



LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN

GOLDBOROUGH ROAD BATTERY ENERGY STORAGE SYSTEM
LAND SOUTH OF GOLDBOROUGH ROAD, HUNDLETON, PEMBROKE, NEAR SA71 5SH
P16-01-LEMP JANUARY 2024



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1. INTRODUCTION

- 1.1 This report has been developed on behalf of Pembroke Green Limited (“the Applicant”) to accompany the planning application for the proposed Battery Energy Storage System with associated infrastructure and works (BESS) on land South of Goldborough Road, Hundleton, Pembroke (“the Site”).
- 1.2 The report outlines the various necessary actions required for ongoing maintenance and management of the landscape proposals.
- 1.3 This report seeks to ensure the delivery and ongoing management of the detailed landscape proposals for both ecological and landscape and visual benefits. Detailed landscape proposals have been produced, setting out the existing and proposed areas of planting within the site. The detailed landscape proposals plan is included in Appendix 1.
- 1.4 Planting is subject to first available planting season once construction is completed, and then subject to the performance requirements of this report.

2. LANDSCAPE AND ECOLOGICAL AIMS

- 2.1 For the purposes of design, function, landscape treatment and management the Site's landscape and biodiversity objectives are listed below.
- 2.2 The overall aim for the Landscape and Ecological Management Plan (LEMP) is to manage the Site for the lifetime of the BESS, along with new planting, for the benefit of local wildlife, as well as to ensure long term visual enclosure of the development. The aims will be achieved through a series of objectives and the identification of management operations to achieve these.
- 2.3 The purpose of the LEMP is:
- To set out the agreed objectives for landscape management of the site;
 - To set clear standards for the performance of landscape maintenance work;
 - To assist in the development of work programmes for landscape maintenance staff;
 - To establish landscape maintenance responsibilities; and
 - To help monitor success and progress against the aims and objectives.
- 2.4 The LEMP sets out a strategy for the first 5 years of operation of the BESS. It is recommended that after 5 years the objectives and prescriptions set out in the LEMP are reviewed and updated if required.
- 2.5 Subsequent management and monitoring of the site will be put in place to ensure the benefits are long-lasting.

3. LANDSCAPE AND ECOLOGICAL COMPONENTS

3.1 The broad design objectives of the soft landscape proposals are as follows;

- Landscape Integration: to provide an appropriate setting for the proposed development, responding to neighbouring land uses;
- Landscape Amenity: responding to the scale and character of the site, and;
- Biodiversity: to enhance the ecological value of the site.

3.2 As part of the Proposed Development, it is proposed to 'cut-and-fill' the land in order to create a development plateau upon which the BESS can be developed. Opportunities to introduce landscape bunds have been explored, and these will be planted with a Native planting mix (see Detailed Landscape Design).

3.3 The various 'soft' landscape elements of the site are summarised below:

- New native tree planting;
- Wet grassland and riparian planting;
- New native buffer planting;
- Neutral Grassland; and
- Native Scrub planting

New native tree planting

3.4 Native species tree planting will be provided that will not constrain grassland management or heavily shade the meadow underneath. The biodiversity objective is to over-mitigate losses of any trees within the Site as a whole, and ensuring native species are retained on-site.

3.5 All tree planting pits will be 1m x 1m x 900mm deep, with the bottom of pits broken up to a depth of 150mm and sides of tree pits scarified to break up the subsoil. All extraneous matter such as plastic, wood, metal and stones greater than 100mm diameter are removed from the planting pit and either repurposed on-site (where practical) or disposed of offsite. All trees will be protected from damage by the fitting of suitable tree guards. Composted bark mulch (nominal size 1-10mm) will be spread to a depth of 75mm in a 1m diameter circle around all individual tree stations.

3.6 The new native tree planting will enhance the amenity value of the Site and provide valuable Green Infrastructure for local flora and fauna in the long term.

Performance requirement – to filter long-distance views towards the BESS from nearby receptors and viewpoints, and to enhance the green infrastructure for the proposed development.

Attenuation pond with wet grassland and riparian planting

- 3.7 Wet grassland and riparian planting in the base and sides of the SuDS basin; the species mix to be designed around the modelled frequency / duration of events.
- 3.8 This element will enhance the biodiversity value of the Site by introducing a new biodiversity feature. The management of the feature is dependent on operational requirements and will be cleared to ensure performance of the drainage infrastructure.

Performance requirement – provide an attractive wetland environment with planting to compliment the setting and offer a valuable wildlife habitat.

