Annex 2: Outline Construction Environmental Management Plan

Glyn Taff Solar Farm

05/03/2025

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INTRODUCTION

Background

Neo Environmental Ltd has been appointed by Renantis UK Limited (the "Applicant") to undertake an Environmental Impact Assessment for a proposed solar farm (the "Proposed Development") on lands at Bryntail Farm, Bryn Tail Lane, Pontypridd (the "Application Site"). Please see **Figure 1** for the layout of the Proposed Development.

2.1

Development Description

Installation, operation and subsequent decommissioning of a renewable energy scheme comprising ground mounted photovoltaic solar arrays together with substation compound, transformer stations, internal access track, landscaping, biodiversity measures, boundary fencing, security measures, CCTV posts, monitoring house, storage containers access improvement and ancillary infrastructure. The solar arrays will have a combined capacity of up to 39.9MWp.

2.2

Site Description

2.3 The area of the Proposed Development (the "Application Site") lies at an elevation of approximately 140m – 330m AOD and covers a total area of c. 70.9 hectares. It is centred around Bryntail Farm at approximate National Grid Reference (NGR) E 309333, N 189800. It is south of Eglwysilan Road. The site extends wet of Bryntail Farm and east of the Bryn Tail Lane. The site is within the administrative area of Rhondda Cynon Taf Council.

2.4 The site comprises 38 agricultural fields that are currently in use for livestock farming. It is on the east side of the Taff Valley c. 1.6 km east of Ynysangharad War Memorial Park. Access will be gained from the Bryn Tail Lane.

2.5 The site is adjacent to the Twyn Hywel Energy Park a consented wind farm including 14 turbines (DNS/3272053).

2.6

Scope of Report

This OCEMP has been produced in support of the planning application to the Planning Inspectorate (PINS) Wales and includes:

- Construction method statement which identifies works likely to impact upon water quality;
- Pollution prevention and mitigation measures;
- Drainage management plan; and

- Waste management.

The OCEMP has been prepared with reference to the environmental assessments which have been undertaken in support of the planning application, these include: Flood Consequence Assessment and Drainage Strategy (**Annex 1: Volume 3**) and the Ecology Chapter (**Chapter 9 – Ecology**). Following the approval of planning consent, this OCEMP will be revised by the contractor and amended where necessary.

2.7 The Applicant will appoint a main contractor who will be responsible for the construction of the Proposed Development. The contractor will ensure that all measures and mitigation identified within this OCEMP are taken into account and implemented during the construction. In addition, the OCEMP will be monitored regularly throughout the duration of the construction phase to ensure best practice is implemented.

2.8 A Site Manager will be appointed and will be in charge of activities on site, including personnel. They will ensure that all personnel on site follow and adhere to the procedures outlined within the OCEMP.

2.9

Statement of Authority

2.10 This OCEMP has been produced by Neo Environmental, with input from Thomas Hill MEnv, Tom Saddington BEng MSc and Michael McGhee BSc TechIOA. Neo Environmental have produced detailed OCEMPs for a range of development types, including for over 2GW of solar farm developments across the UK and Ireland.

LEGISLATION

Current legislation has been taken into consideration during the production of this OCEMP. The legislation covers all relevant areas including; water pollution, wildlife species protection, waste and noise. In the case of the Proposed Development, the following legislation has been considered:

2.11

- EU Directive on the Assessment and Management of Flood Risks [2007/60/EC][1] implemented in Wales via the Flood and Water Management Act 2010[2] and the Flood Risk Regulations 2009[3];
- The Water Framework Directive [2000/60/EC][4] as implemented in Wales via the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017[5];
- The Groundwater Directive (GWD) (2006/118/EC)[6] as implemented by the Groundwater (Water Framework Directive) (Wales) Direction 2016 and Environmental Permitting (England and Wales) Regulations 2016.

Guidance

2.12 UK Pollution Prevention Guidelines have also been considered in the production of this Chapter. The suite of Pollution Prevention Guidelines (or Guidance for Pollution Prevention (GPP)), published by the Scottish Environmental Protection Agency (SEPA), the Environment Agency (EA) and the Northern Ireland Environment Agency (NIEA) were withdrawn on the

[1] European Parliament (2007). Directive 2007/60/EC of the European Parliament and of the Council establishing a framework for the assessment and management of flood risks. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32007L0060

[2] UK Government (2010). Flood Water a Management Act 2010. Available at https://www.legislation.gov.uk/ukpga/2010/29/contents

[3] UK Government (2009). The Flood Risk Regulations 2009. Available at http://www.legislation.gov.uk/uksi/2009/3042/contents

[4] European Parliament (2000). Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy ("The Water Framework Directive"). Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32000L0060 .

[5] UK Government (2017). The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. Available at: http://www.legislation.gov.uk/uksi/2017/407/contents/made

[6] European Parliament (2006). Directive 2006/118/EC of the European Parliament and of the Council establishing a framework for the protection of groundwater against pollution and deterioration ("The Water Framework Directive"). Available at: https://www.eea.europa.eu/policy-documents/groundwater-directive-gwd-2006-118-ec

17th of December 2015. However, these documents provide sound advice and can be accessed online[7]. The PPGs which are most relevant to the Proposed Development include:

- PPG1 'General Guide to the Prevention of Pollution'
- GPP2 'Above Ground Oil Storage'
- GPP 5 'Works and Maintenance in or Near Water'
- PPG6 'Working at Construction and Demolition sites'
- PPG 7 'Safe Storage – The Safe Operation of Refuelling Facilities'

These PPGs/GPPs provide guidance as to the various environmental considerations and potential mitigation and prevention measures considered within this Chapter.

