



Pennant Walters Ltd

Mynydd Llanhilleth Wind Farm

Outline Construction Environmental Management Plan
(CEMP)



August 2024

Report for

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2	Final Outline	June 2023
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Executive summary

This Outline Construction Environmental Management Plan (CEMP) sets out the specific environmental management requirements and relevant guidance for contractors working on the proposed Mynydd Llanhilleth Wind Farm.

The CEMP will remain a live document throughout the pre-construction and construction processes and some provisions may extend into the operational phase. The CEMP consolidates all appropriate embedded measures, and additional mitigation and enhancement strategies where required, and clearly outlines what should be implemented, where, and by whom.

The CEMP will be the master document for consolidating all environmental requirements and undertakings that relate to the Site. As such it aims to ensure that construction activities for the proposed wind farm are carried out in accordance with legislation and best practice for minimising the effects of construction on the environment and local communities.

The objectives of the CEMP are to:

- Provide a mechanism for delivering many of the embedded environmental measures described in the Environmental Statement.
- Ensure compliance with legislation through setting out the need for consultation with 'consultation bodies' (see Regulation 2 in the EIA Regulations 2017), and by obtaining necessary consents and licences from relevant bodies.
- Provide a framework for monitoring and compliance auditing and inspection to ensure the environmental measures included in the Environmental Statement are being implemented.
- Ensure environmental best practices are adopted throughout the construction stage.
- Provide a framework for dealing with adverse effects as they occur.
- Ensure a prompt response should unacceptable adverse effects be identified during the works.

Contents

1.	Introduction	6
1.1	Purpose of this Report	6
1.2	Overview of the Project	6
1.3	CEMP: Aims and Objectives	7
2.	Environmental Policies, Corporate Responsibilities and Emergency Procedures	8
2.1	Introduction	8
2.2	Appointed Contractor	8
2.3	Overall Responsibilities for Pennant Walters Site Management Team	8
2.4	Emergency Procedures	9
	Spillage Control	9
	Flood Emergency Response	9
	Other Environmental Incidents	10
3.	Construction Environmental Issues	11
3.1	Introduction	11
3.2	Timing of Works and Contingency Plans	11
3.3	Site Environmental Monitoring Processes	11
	Monitoring Schedule	11
3.4	Site Waste Management	12
3.5	Details of Track maintenance, Oil Storage and Lighting Columns	14
	Track Maintenance	14
	Oil Storage	14
	Lighting Columns	15
	Access Tracks	15
3.6	Details for Post-Construction Restoration/Reinstatement of Temporary Working Construction Areas Not Required During the Operation of the Development	15
3.7	Construction SuDS	16
3.8	Water Abstraction	16
3.9	Public Safety and Access	16
4.	Topic Specific Management Plans	17
4.1	Dust Management	17
	General Requirements	17
4.2	Noise Management	18
4.3	Water Management Plan	19
4.4	Land Contamination	19
4.5	Soil Storage and Management	22
	Topsoil and Subsoil Storage	22
	Subsoil Handling During Replacement	23
	Topsoil Handling During Replacement	23

4.6	Ecological Management	23
	ECoW	23
	Ecology Method Statements	23
	General Ecology Mitigation	24
4.7	Archaeology & Cultural Heritage Management	24
	Site Specific Constraints	Error! Bookmark not defined.
	General Archaeology Requirements	25
5.	Site Environmental Inspection and Auditing Procedures	27
5.1	Site Environmental Inspections	27
5.2	Environmental Audits	27
6.	Document Control and Environmental Nuisance Complaints	28
6.1	CEMP Document Control	28
6.2	Register for Environmental Nuisance Complaints	28
7.	Re-Instatement Measures	29

Table 3.1	Monitoring Schedule	10
Table 4.1	Summary of the embedded environmental measures related to noise	18
Table 7.1	Project Completion Requirements	26
Table 7.2	Audit Record	27

Figure 3.1	Waste Hierarchy	13
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Appendix A:	Site Plans	
Appendix B:	Water Management Plans	
Appendix C:	Environmental Inspection Form	
Appendix D:	CEMP Control Revision Register	
Appendix E:	Register for Environmental Nuisance Complaints	