New native buffer planting

- 3.9 The area shall be dug 450mm wide x 450mm depth and woodland/scrub planting pits shall be dug 450mm width x 300mm depth. The base of trenches and pits will be broken up before returning the approved topsoil backfill mixture to the trench at the rate of one part compost to two parts topsoil. All extraneous matter such as plastic, wood, metal and stones greater than 100mm diameter will be removed from the planting stations and either repurposed on-site (where practical) or disposed of offsite.
- 3.10 Bare-root plants will be planted in accordance with the density, species and spacings as set out on the landscape masterplan in Appendix 1. Plants must be vertical and deep enough for the roots to hang freely, with the transplant being planted so that the root collar is exactly level with the ground surface.
- 3.11 All plants will conform to BS 3936-1 (1992); and be in accordance with the National Plant Specification. Supplying nurseries will be registered under the HTA Nursery Certification Scheme. All plants will be packed and transported in accordance with the Code of Practice for Plant Handling as produced by CPSE.
- 3.12 Preparation of the planting environment (including de-compaction and drainage) should be at least to the standards set out in British Standard 4428 (1989) Code of Practice for General Landscape Operations (excluding hard surfaces).
- 3.13 All transplants/cuttings will be protected from rabbit damage using rabbit proof fencing or individual spirals/shrub guards, as advised by the manufacturer. Any spiral/shrub guards used

that are not biodegradable, will be removed approximately three years after planting or once established. The landscape contractor is to advise whether deer protection is also advisable on the site prior to installation of any plants.

- 3.14 All plants will be watered in at the end of each day of planting/or as required. After planting, a 50mm layer of approved compost fine bark (nominal size 1-10mm) shall be spread along the hedge trench to 1m wide or spread around the pit of each woodland/scrub plant at 1m wide. Where planting is installed on the earth bund, an alternative biodegradable mulch mat is to be installed around each plant, secured by pegs.

Performance requirement – New native buffer planting to surround the BESS on all sides to provide visual enclosure and enhance the biodiversity value of the Site. This will provide a valuable habitat, connecting the grassland meadow to other areas of existing vegetation around the Site. To form a full, dense area of planting, cutting on a 3 year rotation with alternative sides cut in years 1 and topped in year 3 to maintain a dense habitat. Cutting will only be performed outside of bird nesting season.

Natural Grassland

- 3.15 Prior to seeding, the ground will be harrowed and rolled, using a tine harrow in order to avoid damaging underground wiring. However, if there are any areas which have suffered high soil compaction, for instance due to heavy machinery being deployed, these will be harrowed using a disc harrow to ensure the soil structure is suitable for subsequent sowing. If such a requirement arises to harrow with discs, caution should be exercised to ensure newly installed underground services are not damaged during harrowing.
- 3.16 If there is an abundance of annual or perennial weeds, then small areas of the site may be treated with herbicide prior to seeding.
- 3.17 All seeding will take place ideally in mid-Spring or Late Summer to Mid-Autumn. Seed will be sown in the first year following completion of any underground wiring, and be broadcast by machine (fertiliser spreader, slug pellet applicator, grass seed box) and rolled where possible. In areas where a machine is unable to access, seeding in these areas should be broadcast by hand. Seeds can be mixed with a substrate such as sand or sawdust for ease of broadcasting.

Performance requirement – Establishment of natural grassland and managed to increase the amount of wildflower content within the existing sward. Control of residual perennial weeds to a maximum 15% of the grassland area.

Native species shrub planting

- 3.18 To be implemented in accordance with the native buffer planting.

Performance requirement – This will create a scrub habitat over time, providing biodiversity benefits. Shrubs to provide links to surrounding Green Infrastructure.

4. MAINTENANCE AND MANAGEMENT

4.1 For the purpose of site maintenance and management, to the extent that materials and workmanship are not fully specified they are to be:

- Suitable for the purposes of the stated objectives;
- In accordance with good horticultural practice or the current British Standard with reference to:
 - i. BS 3998: Recommendations for tree work
 - ii. BS 4428: Code of practice for general landscape operations
 - iii. BS 7370: Grounds maintenance:
 - Part 1: Recommendations for establishing and managing grounds maintenance organisations and for design considerations related to maintenance.
 - Part 2: Maintenance of hard areas.
 - Part 3: Maintenance of amenity and functional turf (other than sports turf).
 - Part 4: Maintenance of soft landscape (other than amenity turf).

4.2 All maintenance and management of soft landscape areas within the Site will be undertaken by a suitably qualified landscape management contractor on behalf of Pembroke Green Limited, to be conducted following the end of the establishment period and satisfactory completion of any landscape defects or necessary reinstatement works.

