# MARGAM SUBSTATION,
# LAND AT MARGAM,
# PORT TALBOT

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## OUTLINE SOIL MANAGEMENT PLAN

**August 2025**

KERNON
COUNTRYSIDE CONSULTANTS LIMITED

# MARGAM SUBSTATION,
# LAND AT MARGAM,
# PORT TALBOT

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## OUTLINE SOIL
## MANAGEMENT PLAN

**August 2025**



**Authorised By APK 08/25**

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## CONTENTS

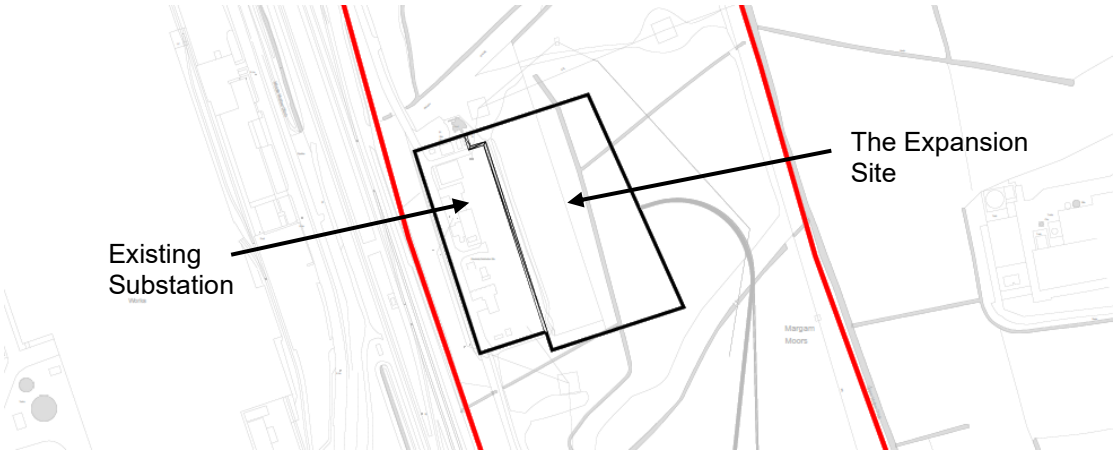
# 1 INTRODUCTION

1.1 This document provides an Outline Soil Management Plan (oSMP) for a site at Margam, Port Talbot. This forms the basis for a Soil Management Plan (SMP) that it is anticipated will be controlled by planning condition.

1.2 The Proposed Development is the extension of the Margham 275kV substation. The works include earthworks, surface water management and drainage infrastructure, ecological improvements, flood defence wall, and landscaping in addition to the substation buildings and infrastructure. Some of these works are permitted development as set out in the application documents.

1.3 The principal substation works will extend to the east of the existing substation, as outlined in black below. The extent of the expansion works extends to approximately 1.65 ha.

*Insert 1: The Proposed Site (approx.)*




1.4 This oSMP:

(i) describes the proposed Site and works in section 2;

(ii) describes and sets out the soil resources and characteristics in section 3;

(iii) and sets out the soil handling principles for the substation expansion works in section 4.

1.5 This oSMP draws on professional experience with the installation of underground services and with soil movement and restoration. This oSMP is desk based and a site visit and surveys have not been undertaken.

1.6 This document should be read in combination with the following:

(i) Peat Management Plan, rev PO4, RSK, 08/08/2025;

(ii) Construction Environmental Management Plan, rev PO4, Laing O'Rourke, 17/07/2025;

(iii Ground Investigation Report, Baker Hicks, 21 February 2025;

(iv Ecological Impact Assessment Report (Rev 2), Helen Evriviades, August 2025.

1.7 The works will need to be coordinated between these plans.

1.8 Soil management principles are set out in a number of documents, but those of most relevance are:

- Code of Practice for the Sustainable Use of Soils on Construction Sites, Defra (March 2011) (relevant for soil bund management);
- Good Practice Guide for Handling Soils in Mineral Workings, The Institute of Quarrying (July 2021) (this is relevant because it sets out soil assessment methodologies).