2.13 Other relevant guidance and regulation comprises the following:

2.14
- The Construction Industry Research and Information Association (CIRIA) Report C689 Culvert Design and Operation Guide;[8]
- CIRIA Report C532 Control of water pollution from construction sites;[9]
- CIRIA Report C648 Control of water pollution from linear construction proposed developments: technical guidance;[10]
- CIRIA Report C741 - Environmental Good Practice on Site Guide;[11]
- CIRIA Report C753 - The SuDS Manual;[12]

2.15 Health and Safety Management

A site specific Health and Safety plan should be implemented and followed during construction of the Proposed Development. All work should be carried out in accordance with the Health and Safety at Work Act 1974.[13]

7 SEPA, Guidance. Available online: https://www.sepa.org.uk/regulations/water/guidance/

8 CIRIA. Report C689 Culvert Design and Operation Guide (2010)

9 CIRIA. ReportC532 Control of Water Pollution from Construction Sites (2001)

10 CIRIA. Report C648 Control of water pollution from linear construction proposed developments: technical guidance (2006)

11 CIRIA. Report C741 – Environmental Good Practice on Site Guide (2015)

12 CIRIA. The SUDS Manual (2007). Available at: https://www.ciria.org/Memberships/The_SuDs_Manual_C753_Chapters.aspx

13 UK Government Health and Safety at Work etc. Act 1974, Available at Health and Safety at Work etc. Act 1974 (legislation.gov.uk)

RESPONSIBILITIES

Key Contacts & Roles

The detailed CEMP will need to confirm the details outlined in **Table 2-1** below.

Table 2-1: Indicative Key Contacts & Responsibilities (governance subject to change)

2.16

	Name	Role	Address	Name & Contact Details
Developer	Renantis UK Limited	To ensure all planning condition requirements are implemented	TBC	TBC
Main Contractor	TBC	Responsible for the development of the CEMP in line with planning condition requirements	TBC	TBC
Site Manager	TBC	Responsible for the implementation of the CEMP with all site personnel	TBC	TBC
Environmental Compliance Officer	TBC	Responsible for the coordination and development	TBC	TBC
Consulting Engineers	TBC	Responsible for the development of method statements and design	TBC	TBC

ENVIRONMENTAL SENSITIVITIES

The environmental assessments undertaken in support of the planning application identified some sensitivities on the Site.

Relevant potential sensitive receptors to the site preparation and construction works are identified in **Table 2-2** below. These potential sensitive receptors, the environmental
2.17 considerations and potential impacts are to be considered as the basis for a future detailed CEMP.

2.18

Table 2-2: Environmental Considerations and Impacts

Environmental Issue	Potential Receptor	Potential Impacts
Designated Sites	Mynydd Eglwysilan, North of Senghenydd SINC, Clydach Vale (Pontypridd Golf Course) SINC.	Damage / pollution
Protected Species	Dormice	Disturbance, killing and injury
Protected Species	Otter	Accidental trapping, restriction of movement through the site (commuting habitat)
Protected Species	Badger	Disturbance, destruction of sett, accidental trapping, and the restriction of movement through the site (foraging habitat)
Protected Species	Bats	Roosting habitat disturbance / destruction
Protected Species	Hedgehog	Restriction of movement through the site (foraging habitat)
Protected Species	Breeding birds	Disturbance / damage to nests
Protected Species	Herptiles	Disturbance, destruction of habitat
Water	Waterways adjacent to the Development	Contamination of aquatic environment

Water	Groundwater	Contamination of groundwater by additional pathways caused by piling Risk to aquifer recharge Risk to existing groundwater flow route
Soil	Soil on site	Contamination, compaction & soil degradation Reduced filtration

Ecology

Habitats

2.19 A phase 1 habitat survey was undertaken on 30th June 2021 by Z. Hinchcliffe MRes BSc (Hons.), a suitably qualified and experienced ecologist. The Ecological Survey Area ("ESA") covered all land within the site boundary at the time, plus a 50m buffer around this area. An update survey was carried out on 30th August 2023 by D. Rouse and on 10th June 2024 by Z. Hinchcliffe

2.20 The survey followed UK industry standard Joint Nature Conservation Committee (JNCC) Phase 1 Habitat Methodology (JNCC, 20105) with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM), Technical Guidance Series Guidelines for Preliminary Ecological Appraisal – Version 2 (CIEEM, 2017).

2.21 A total of 18 habitat types were noted within the ESA, comprising of Broadleaved Semi-Natural Woodland (A1.1.1), Coniferous Plantation Woodland (A1.2.2), Scrub (Dense/Continuous) (A2.1), Scattered Scrub (A2.2), Semi-Improved Acid Grassland (B1.2), Improved Grassland (B4), Marshy Grassland (B5), Poor Semi-Improved Grassland (B6), Tall Bracken (C1.1), Tall Ruderal (C3.1) Valley Mire (E3.1), Eutrophic Standing Water (G1.1), Wet Ditch (G2.1), Cultivated/Disturbed Land – Arable (J1.1), Intact Hedge – Native Species-poor (J2.1.2), Dry Ditch (J2.6), Buildings (J3.6) and Bare Ground (J4).

2.22 The main impacts during the construction phase include the direct loss of habitat under the Proposed Development footprint and indirect loss of habitat due to noise and vibration disturbance, and dust and water pollution. The loss of these primarily agricultural improved and poor semi-improved grassland areas is considered to be of **negligible significance** to nature conservation interest within the local area.

2.23 The total ground disturbance area resulting from the Proposed Development is 15,294m^2 or circa **2.15%** of the Application Site area. Agriculture can continue on the remaining land in the form of management sheep grazing at a suitably low stocking density. Construction will not involve the removal of any other trees or sections of hedgerow. The relatively minor extent

of habitat loss in a local context where these habitats are frequent is **not considered to be significant** in terms of the Site's intrinsic habitat interest.

Trimming back of three areas of hedgerow (branches only, roots and base at ground level to be retained) are required for to facilitate the Proposed Development to provide the appropriate width to allow the movement across the Application Site. One further area of lower limb lopping on a tree which was not identified as having any bat roost potential may be required, depending on the amount of growth which occurs between the most recent survey and commencement of construction. Construction will not involve the removal of any other trees or sections of hedgerow. The relatively minor extent of habitat loss in a local context where these habitats are frequent is **not considered to be significant** in terms of the Site's intrinsic habitat interest.