1. Introduction

1.1 Purpose of this Report

- 1.1.1 This Outline Construction Environmental Management Plan (CEMP) relates to the proposed construction and operation of the Mynydd Llanhilleth Wind Farm near Llanhilleth and accompanies the Draft ES submitted as part of the DNS Application. This application follows the withdrawal of the application for an 8 turbine scheme, which is now being resubmitted following the removal of Turbine 5.
- 1.1.2 A CEMP is a tool for managing the environmental impacts of a development during the post consent phase and is often produced at the request of a planning authority or Planning and Environmental Decisions Wales (PEDW) as a condition of planning consent.
- 1.1.3 This document has been produced to accompany the application for a Development of National Significance (DNS) and as such is not the product of a formal request. This Outline CEMP has been produced to demonstrate that Pennant Walters understands the potential impacts of the works, which have been assessed as part of the Environmental Impact Assessment (EIA) process and to put in place a mechanism to ensure that the commitments made in the ES are implemented appropriately.
- 1.1.4 Revisions to this Outline CEMP shall be agreed and approved by and recorded by Pennant Walters. The plan shall be continually reviewed to take into account additional environmental information encountered during the design and construction phases. It shall also allow for the inclusion of requirements and amendments that arise from the granting of a DNS or legitimate concerns of Third Parties. All personnel and sub-contractors working on the project shall perform their duties in accordance with the requirements of the CEMP. The Site Team shall report regularly to the Project Manager on the status and effectiveness of its implementation.

1.2 Overview of the Project

- 1.2.1 The Mynydd Llanhilleth Wind Farm development (hereafter referred to as 'the Wind Farm') comprises of the following:
- up to seven wind turbines;
 - substation and transformer housing;
 - temporary contractor's compound;
 - Underground grid connection infrastructure;
 - crane pads and cabling; and
 - improvements to existing access, together with improvements to the internal access road and new and improved access tracks to the turbines.
- 1.2.2 The Site lies mainly within the Torfaen County Borough Council (TCBC) administrative boundary, with the western part lying within the Blaenau Gwent County Borough Council (BCGBC) administrative boundary. The Site boundary is approximately 300m from the eastern edge of Llanhilleth (Grid Reference: SO 23611 01881). The village of Brynithel is located approximately 500m to the southwest of the Site at its closest point at Blaencuffin Road.

- 1.2.3 The Proposed Development is a wind farm consisting of a maximum of seven wind turbines, each with a three-bladed rotor and maximum height to blade tip of 180m.
- 1.2.4 The Applicant has accepted a firm grid connection offer from National Grid (NG), as the Distribution Network Operator (DNO) for a 66kV connection at Pontnewynydd. The connection will comprise approximately 2km of new underground cable together with a Tee off structure H pole which will connect the underground line to the existing overhead network.
- 1.2.5 The Site Layout is shown in **Appendix A**. Through the EIA process the majority of environmental impacts can be avoided, minimised, and mitigated through a careful iterative design process. However, as identified in the ES, there are potential impacts that cannot be mitigated through design and therefore further mitigation measures are required to be put in place during the construction of the Wind Farm.

1.3 CEMP: Aims and Objectives

- 1.3.1 This CEMP is intended to provide the contractor and client with a useful and essential project specific tool to manage on-site construction activities that may impact on the environment. The key aims of the CEMP are to:
- Ensure all environmental commitments are met and that all requirements of relevant statutory legislation, standards, and guidance are fulfilled;
 - Ensure that disturbance to the physical environment from the Wind Farm is avoided, or where this is not possible, that disturbances are minimised and appropriately mitigated;
 - Ensure that impacts on transport, tourism, historic sites, and cultural heritage are avoided, or where this is not possible, that impacts are minimised and appropriately mitigated;
 - Ensure that the agreed site restoration is achieved on completion of the construction of the wind farm; and
 - Ensure effective engagement with key stakeholders is undertaken as appropriate, in the delivery of the required mitigation.
- 1.3.2 Compliance with the CEMP will be a contractual requirement for all personnel and contractors involved in the construction of the Wind Farm.