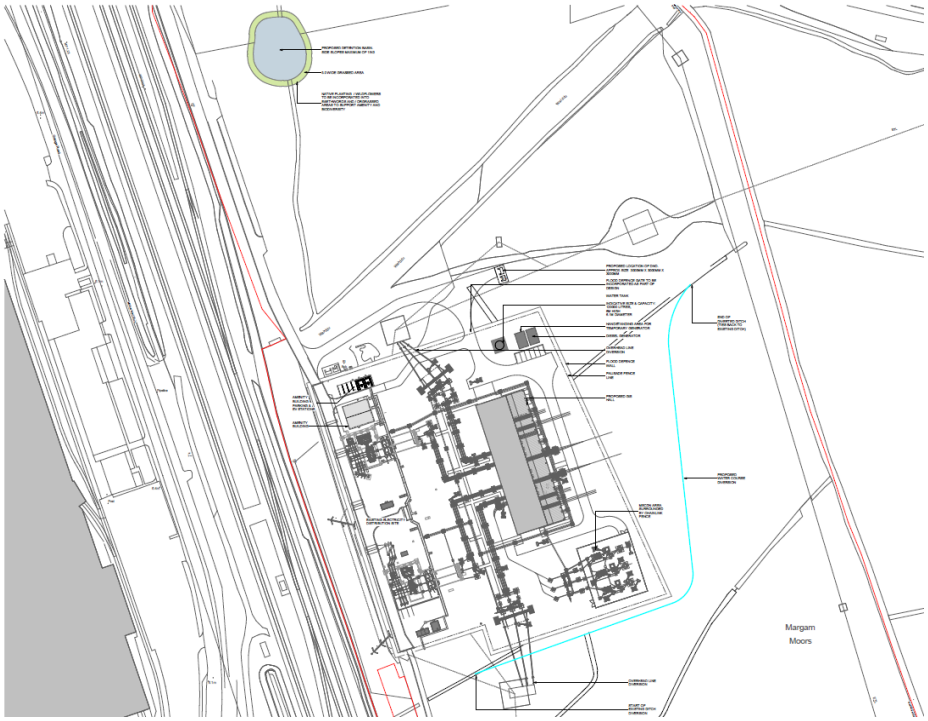
## 2 THE PROPOSED SITE AND WORKS

2.1 This oSMP relates to the expansion of an existing substation and the associated works at Margam, Port Talbot. The site in question is shown outlined in red on the application plan below (the Site).