2.24

Please refer to the supporting **Chapter 9 – Ecology** for full details on the habitats present within the Site.

2.25

Protected Species

As part of the Ecology Chapter, a desk-based data search was conducted through the South East Wales Biodiversity Records Centre ("SEWBReC") to obtain information regarding protected/notable species within 5km of the Site boundary. In addition, the extended phase 1 habitat survey included a species scoping survey to identify the potential of the Site to support protected and notable species. Please see **Chapter 9 – Ecology** for details on the selection of study zones and ecology methodology.

2.26

2.27

No definitive evidence of Badger (*Meles meles*) was noted onsite, with no latrines, setts, hairs, distinctive scent or snuffling observed. The woodland and scrub within the ESA provide sett-building habitat for this species, while all the terrestrial semi-natural habitats within the Site offer foraging opportunities. It is very likely that badger is present in the local area, and uses the site from time to time either to forage or to cross to other foraging grounds.

2.28

The grazed grasslands within the Application Site have limited suitability for Dormouse (*Muscardinus avellanarius*). Additionally, the hedgerows on site, whilst containing species including hazel, are species poor, and lack the complex ground level structure to provide significant interest to the species.

2.29

2.30

Foraging and/or commuting features of interest to bats within the Site are limited to stone walls and ditches. Several trees along the field boundaries have suitable roosting potential for bat species.

No evidence of otter was noted onsite during the survey. The Applications Site does not contain any suitable foraging habitat or opportunities for holts. It is unlikely that the Site will support natal use (due to disturbance from livestock, farm activities and lack of access to food-rich pools).

The hedgerows, scrub and improved grassland within the Site and the adjacent woodland provide suitable habitat for hedgehogs. No signs of other protected mammal species were recorded during the survey.

2.31 The Site was assessed for its suitability to support great crested newt and other amphibians (outlined in **Appendix 9B – Habitat and Species Baseline Report**) It is considered that Great Crested Newts (GCN) are likely to be absent from the Site.

2.32 The majority of the Application Site is comprised of heavily grazed grassland that provides limited suitability for reptiles, however, there are areas of optimal foraging and commuting habitat within the patches of valley mire, acid grassland and marshy grassland. The habitats present and proximity to Cyldach vale Pontypridd Golf Course SINC – of which a qualifying feature is reptiles – suggest that reptiles are likely to be present within the site.

2.33

2.34 The Site was assessed for its suitability to support breeding birds, and the results are outlined in **Appendix 9C – Breeding Bird Report**) The trees, grassland and wooded areas within the Site are likely to support a variety of common nesting birds during the breeding season, including farmland birds of conservation concern.

2.35 The vast majority of the Site (improved grassland) is considered to be of very limited value to invertebrates. Most plant assemblages were relatively poor in diversity and/or ability to support invertebrates, whether due to the flora present or to management (grazing/cuts).

2.36 No sightings or signs of any other notable or protected species were observed within the ESA.

Environmental Designations

2.37 The desk-based assessment identified six international (formerly known as "Natura 2000") designated sites, namely the Cardiff Beach Woods Special Area of Conservation ("SAC"), Aberbargoed Grasslands SAC, Blackmill Woodlands SAC, Severn Estuary (Wales)SAC / Special Protection Area ("SPA") / Ramsar, within 20 km of the Site. There are four national designated sites within 5km, including three Sites of Special Scientific Interest ("SSSIs") and one Local Nature Reserve ("LNR"). These are Craig-yr-hesg LNR, Nant Gellwion Woodland SSSI, GWaun Gledyr SSSI, and Llanbradach Quarry SSSI. Visualisation of these can be found within **Figure 9.1: Environmental Designations Map**.

2.38

2.39 All statutory designated sites have been outlined and fully assessed within the supporting **Chapter 9 - Ecology**. The findings of the EcIA conclude that the Proposed Development **will not lead to any significant adverse effects** upon any of the international sites within the study area.

Data provided by SEWBReC identified four non-statutory Sites of Importance for Nature Conservation ("SINC") within a 2km radius of the Site boundaries. Two of these sites, Cyldach Vale (Pontypridd Golf Course) SINC and Mynydd Eglwysilan, North of Senghenydd SINC, are located adjacent to the Application Site boundary. The EcIA concludes that, in the absence of mitigation, the Proposed Development **may have significant adverse effects** on these non-

statutory sites through habitat loss, disturbance to protected species and hydrological pollution.

Design, Best Practice and Mitigation Measures

Measures specified or recommended within **Chapter 9 – Ecology** include:

- Best practice pollution prevention measures implemented prior to and throughout the construction phase to prevent contaminants entering the aquatic environment;

2.40

- Pre-commencement badger survey;
- All excavations to be securely covered at the end of each working day to prevent accidental trapping of badger;
- Security fencing with 10cm gap at base to allow free movement of mammals through the site;
- In the event that any mature tree requires trimming or felling, survey the tree for potential bat roosting before any work commences;
- Pre-construction breeding bird survey (if works are to commence between March and August inclusive);
- Creation and Implementation of Non-License Protected and Notable Species Method Statement;
- Supervision of groundbreaking works and vegetation removal works by Ecological Clerk of Works (ECoW);

2.41

Hydrology

2.42 The Site lies within the Severn River Basin District. Within this, the Site lies in the River Taf catchment.

2.43 The River Taf runs a southeast direction and eventually discharges into the mouth of the River Severn approximately 18.7km southeast of the Site.

Local River Network

The Site itself has a number of small watercourse/field drains, some eventually lead into the River Taf through the local drainage network and other drains lead into the Nant Lonydd. The Nant Lonydd eventually converges with the River Taf approximately 2.1km southeast of the Site.

Figure 4.1: Appendix 4A of Annex 1 shows the local watercourse network in relation to the Site.