2. Environmental Policies, Corporate Responsibilities and Emergency Procedures

2.1 Introduction

- 2.1.1 The overall responsibility for implementation of this CEMP lies with Pennant Walters and its appointed contractor for the construction works: the successful implementation of the CEMP will ensure that all relevant environmental commitments and responsibilities are adhered to. Pennant Walters is also responsible for auditing the implementation of environmental mitigation measures on site and ensuring an audit plan is developed prior to construction commencing.
- 2.1.2 These documents, together with adherence to key legislation and good practice guidance, represent the environmental requirements and standards which all personnel must comply with when working on behalf of Pennant Walters. This CEMP fully accords with all legislative requirements.

2.2 Appointed Contractor

- 2.2.1 The appointed contractor for the construction of the Wind Farm (working on behalf of Pennant Walters) will be responsible for:
- Implementing the requirements of this CEMP in compliance with standard and site-specific Environmental Management Systems (EMS). The EMS must comply with ISO 14001;
 - Managing the environmental performance of all sub-contractors on site, including weekly monitoring to ensure that all sub-contractors comply with the requirements of the CEMP and ISO 14001;
 - Weekly monitoring of the environmental aspects of site works, ensuring compliance with the CEMP and ISO 14001, including regular inspections, audits, and appropriate procedures for addressing urgent matters; and
 - Training of site staff, including all sub-contractors, in general environmental awareness on specific environmental protection issues.
- 2.2.2 The appointed contractor will also be responsible for ensuring, through the incorporation of the provisions outlined in this document, that all relevant planning consent conditions, licences, and mitigation commitments that apply to site work are satisfactorily discharged. This will ensure that the environmental impact of construction activities is kept to a practicable minimum.

2.3 Overall Responsibilities for Pennant Walters Site Management Team

- 2.3.1 Overall day to day responsibility for ensuring that all standard and site-specific environmental actions are adhered to rests with the appointed Site Management Team and the Ecology Clerk of Works (ECoW).

- 2.3.2 The appointed Site Management Team will undertake regular meetings and site inspections to ensure that all site-based personnel are aware of the environmental commitments as referenced or detailed in this document.
- 2.3.3 Under the direction of the appointed contractor all personnel and any sub-contractors working on this project must take all reasonable precautions and undertake all reasonable measures within their control to ensure that all legal requirements are complied with and that no unnecessary damage, disturbance, or pollution results from undertaking the proposed construction works.

2.4 Emergency Procedures

- 2.4.1 All environmental incidents must be reported to the Site Management Team who will decide whether the incident is reportable to NRW or other Regulators.
- 2.4.2 NRW should be contacted by the Site Management Team within 2 hours where an incident results in direct pollution of a watercourse. This should allow for inspecting the incident, taking immediate actions to control/mitigate impacts and enable NRW to inform third parties and to take further mitigation steps if required.
- 2.4.3 In addition to notification of any environmental incident via the Natural Resources Wales number 0800 807060), the local NRW Office must be contacted (0300 065 3000); et.newportcaerphilly&blaenaugwent@cyfoethnaturiolcymru.gov.uk) and informed.
- 2.4.4 All emergency response arrangements will be included in the construction site induction and communicated to the relevant regulatory bodies if required.

Spillage Control

- 2.4.5 For plant/equipment leaks:
- STOP the source of the spill or leak if possible;
 - CONTAIN the spill using spill kits, sand or soil;
 - DIVERT the spill away from drains and watercourses;
 - CLEAN up the spill. Put all used spill kit materials and contaminated soil in a waste bag and dispose of as hazardous waste;
 - REPORT the spill to your supervisor;
 - REPLENISH spill kit after use; and
 - ANY pollution of a watercourse to be reported immediately to the appointed contractor's Project HSSE Manager.
- 2.4.6 Should there be any incidents then these would need to be reported to the appointed contractor's site manager.