*Insert 2: Application Site Plan*

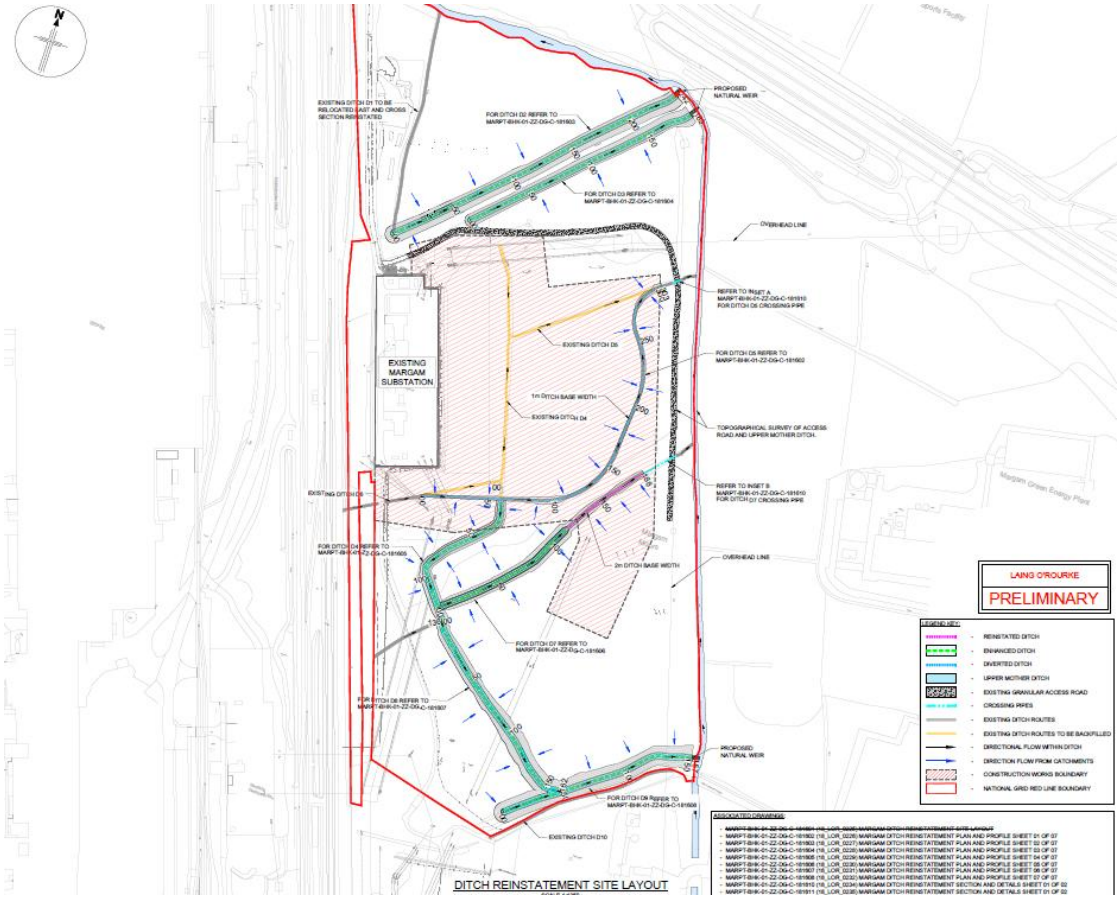
2.2 The proposed substation extension works are identified on the plan extract below.

*Insert 3: Proposed Substation Works*



2.3 Various works to ditches, to clear or realign, are shown within the wider area on the plan excerpt below.

*Insert 4: Ditch and Site Works*



2.4 The area is shown on the Google Earth image below.

*Insert 5: Google Earth of the Site*

# 3 SOIL RESOURCES AND CHARACTERISTICS

3.1 A soil survey has not been undertaken at the Site and the soil characteristics, structure and land use have not been determined from our own investigations. However we have drawn on the Ground Investigation Report (Baker Hicks) and the Peat Management Plan (RSK), both of which have examined the soils.

3.2 The Ground Investigation Report, section 4.2, described the topsoil as follows.

*Insert 6: Ground Investigation Report section 4.2*

### 4.2. Topsoil

Topsoil was encountered across the site in all exploratory positions except TP05, TP05A and TP05B from ground level to depths between 0.20m and 0.70m bgl, this was typically described as:

- Grass over very soft dark brown slightly sandy organic clay with occasional rootlets and roots.
- Soft dark brown slightly sandy organic clay with many roots.

3.3 The Ground Investigation Report identified made ground at TP 105, 105A and 105B. These lie to the north of the expansion area, as identified below.

*Insert 7: Ground Investigation Location Plan*

3.4 Soil profiles from the site investigation reports are reproduced below, being a small number of photos from the Ground Investigation Report.

*Insert 8: Photos of Soils on the Site*

*Soils at TP109*

TP109- [4]

TP109- [6]

*Soils at TP110*

TP110- [3]

TP111 - [3]

*Soils at TP112*

TP112- [3]

TP113 - [3]

3.5 The Peat Management Plan (PMP) identifies peat at depths of between 0.2m and 3.0m below ground level. The PMP sets out why any peat soils excavated must be reburied rapidly in order to preserve their special qualities which will deteriorate if drying occurs.

# 4 SOIL MANAGEMENT PRINCIPLES

**Works Assumed**

4.1 The careful handling of peat soils has a high priority, and this oSMP will need to be read in parallel with the PMP.

4.2 It is assumed that the PMP is followed, and that peat removed from the soil strip will be buried within a short period of time in the areas shaded green on the extract from Figure 1 of that document, reproduced below.