Groundwater Vulnerability

2.44 Groundwater Vulnerability refers to the intrinsic geological and hydrogeological characteristics that determine the ease at which groundwater may be contaminated by human activities. The more vulnerable the groundwater is, the more easily it can be contaminated by surface water.

2.45 According to the British Geological Survey (BGS) maps, the groundwater vulnerability across the Site is considered to be 'high'.

2.46

CONSTRUCTION METHOD STATEMENT

Introduction

This Construction Method Statement (CMS) outlines the management plan for the construction and decommissioning phases of the Proposed Development. Employed contractors will be instructed on compliance with the contents of this document prior to accessing the site for construction.

2.47

Construction Operations

The Proposed Development will be constructed in accordance with the drawings submitted in support of the planning application.

2.48

Construction Activities

The following activities will be undertaken during the construction phase:

2.49

- Erecting construction traffic signage;
- Creation of internal site tracks;
- Sustainable Drainage Systems (SuDS) installation;
- Erecting security fence;
- Erecting temporary construction compound;
- Site preparation, including mowing and marking out if required;
- Piling the frame supports into the ground;
- Affixing the mounting frames and panels;
- Concrete base formation for the substations and transformers;
- Transformer and grid substation construction;
- Cable route trenching and cable laying;
- Connecting cables and backfilling trenches;
- Removal of construction compound; and

- Installation of ecological and landscape measures as outlined within the supporting Ecology and Landscape and Ecology Management Plan (LEMP). Please see **Figures 4.22a-e Chapter 4: Landscape and Visual Assessment.**

Schedule & Hours of Operation

2.50 The construction phase of the Proposed Development is anticipated to cover a period of up to 12 months. During this period, there will be a combination of HGVs for the component deliveries and cars/vans for construction staff. HGV movements are expected to be most intense throughout the early stages of construction, tailing off towards the final weeks. Car/van movements are expected to be constant throughout.

All traffic movements will be carried out between the hours of 07.00 to 18.00 on Monday to Friday and 07.00 to 13.00 on Saturdays. Outside of these times works are limited to:

2.51
- Works which do not require significant noise i.e. distribution of materials, assembly of structures and modules, commissioning and testing; and
- Works required in an emergency where there is the potential of harm or damage to personnel, plant, equipment, or the environment, provided the developer retrospectively notifies the Council of such works within 24 hours of their occurrence.

2.52 Deliveries, where possible, will be scheduled to avoid peak times, e.g. avoiding rush hours and after school drop off and pick up times.

Staff

2.53 It is forecast that there will be a maximum of 40 staff on site at any one time during the construction periods, although this will vary subject to the overall programme of works.

Equipment

2.54 As outlined in **Table 2-3 below**, plant equipment required for the construction phase may include but not be limited to the following:

Table 2-3: Plant Equipment

Equipment	Function
JCB Diggers / cable trenching machines	Trenching for cables
Dump trucks	Earth distribution as required
Vibrating roller	Compacting access tracks

Piling machine(s)	Ramming piles of mounting frames / fencing posts into the ground
Telehandler(s)	Distributing materials
Crane	Capable of lifting transformer cabinets into place
Fuel bowser	Refuel plant as required
Concrete mixer	Foundations for inverters

WASTE MANAGEMENT

Surplus or waste materials may arise from materials imported to the Site, or those generated on site during the construction and decommissioning phases.

The Waste Management Plan follows the waste hierarchy, as outlined within Article 4 of the Waste Framework Directive 2008/98/EC. The waste hierarchy, as defined within the
2.55 legislation, is detailed below:

2.56
- Prevention;
- Re-use;
- Recycling;
- Other recovery; and
- Disposal.

Identification of Waste

2.57 There will be limited waste generated during the construction phase of the Proposed Development.

2.58 The contractor on site during each phase will ensure that all waste will be disposed of responsibly from the Proposed Development Site. Potential waste generated during the construction phase is likely to include:

- Wooden crates or cardboard boxes in which the materials will be packaged. These will be removed from the site and recycled appropriately at regular intervals.
- Packaging materials from various components including cabling, mounting frames screws, etc. These will also be removed regularly and recycled.
- Aggregate and substrate from groundworks – soil will be excavated for the construction of the access tracks, construction slabs, cable trenches, sub stations and inverter and transformer units. All of which is expected to be reused on site.
- As the Proposed Development involves a minor amount of groundworks (ground works are limited to tracks (approximately 8,594.1m^2 surface area), Transformers (approximately volume 43.4m^3), Storage (approximately volume 65.8m^3), Aux Transformer (approximately volume 7.2m^3), Substation (approximately volume 10.0m^3), Monitoring House (approximately volume 6.3m^3), and CCTV bases (approximately

22.6m^3), and any topsoil and subsoil extracted will be kept separate on site to ensure contamination does not occur and to avoid damage to soil quality and structure. Any excavated soil which is not re-used or dispersed across the site shall be stored on an impermeable surface at the site compound and covered in order to prevent silt runoff and dust creation. Any spoil storage will be done in accordance with the development buffers specified, i.e. 5m from drains and ditches, outside badger exclusion zones, etc. Spoil heaps will be deposited as per standard spoil heap ratios.

- Site office waste will be collected separately in order to maximise the potential for recycling.
- Any kitchen waste will be taken off site in refuse containers and disposed of off-site.
- Oils/fuels, paints, solvents or other chemicals will be stored at the temporary site compound and disposed of appropriately.
- Burning of waste on site will be prohibited.

Waste Segregation and Storage

2.59 A specific segregation area within each of the temporary site construction compounds will be identified where the separation of materials will take place during the construction phase. This area will allow for the separation of materials into those which can be reused, recycled or disposed.

2.60 All waste containers should be appropriate to the nature of the substances stored and should be secure to ensure no waste can escape. In addition, all waste containers should be appropriately labelled to ensure that it is clear to all construction staff what types of waste

2.61 can be stored in each container. These containers should be located appropriately to reduce any potential hazards and to ensure no waste is released into the external environment.

