could be to immediately cease the activity until suitable mitigation measures have been put in place and agreed with the affected party.

4.5 Drainage

As outlined within the supporting Flood Risk Screening and Drainage Management Plan, SuDS will be installed as part of the site's preliminary works prior to the main equipment deliveries. Subject to detailed design, this SuDS feature will likely take the form of filter drains/ infiltration trenches and an attenuation pond.

Due to the addition of the temporary construction compound during the construction phase, additional drainage measures will be implemented to help attenuate any increase in surface water flows. Hardstanding runoff will be directed to a swale on the compound's lowest boundary. As with the temporary construction compound, this drainage scheme will be removed at the end of the construction stage and the area reinstated.

During the construction phase, silt-laden runoff should be expected from any areas of recently exposed soil or rock. A silt fence will be installed upstream of the proposed drainage features to ensure adequate protection against any silt and debris run-off occurring as a result of construction activities. Any introduced or artificial materials required (e.g. silt fencing) that might need to be deployed onsite, will be removed on completion of the works.

4.6 Recycling/Waste disposal

The design of the project with respect to levels will ensure that removal of existing materials will be minimised. Where possible, existing soils will be reused on site.

Each contractor shall ensure the correct storage and disposal of all construction waste in accordance with the Site Waste Management Plans which will be included in the detailed design phase. Waste shall only be removed from site by licensed carriers in possession of a current certificate of registration (Control of Pollution Act 1989). Copies of such certificates will be verified by each contractor as well as periodically checked by the Principal Contractor duty holder under Construction Design and Management Regulations 2015 (CDM).

If any waste is required to be transferred to a disposal site, a suitably qualified and licenced contractor will be employed. The main contractor will undertake spot checks to ensure this happens. Where practicable, types of waste will be streamlined/ segregated for recycling.

5 Conclusion

The overall objective of this OCEMP is to reduce / prevent any potential impacts on environmental receptors identified by the environmental assessments during the construction and decommissioning phases of the Proposed Development. Several best practice and design measures have been identified to accomplish this. Should consent be granted, this OCEMP will be revised by the contractor and amended where necessary following detailed design and construction programming, to create a final CEMP. The appointed contractor will adhere to the measures identified within the final CEMP during construction of the Proposed Development.