*Insert 9: Figures from the PMP*


**Topsoil Movement and Storage**

4.3 As set out in section 4.1 of the PMP, excavated materials will be classified at the point of excavation depending upon their composition, as far as is possible.

4.4 Peat soils will be moved away for separate storage, if reburial is not possible immediately, as set out in the PMP. The peats will then be reburied.

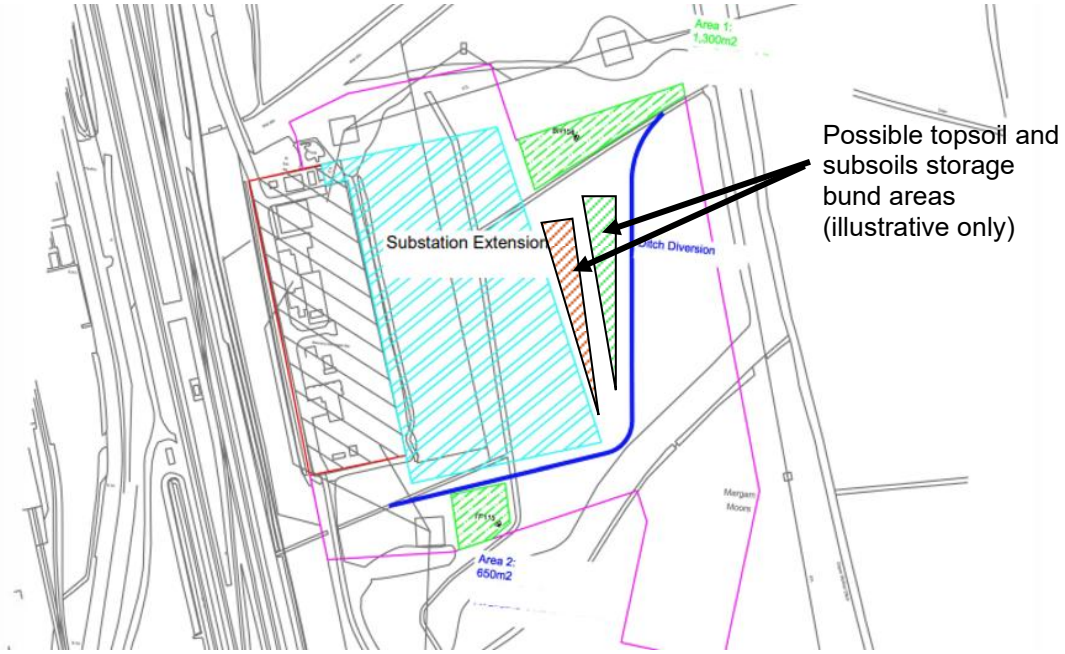
4.5 Non-peat topsoils will be moved for storage outside of the substation area. Purely for the purposes of illustration, a potential area for storage is shown on Insert 10. The exact area and the extent of the bunds will need to be determined during the construction works once it is known how much of the material removed is soil and how much is peat.

4.6 It is not anticipated that there will be large amount of subsoils needing to be removed from the substation area, but any that does will need to be stored separately from the topsoil.

Additionally the subsoil from the areas excavated for the peat burial will need to be stored, for subsequent reinstatement, as shown on Insert 10.

4.7 The works to the watercourses, shown on Insert 4, may give rise to surplus topsoil and subsoil. These materials will be moved into storage together with the top and subsoil from the substation extension areas.

*Insert 10: Possible Areas for Topsoil and Subsoil Storage (indicative plan)*




4.8 Long-term storage of soil is successful provided that the soil is handled appropriately at the point it is moved into the store, and the store is appropriately built and managed.

4.9 Prior to storing subsoil, the topsoil from the proposed subsoil storage area will be stripped and placed into the topsoil storage area, for subsequent reinstatement.

4.10 As described in section 5.4 ‘Soil Stockpiling’ in the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, soils should be as dry as possible at the point they are placed into the stockpile, and the size of store will need to take into account the state of the soil, which will vary depending upon site conditions at the times of the works. The objective is to place soil into storage so that it remains dry and aerobic for the duration of storage.