Relevant waste and resource management procedures will be communicated to all construction operatives during the initial site induction, which is mandatory for all staff working on site. This will include instruction on the segregation, handling, re-use and return methods to be used by all parties at all appropriate stages of development. Where possible, waste will be eliminated, re-used or recycled as per the requirements of the waste hierarchy.

Storage of Fuels and Chemicals

As per Best Practice Guidance (Oil storage regulations for business)[14], all fuels, oils and chemicals on site will have a secondary containment system of 110% capacity and be located more than 20m from any watercourse (i.e. outside of the water course buffer).

2.62 A bunded diesel bowser will be located inside a fenced off area within the temporary construction compound. Any other chemicals will be stored within a storage container with an accompanying Control of Substances Hazardous to Health ("COSHH") Datasheet in accordance with health and safety regulations. If generators are used on site, these shall be

2.63 bunded (the bund shall be capable of containing 110% of the fuel tank's capacity). The bund shall be kept empty of water.

2.64 Where chemicals are required on site, they must be placed in an appropriate bund to prevent ground contamination. All chemicals must be stored in a correctly marked container clearly identifying the contents. Where labels are worn off, they must have a new label placed on them or the contents transferred to a correctly marked container. All safety data sheets for all chemicals should be filed on site as part of the CEMP.

2.65 Spill kits will be on site and, for ease of access, located in the site office. Contingency plans will be in place for dealing with a spillage should a spillage occur.

Refuelling

2.66 During construction, fuel and oil deliveries shall take place within the designated refuelling area within the temporary construction compound, the location of this area falls outside the watercourse buffers (discussed subsequently). The Contractor shall supervise site deliveries to ensure that the correct amount of material is delivered to the correct tank and the level is

2.67 checked prior to refilling to avoid spillage.

Where refuelling of vehicles on site is necessary, the following guidelines will be strictly adhered to:

- Mobile plant will be filled in a designated area, on an impermeable surface well away from any drains or watercourses;
- A spill kit will be stored (and clearly marked) near refuelling areas;
- A bunded tank / bowser will be used with capacity of the bund to be 110% of the fuel storage capacity;

[14] Environment Agency, Oil storage regulation for business. Available at:

Oil storage regulations for businesses - GOV.UK (www.gov.uk)

- Vehicles will never be left unattended during refuelling and drip trays should be located under all static plant vehicles;
- Hoses and valves will be checked regularly for signs of wear, and will be turned off and securely locked when not in use;
- Vehicles will not be left running unnecessarily and low emission fuels will be used where possible; and
- Diesel pumps and similar equipment will be checked regularly and any accumulated oil removed for appropriate disposal.

Concrete

2.68 Concrete will not be allowed to enter watercourses or drains under any circumstances, and drainage from excavations in which concrete is being poured will not be discharged directly into existing watercourses without appropriate treatment and consent from the relevant authority. Delivery trucks, tools and equipment will be cleaned at the wheel wash facility located at the temporary site compound.

2.69 Buffers from the site drainage ditches of 5m have been incorporated into the design of the Proposed Development and therefore there will be no concrete being used within the immediate vicinity of a watercourse.

Monitoring

2.70

2.71 Operations and activities that have the potential to impact on the water environment will be regularly monitored throughout the construction of the Proposed Development. This is to ensure compliance with planning conditions and environmental regulations.

The Site Manager is responsible for ensuring that all monitoring is carried out according to the Environmental Monitoring Programme, summarised in Table 2-4 below.

Table 2-4: Environmental Monitoring

Environmental Aspect	Monitoring Location	Monitoring Frequency	Monitoring Arrangements
Site housekeeping	Entire site	Daily	Visual inspection
Surface watercourses	All watercourses	After periods of rain Weekly, if no rain	Visual inspection

Fuels and chemicals – appropriate storage	Entire site	Daily	Visual inspection

These records and results will be maintained by the Site Manager and will be stored on site during the construction phase.

Site Office Waste

2.72 The proposed site layout (**Figure 4 of Volume 4: Planning Application Drawings**) includes for a temporary construction compounds and all site waste will be stored in these areas.

2.73
- A Project Supervisor will be employed to ensure that welfare facilities in accordance with the Health and Safety at Work etc. Act 1974[15] are located at the proposed site for the duration of the construction. Welfare facilities will be provided within the construction compound to cater for the required staff members at any one time. The welfare facilities will include:
  - The provision of toilet, washing and changing facilities;
  - Clothing Storage;
  - Facilities for eating;
  - Rest room; and
  - Car Parking.
- Water will be held within a holding tank within the temporary welfare facility. There will also be a separate tank for waste. The Project Supervisor will be responsible for organising the tanks to be emptied/filled by an approved local contractor as and when required.

[15] UK Government Health and Safety at Work etc. Act 1974, Available at Health and Safety at Work etc. Act 1974 (legislation.gov.uk)

SOIL MANAGEMENT PLAN

A Phase 1 Peat Probing Survey was undertaken on 5th March 2025 across all areas of the proposed Glyn Taff Solar Farm development boundary (the site) which equates to a total of 74 probing points. This and the results thereof will be integrated into the OCEMP accompanying the final planning submission.

2.74 The following section outlines the extents of soil excavations across the site.

Excavated Areas

2.75 ### Transformers

There will be 13 transformers positioned alongside the access track through the Site. Each station will measure approximately (3.8m (L) x 3.8m (W)), requiring an area of ground
2.76 disturbance of 187.7m² in total.

Storage

2.77 There will be four storage containers implemented as part of the Proposed Development. Each container will measure (13.7m (L) x 2.4m (W)), requiring an area of ground disturbance of 131.5m² in total.

Aux Transformer

2.78

There will be one Aux Transformer implemented as part of the Proposed Development. Each container will measure (2.9m (L) x 2.3m (W)), requiring an area of ground disturbance of 6.7m² in total.