Flood Emergency Response

- 2.4.7 If there are flood alerts in the vicinity of the construction site:
- CONTACT NRW flood warning line on **0345 988 118**;
 - OBTAIN as much information as possible from NRW i.e., what timescales are involved and what level of flooding is expected;

- If flooding is IMMINENT ensure that fuel, oil, and other potential contaminants are moved out of danger or stored as securely as possible; and
- If the extent of the flooding becomes serious and an EVACUATION of the site is deemed necessary, a decision to evacuate will be made by a senior person on site – the appointed contractor's Project, Site or HSSE Manager.

Other Environmental Incidents

- 2.4.8 If there is any other type of environmental incident, stop what you are doing and report it to your supervisor. These may include:
- Complaints from third parties e.g., noise, dust, light pollution;
 - Discovery of suspected contaminated land;
 - Discovery of protected animals, birds, or reptiles;
 - Damage to trees and hedgerows and/or sites designated for nature conservation reasons;
 - Discovery of archaeological or historic remains; and
 - Near misses – where events could have led to a minor or major incident.
- 2.4.9 The appointed contractor's Site Management Team should be notified immediately.

3. Construction Environmental Issues

3.1 Introduction

- 3.1.1 This section of the CEMP identifies key environmental issues which may require to be addressed during the construction process, together with appropriate environmental management actions.

3.2 Timing of Works and Contingency Plans

- 3.2.1 The timing of the construction works will be very important. Where possible, the works will be planned to avoid periods of high rainfall and also the winter months, given that the winter months are generally windier and wetter, which makes the schedule of turbine lifts difficult, and creates additional challenges with managing run off and storm events. Further guidance on surface and groundwater management can be found in **Appendix B**.
- 3.2.2 Hours of working will be limited to take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays, with no working taking place on Sundays or bank holidays. Works will be limited to daylight hours only between the months of April-September to avoid impacts to bats during their main roosting/active season. Works will continue beyond daylight hours with temporary lighting used between the months of Oct and March as bats will be/have moved to their hibernation sites.
- 3.2.3 There are various contingency plans in place in this CEMP and appendices covering emergency procedures for various aspects including pollution prevention, flooding, waste management etc. These various measures are all considered to amount to suitable and appropriate contingency plans for the construction of the Wind Farm.

3.3 Site Environmental Monitoring Processes

Monitoring Schedule

- 3.3.1 Where required on the project, environmental monitoring will be carried out in accordance with the appointed contractor’s relevant HSSE Procedures and Guidance Notes.
- 3.3.2 The following monitoring will be carried out throughout the duration of the construction:

Table 3.1 Monitoring Schedule

Item	Details	Staff Responsible
Daily Monitoring	Local access tracks and the B4246 and hardstanding areas for mud/debris needing to be cleaned.	Site Manager
	Aggregate and sand delivery vehicles to be appropriately sheeted	Site Manager
	Access tracks inspected for dust arisings and dampened down	Site Manager

Item	Details	Staff Responsible
	Site inspected for litter	Site Manager
	Clearance of litter	All site staff
Weekly Monitoring	Storage containers and bunds in temporary compound checked for leaks / damage	Site Manager
	Waste removed from storage areas	Site Manager
	Fences around sensitive environmental areas checked for correct position and for damage	ECoW (for ecological areas) Site Manager
	Signage and fences/gates around rights of way checked to ensure they are readable, in the correct position and not damaged	Site Manager
Monthly Monitoring	Position and direction of lighting	Site Manager
	Condition of access tracks, including adjacent verges and drainage channels	Site Manager
	Operation of wheel wash and condition of drainage serving this	Site Manager
As required	Servicing of vehicles and machinery	Site Manager

3.4 Site Waste Management

3.4.1 The following good site waste management practices will be implemented by the appointed contractor for the construction works:

Ordering

- Do not over order materials;
- Minimise ordering standard lengths as opposed to the 'real' lengths as this will increase potential for waste; and
- Think about delivery times.

Storage – Good Housekeeping

- Incorrect storage could lead to damage or contamination - replacement items are then required;
- Check shelf life and storage instructions on packaging;
- Segregate waste types – inactive, active, special, and then material types – metals, wood, concrete, plastic etc.;
- Recycle and reuse materials wherever possible e.g., timber, plastics, cardboard, tyres etc. Money can even be made from this!