4.11 Given the marshland nature of the Site, topsoils and subsoils will likely be wet when moved. Accordingly they will need to be moved initially into bunds of no more than 2m in height in “windrows”, and be allowed to dry. This will take several weeks of warm and dry or windy weather, and will need to take place in summer time (May to October).

4.12 Once the topsoil has dried it can be built into a larger bund, ideally not exceeding 3m in height, and sloped. The bund should then, at an appropriate time, be sown to grass to establish a vegetive covering.

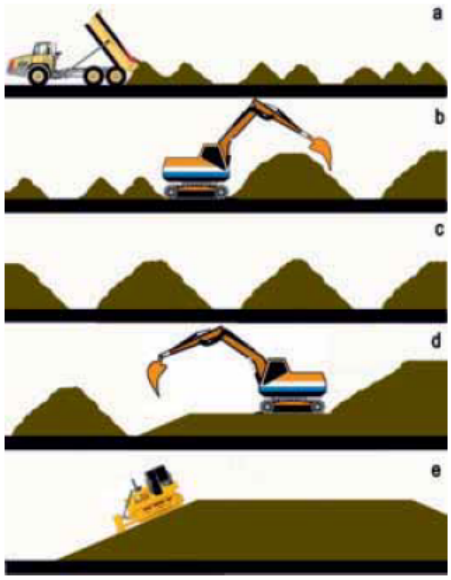
4.13 This is explained in the following extract from the Construction Code of Practice.

*Insert 11: Extract from the Construction Code of Practice*

**Method 2 – Wet plastic soils**

The soil is tipped in a line of heaps to form a 'windrow', starting at the furthest point in the storage area and working back toward the access point (a). Any additional windrows are spaced sufficiently apart to allow tracked plant to gain access between them so that the soil can be heaped up to a maximum height of 2m (b). To avoid compaction, no machinery, even tracked plant, traverses the windrow.

Once the soil has dried out and is non-plastic in consistency (this usually requires several weeks of dry and windy or warm weather), the windrows are combined to form larger stockpiles, using a tracked excavator (d). The surface of the stockpile is then regraded and compacted (e) by a tracked machine (dozer or excavator) to reduce rainwater infiltration.




4.14 If a non-peat subsoil is identified during the excavation of the footings, this should be stored separately to the topsoil. Therefore if there are subsoils which are not peat, an additional soil storage bund will need to be created, for these soils and those removed from the peat burial areas.

4.15 All of these works will fall under the control of the operators, as set out in the Construction Environmental Management Plan (CEMP), especially section 8. That refers also to the Peat Management Plan, and the areas chosen for soil storage will need to be determined during construction taking account of all the factors referenced in the CEMP.

**Bund Records and Management**

4.16 For each stockpile a plan must be kept and maintained, detailing:

- material type (topsoil or subsoil);
- date/time when soil was stockpiled and weather conditions;
- volume of material;
- stockpile location;
- source location of material;

- management of stockpile, particularly in respect of weed control and other biosecurity considerations.

4.17 Bunds needs to be managed so that the soils do not become anaerobic. Placing soils into storage when they are sufficiently dry will prevent compaction, and maintaining a vegetation cover of grass (typically) will prevent erosion and ensure that the bund remains in a good condition to minimise the risk of anaerobic conditions. The grasses must be managed at least once annually to prevent the establishment of woody vegetation.

**Reinstatement**

4.18 Reinstatement at the decommissioning phase will need to be coordinated carefully as subsoil and topsoil will need to be returned.

4.19 The works will need to be programmed for the driest part of the year, likely May to October.

4.20 Once all base materials have been removed, consideration should be given to alleviating any compaction. The advice of an experienced soil surveyor will be needed, because this may not be necessary or possible depending upon groundwater levels and the wetness of the subsoil.

4.21 Subsoils will be replaced first and topsoils second.

4.22 Following replacement the area will be cultivated and can then be reseeded with appropriate vegetation. For details of proposed vegetation, reference should be made to the Ecological Impact Assessment Report.

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