2.79 ### Substation

There will be one substation implemented as part of the Proposed Development. Each container will measure (7.7m (L) x 2.6m (W)), requiring an area of ground disturbance of
2.80 20.0m² in total.

Monitoring House

There will be one Monitoring House implemented as part of the Proposed Development. Each container will measure (3.9m (L) x 3.2m (W)), requiring an area of ground disturbance of 12.5m² in total.

Cable Trenches

Depending on the functionality of the cable trenches, they will measure up to 1m wide and their total ground disturbance area is estimated to be c. **3,250m**. The trenches will be excavated to a depth of approximately 1m and will be backfilled after the cables have been laid.

2.81 ### CCTV Bases

There will be approximately 58 CCTV cameras positioned along the perimeter fence. Each base will require a concrete foundation of 0.65m by 0.75m which will therefore have an area of disturbance of c. 0.488m^2 each. This will result in a total ground disturbance of **28.3m^2** of

2.82 the Site area.

Tracks

The access and site tracks will measure 2,455.5m in length and have an average width of c. 3.5m, therefore resulting in a total ground disturbance of approximately 8,594.1m^2. The

2.83 access tracks will be constructed by stripping the topsoil and laying down a geotextile/geogrid. Crushed rock will then be layered and compacted on to the geotextile/geogrid in order to establish the access and site tracks.

Temporary Compound

2.84

The temporary compound area will measure c. 60m by 50m in a rectangular shape, resulting in a total ground disturbance area of c. **3,000m^2**. This will be constructed by the stripping of topsoil and subsequent layering of crushed stone similar to the process for the site tracks.

Piling

2.85 ### Solar Panels

Solar panels will be mounted on galvanised metal mounting frames which will be supported by posts piled into the ground at a depth of up to c. 1.5m. The direct impacts from the piling are considered to be minimal due to the small total area covered, with each pile having a diameter of 0.1m and an area of disturbance of 0.008m^2. The number of pile-driven poles will

2.86 be approximately 11,580, resulting in a total cumulative area of ground disturbance of c. **92.8m^2**.

Perimeter Fence

Poles will also be inserted into the ground to support the perimeter fence. The total length of fence will be 7,500.8m with approximately 2,143 fence posts (proposed as one every 6m).

Each fence post will disturb c. 0.03m^2 of ground, resulting in a total area of ground disturbed by the perimeter fence of **64.3m^2** of the Site area.

Piling Impacts

There are a number of ways in which piling can cause contamination risks, however the site would need to be contaminated in the first instance. These possible scenarios include[16]:

- Creation of preferential pathways, through a low permeability layer (an aquitard), to allow potential contamination of an underlying aquifer;

2.87

- Creation of preferential pathways, through a low permeability surface layer, to allow upward migration of landfill gas, soil gas or vapours to the surface;
- Direct contact of site workers and others with contaminated soil arisings which have been brought to the surface;
- Direct contact of the piles or engineered structures with contaminated soil or leachate causing degradation of pile materials (where the secondary effects are to increase the potential for contaminant migration);
- The driving of solid contaminants down into an aquifer during pile driving; and
- Contamination of groundwater and subsequently surface waters by wet concrete, cement paste or grout.

2.88

As the Proposed Development is on a greenfield site consisting only of agricultural land, the potential for contamination impacts is assessed as **low to negligible**. Furthermore, the underlying soil and geology that has been outlined in the flood risk assessment, shows no potential for contaminants. With the pollution prevention measures outlined in this assessment, potential effects will be negligible.

2.89

Summary of Excavated Areas

Overall, the proposed footprint constitutes a relatively small percentage of the total area of the Site (**70.9ha**):

- **15,137.5m^2** for infrastructure (c. 2.13% of the Site area); and
- **157.0m^2** for piling (c. 0.02% of the Site area).

[16] Environment Agency (2001), Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention.

The total ground disturbance area resulting from the Proposed Development is therefore **15,294.5m²** or c. **2.15%** of the Site area.

It is estimated that approximately 6,883.5m³ of spoil will be created. However, c. 4,150m³ will be used to backfill the cable trenches and reinstates the compound. This shall leave a total of c. 2,733.5m³, which will be used in the regrading of the site, particularly along tracks and to level off uneven areas, as required.

2.90

2.91 In the unlikely event that some excess soil cannot be re-used on-site, it will be minimal and recycled offsite at a licenced facility.

2.92 Excavation and Earthworks

All excavation and earthworks will be carried out in accordance with BS6031:2009 Code of Practice for Earthworks.[17] Soil handling, extraction and management will be undertaken with regard to waste management regulations.[18]

2.93

The following practices will be followed in relation to the excavation of cable trenches, topsoil stripping and any other earthworks:

2.94

- Any excavated material will be stored and re-used to infill excavations. Where the soil is to be re-used, this will be side casted. All side casted soil to be kept a minimum of 20m from any watercourse.
- Although unlikely, if any contaminated earth is uncovered, this will be stored separately and disposed of accordingly once the contaminant has been identified.
- Efforts will be made to ensure that water does not accumulate in excavated areas.
- All topsoil and subsoil will be stored separately, and care will be given to ensure the structure and quality of the soil is not damaged.
- The amount of exposed ground and soil stockpiles will be kept to a minimum and any stockpiles in place for an extended period of time will be allowed to re-vegetate naturally.
- Earthworks shall not occur during unsuitable weather conditions, including when soils are waterlogged or very dry.

17 British Standards Institute (BSI), 2009. BS 6031:2009 Code of Practice for Earthworks

18 UK Government. The Waste (England and Wales) Regulations 2011. Available at The Waste (England and Wales) Regulations 2011 (legislation.gov.uk)

- The Proposed Development does not propose to change ground levels and only small sections of land are to be regraded around the buildings and possibly at the access track edges; however, this will only be over a few metres.
- Any excavated soil which is not re-used or dispersed across the site and shall be stored on the impermeable surface at the construction compound and covered to prevent silt runoff and dust creation.