4.3 The maintenance works shall be monitored and supervised by an independent, suitably qualified person; responsible for the establishment and completion of the maintenance works.

4.4 Periodically the maintenance works shall be reviewed by a suitably qualified and experienced person to ensure that the landscape management operations are being completed in accordance with the approved report. During the first 2 years of establishment, the works shall be inspected 3 times (during the growing season) and thereafter the works shall be inspected annually. Monitoring should include a site visit and supporting note/report.

- 4.5 The establishment and upkeep of the various soft landscape elements will entail the maintenance operations outlined below.

Health & Safety:

- 4.6 The contractor shall refer to the site Health and Safety File for residual risks and ensure strict compliance to any health and safety measures set out. All maintenance operations shall only be carried out with due consideration to the welfare of the landscape maintenance operatives and Power Station operatives. The contractor shall carry out his own risk assessment(s) as necessary to assess current conditions at the time of operation, including compliance when making use of any subcontractors to carry out specialist areas of works.

Trees, scrub and buffer planting:

- Check, alter and replace tree support systems and guarding (if required) during establishment period.
- Remove redundant tree support systems once trees are fully established.
- Formative pruning to establish a well-balanced and healthy crown appropriate to the species and purpose, along with the removal of any dead, dying or diseased elements.
- Remedial pruning/tree surgery (if required) in accordance with BS:3998 or to remove growth obstructing paths, carriageways, lighting and signs.
- Replace any dead, dying or diseased plants in the following planting season with stock of similar specification to the original for the initial five-year establishment period.

Plant Nutrition:

- Apply plant nutrients/fertiliser to all hedge planting if poor growth and signs of deficiency appear (subject to analysis of indicators).
- The use of any fertilisers shall be in strict accordance with the manufacturer's recommendations.
- Do not apply fertilisers to meadow/ wildflower areas.

Watering:

- Watering shall only be carried out to maintain the health and continued vigour of the trees and shrubs until fully established.

- Water usage shall be controlled and monitored to avoid waste.
- Watering in areas prone to waterlogging shall be eased.

Pesticides:

- No pesticides shall be used except with the prior written approval of the management company.
- Pesticides will be selected from the current list of approved chemicals and applied in strict accordance with the Control of Pesticide Regulations 1986 (and other related Acts and Regulations).
- Act only if severe infestation occurs. If the problem persists over several years, consider changing the plant species concerned to one less vulnerable to infestation.

Leaf Fall:

- Allow fallen leaves in planting areas to form a natural mulch.
- Leaves to be removed if likely to suppress smaller plants.

Ecological Stewardship:

- It is an offence to disturb nesting wild birds and bats including their nests under the Wildlife and Countryside Act 1981 (as amended).
- No clearance, pruning and trimming operations during the bird nesting period, generally March to August inclusive. If operations are necessary during this period, then a qualified Ecologist shall check there are no birds nesting in the identified area of operation in advance of the works.
- Mowing will only take place during periods of dry weather to ensure that any localised waterlogged ground is not damaged by machinery.
- Clearance/thinning of planting around water bodies shall be undertaken during winter months with any material removed placed by the bank side for two weeks to allow insects and mammals to return to the water feature before removal.
- Opportunities for additional ecological enhancement following routine maintenance shall be supported.

- Reference to the site-specific ecological considerations shall be taken into account before carrying out any routine maintenance and management operations, if in doubt consult with a suitability Qualified Ecologist.

Biosecurity:

- Plants and seeds shall be sourced from local suppliers with evidence provided to demonstrate proof of source, should this be requested by the management company.
- Provision will be made for substituting non-native species with native species if necessary.
- To prevent the spread of plant disease, the recommendations and warnings from the Department for Environment, Food and Rural Affairs and the Forestry Commission will be strictly adhered to.
- Good plant management practice to prevent spread of diseases particularly where symptoms or confirmed outbreaks of disease has occurred.

5. TYPICAL MAINTENANCE PROGRAMME

- 5.1 The table below identifies the typical programme of operation and maintenance for the Site. This is to be carried out on a rolling basis, to be regularly reviewed and updated by the appointed contractor.

ACTION	J	F	M	A	M	J	J	A	S	O	N	D
SITE MANAGEMENT												
Maintain mulch												
Weed control												
Hedge Cutting												
Watering (until establishment)												
LITTER CONTROL												
Collect litter												
PLANT NUTRITION												
Apply fertilizer (or suitable and appropriate natural equivalent, subject to availability)												
PEST AND DISEASE CONTROL												
Physical / Mechanical means												
TIMING OF OPERATIONS:												
Avoid nesting birds												



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