POLLUTION PREVENTION

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

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

2.95

Best Practice Measures

2.96

Suitable protection for watercourses potentially affected by the works will be installed prior to relevant works proceeding. These measures will be in-line with Environment Agency pollution prevention guidelines. Protection measures will include:

2.97

- Plant and equipment will be stored on dedicated hardstandings 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.
- Plant and equipment will be regularly checked to ensure their correct operation and verify no leakages.
- All plant and equipment will utilise biodegradable hydraulic oil.
- 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 in a secure area with an accompanying COSHH Datasheet.

2.98

- Wastewater from the temporary staff toilets and washing facilities will be discharged to sealed containment systems and disposed 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.

Noise and Vibration

Operating plant noise will be kept within the standards and time periods dictated for the Site. Any noncomplying plant will be stopped and stood down until it can be rectified or removed from the Site.

2.99

- The British Standard which gives guidance on noise from construction and mineral working sites is BS 5228. This document does not specify absolute noise limits relating to construction activities; however, it does provide detailed guidance on the steps that can be taken to minimise potential noise & vibration effects. Reasonable mitigating measures are as follows: vehicles and machinery will be switched off when not in use.
- Operation of plant, including fitting and proper maintenance of silencers and/or enclosures, avoiding excessive and unnecessary revving of engines and parking of equipment in locations which avoid possible effects on residential properties.
- Deliveries limited to:
    - 07.00 to 18.00 Monday to Friday.
    - 07.00 to 13.00 Saturdays.
    - Public holidays will be observed unless otherwise agreed with the local planning authority.
    - When loading and unloading material, attempts shall be made not to drop material from a height.

2.100

Any noise complaints shall immediately be directed to the Site Manager. Depending on the nature of the complaint, remedial action may need to be undertaken.

2.101

Dust

In order to control, prevent and minimise dirt on the access route and emissions of dust and other airborne contaminants during the construction works, the following measures will be implemented:

- Wheel washing equipment will be available and used on-site, as required to prevent the transfer of dirt and stones onto the public highway. All drivers will be required to check that their vehicle is free of dirt, stones and dust prior to departing from the site. Wheel washing will likely be a water bowser and power spray. It will not have any cleaning additives and will drain into the temporary drainage feature at the site compound.

- During windy conditions, any dust generating activities will be avoided or minimised, where practical.
- Any soil stockpiles will be covered when left for extended periods of time.
- Driving practices which minimise dust generation will be adopted.
- Loads into and out of the site will be covered where required.

DRAINAGE MANAGEMENT PLAN

The measures described in this section will be adopted during the construction phase in order to manage on-site drainage in accordance with current best practice and legislation.

Monitoring Records and Emergency Spill Response

2.102 Monitoring

To ensure compliance with the detailed Drainage Management Plans found within **Annex 1: Flood Consequence Assessment and Drainage Strategy of Volume 3**, drainage management works will be supervised by the site engineer.

2.103 Emergency Spill or Pollution Response

In the event of a liquid spill occurring on a construction site, the Contractor shall cease work immediately in the vicinity. Contractor's trained personnel shall have appropriate Personal Protective Equipment (PPE) and do as follows:

2.104

- Locate the source of the pollution and stop/contain any further flow if possible;
- If spillage is flammable, extinguish all ignition sources;
- Immediately deploy the spill kit in accordance with the manufacturer's instructions;
- Clean up the spill; and
- All used spill kit materials should be disposed of in the proper manner as outlined in spill summary procedures.

2.105

The Site Manager shall contact:

- The Client;
- Natural Resources Wales ("NRW") 24-hour emergency incident line 03000 65 3000. The pollution hotline number shall be referenced in the construction site rules and displayed in the Site Office and in the Emergency preparedness & response plan.

2.106

2.107

Each Contractor working with controlled substances shall supply appropriate spill kits which shall be kept on site. The spill kits shall be made accessible at all times to all site personnel.

In the event of a fire, all personnel must evacuate the site and assemble at the site entrance. The Site Manager is responsible for calling the Fire Service, who will handle the emergency.

Proposed Drainage Arrangements

As outlined within the supporting **Annex 1: Flood Consequence Assessment and Drainage Strategy of Volume 3**, SuDS will be installed as part of the site's preliminary works prior to the main equipment deliveries. This SuDS feature will take the form of filter drains/ infiltration trenches and a detention basin. The layout of the drainage design is indicated within **Figure 1.4**: **Appendix 1A of Annex 1 of Volume 3.**

2.108

Construction Phase

Due to the addition of the temporary construction compound during the construction phase, additional drainage measures will be implemented to help attenuate the increase in surface water flows. Runoff from these areas is anticipated to have high silt loading due to mobilised
2.109 soils from excavated surfaces, fines from track aggregate and sludge due to traffic.

Hardstanding runoff will be directed to a swale on the compound's lowest boundary. This drainage scheme will be removed at the end of the construction stage and the area
2.110 reinstated.

Operational Phase

2.111 It is proposed to construct a series of filter drains/infiltration trenches and swales across the Site in order to maintain greenfield run off rates as well as reducing the risks of soil erosion and limiting any impacts on downstream receiving watercourses or agricultural land. The location of the filter drains/infiltration trenches and swales have been chosen within fields with the steeper gradients, near to the site boundaries, where overland flow will be directed.

2.112 #### Proposed Drainage Strategy

It is proposed to construct soakaway channels/filter drains within the Site. The location of the
2.113 channels has been chosen to intercept flows before they enter the existing drainage system surrounding the site, see **Figure 1.4**: **Appendix 1A of Annex 1 of Volume 3**.

2.114 The proposed soakaways will have an overall combined length of approximately 3,125m, with a base width of 0.5m, a 0.5m design depth and a 0.15m freeboard. They will be filled with crushed rock with a void ratio of 20%.

2.115 It will provide a total storage volume of approximately 156.25m^3. This is greater than the volume of additional runoff generated as a result of the impermeable buildings (45.0m^3). It is therefore considered that this adequately mitigates the increase in flow rates as a result of the minor increase in impermeable area and provides improvement.

By providing far more storage capacity than is required will improve the current flood concerns within the town of Rhydyfelin by ensuring the run-off rate has a net reduction thanks to the implementation of the drainage strategy. Further mitigation with regards to ground

compaction during the construction stage can be found in the 'Soil Erosion' section which follows.

The soakaway channels/filter drains will be implemented during the construction phase of the Proposed Development and planted with vegetation to protect against soil erosion. They will be maintained throughout the lifespan of the Proposed Development, generally in accordance with the recommendations in the appropriate guidance.

2.116 Due to very infrequent site attendance that is required, the pollution risk is deemed negligible. On-plot surface water treatment is provided in the form of filter drains wrapped to intercept the conveyance of any silts within the drainage system. Further downstream, water quality polishing is provided within the detention basin prior to discharge from site.

2.117 The discharge point will be into the existing site field drainage to the northwest of the detention basin.

2.118 Additional drainage measures to be implemented on-site include the following:

2.119
- Solar Panels: current grass cover is to be retained or reinstated adjacent to and under panels in order to maximise bio-retention;
- Access Tracks: access tracks are to be unpaved and constructed from local stone. Temporary swales or similar shall be utilised to collect runoff from access tracks with discharge to ground through percolation areas. Where swales are utilised, frequent check dams formed from gravels and other excavated material should be undertaken; and
- Transformer Stations: the scale of these types of structures is unlikely to warrant a formalised drainage system. Runoff from this infrastructure and any associated hard standing should be directed to a percolation area for discharge to ground. Should surface water accumulate around any of these locations then a simple soakaway can be constructed to allow water soak into the underlying subsoils.

2.120 Drainage Mitigation

Clean Water Diversion

2.121 Where feasible, clean water (e.g. water that has yet to come into contact with any disturbed construction or working areas), will be kept separate from the watershed or intercepted by the solar farm construction drainage.

Up-gradient cut-off ditches and water diversion measures will be installed, where required, in order to intercept and divert clean water around the construction compound area. These

measures will be installed ahead of the main construction works. This will reduce or prevent the amount of potential silt-laden or polluted water that might require treatment.

Clean runoff that has been diverted around an area of working should be discharged into an area of vegetation for dispersion or infiltration, in accordance with SuDS techniques.

Sediment control measures, such as silt traps, gravel, sandbags, anchored straw bales or silt fencing might be required at the discharge point to prevent erosion at the outlet and aid
2.122 dispersion of the diverted water.

2.123 Silt Control

Silt-laden runoff should be expected from any areas of recently exposed soil or rock. There is also potential for pollution to occur from machinery used in the solar farm construction.

2.124 Any introduced or artificial materials required (e.g. silt fencing, straw bales, sandbags, etc.) that might need to be deployed onsite, will be removed on completion of the works.

2.125

Discharge from the silt control measures will be discharged into an area of vegetation for
2.126 dispersion or infiltration, in accordance with SuDS techniques or discharged into the existing drainage network within the Site.

DECOMMISSIONING – LAND RESTORATION

Upon the end of the operational phase of the Proposed Development (including any extension), the subject land shall be reinstated to its former agricultural use within a year of the last export.

2.127 It is considered that the potential impacts during the decommissioning phase will be similar to those identified for the construction phase of the Proposed Development. Therefore, it is recommended that the pre-construction measures should also be applied at this stage of the Development.

2.128 The majority of the infrastructure will be removed from site and recycled. Due to the long-life span of the project, no details of this can be provided at present, however it is recommended that a pre-commencement condition outlining the requirement for a Decommissioning Method Statement is attached to any planning decision made by PINS.

2.129

SUMMARY & CONCLUSIONS

The best practice and design measures identified throughout this OCEMP have been summarised in Table 2-5 below. Mitigation measures have been summarised in Table 2-6 below.

Table 2-5: OCEMP Best Practice and Design Measures

2.130

Potential Receptor	Potential Impact	Recommended Measures
Ecology		
Badger, hedgehog	Disturbance, accidental trapping, restriction of movement through the site (badger and hedgehog foraging and otter commuting habitat)	All excavations should be securely covered at the end of each working day. Implementation of badger gates at base of perimeter fencing.
Aquatic environment, Rivers	Pollution	Avoidance of flood risk zone and all surface water areas including ponding
Habitats	Pollution and destruction	Avoidance of hedgerows, watercourses / field drains, woodland and trees
Water		
Streams and Rivers outside the Site boundary where surface water runoff will be discharged to on exit from the site via field drains.	Pollution	Implementation of pollution prevention measures detailed within this OCEMP. 5m drain buffer zone.
	Increased surface water runoff	Implementation of Drainage Management Plan outlined within this OCEMP
Groundwater contamination	Pollution	Implementation of pollution prevention measures detailed within this OCEMP
Soil		

Soil	Pollution	Implementation of pollution prevention measures detailed within this OCEMP

Table 2-6: Recommended Mitigation Measures

Potential Receptor	Potential Impact	Recommended Mitigation
Ecology		
Dormouse, Reptiles	Disturbance, killing and injury,	Implementation of non-licensed method statement Supervision of works to existing hedgerows by Ecological Clerk of Works
Badger	Destruction of badger setts	Pre-commencement survey (Measures dependent on survey findings)
Bats	Habitat disturbance/destruction	Bat Roost Potential survey of any tree to be removed (Measures dependent on survey findings)
Birds	Habitat disturbance/destruction of nesting habitat (Only if works are undertaken between March and August inclusive)	Pre-construction nesting bird check (only if works are undertaken between March and August inclusive) (Measures dependent on survey findings)

2.131

The overall objective of this OCEMP is to reduce the potential impact on the environment during the construction and decommissioning phases of the Proposed Development. As outlined previously, the appointed contractor will adhere to the measures identified within this document.