- Waste must not be kept in a corroded or worn container;
- Ensure that any container is secure, where necessary, so as to prevent accidental spillage, leakage etc;
- Waste must be kept in a manner that prevents it from falling from containers while in storage or in transit;
- Waste must be protected in an appropriate manner to prevent scavenging from animals; and
- Do not allow waste storage containers to overflow.

Delivery and Handling

- Avoid damage during unloading;
- Unload in designated areas, where possible, to minimise double handling;
- Do not accept incorrect deliveries; and
- Be aware that repetitive handling leads to damage.

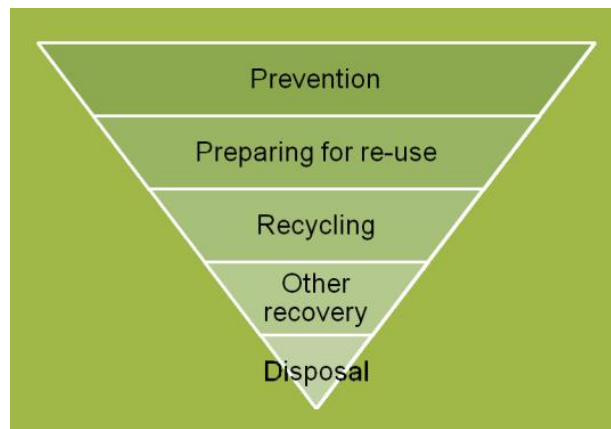
Waste Sorting, Storage and Recycling

- 3.4.2 Fully enclosed skips and other smaller containers will be used for all wastes on site. Waste materials will be sorted into separate skips to allow segregation of waste materials for recycling or recovery.
- 3.4.3 All the legal documents to ensure the Duty of Care for waste will be kept at the appointed contractor's site management office during the construction of the Wind Farm.
- 3.4.4 All waste leaving the Site will be accompanied with a Waste Transfer Note (WTN) (for non-hazardous material) or Hazardous Waste Consignment Note (HWCN).

Waste Hierarchy

- 3.4.5 Further to the above, the appointed contractor will be required to undertake waste management in accordance with the waste hierarchy to help ensure that the amount of waste generated is minimised, and where possible, recycled. **Figure 3.1** below sets out the waste hierarchy which will be used during the construction process.

Figure 3.1 Waste Hierarchy



Source: [Corporate cover and copyright page for consultations \(gov.wales\)](https://gov.wales/corporate-cover-and-copyright-page-for-consultations)

Sewage

- 3.4.6 All sewage will be captured in an enclosed self-contained tank, which will be emptied by a visiting tanker.

3.5 Details of Track maintenance, Oil Storage and Lighting Columns

- 3.5.1 Detailed Construction Method Statements will be prepared by the site team for each element of the works prior to commencement however the following sections provide an overview of the working methodologies which will be employed on the site during the construction period for these details.

Track Maintenance

- 3.5.2 A regular maintenance regime will be established to prevent water ponding and excessive build up on the track surface. This will generally be carried out by:
- Regular grading of the tracks to remove any slurry;
 - Topping the track with graded stone to ensure minimal ponding; and
 - Using an observational technique which will highlight areas that require additional maintenance.
- 3.5.3 Reinstatement of the sides of the access tracks will be undertaken where possible as the construction progresses. This will be dependent on a number of factors such as weather conditions, the programme, permanent cable location and the site track layout.
- 3.5.4 On completion of the access tracks, it is envisaged that any further disturbed ground would be reinstated.
- 3.5.5 A further reinstatement period will also be required at the end of the project to complete works to the site compound areas. Typically, turves and topsoil removed in the original excavation will be re-used in the restoration to ensure natural regeneration.

Oil Storage

- 3.5.6 A Water Management Plan (WMP), has been prepared in support of the CEMP and is attached as **Appendix B**.
- 3.5.7 The following general requirements will be followed on site:
- Spill Stations will be located at each work area where refuelling is carried out or any risk of spillage is identified. Positions will be reviewed continually and relocated to suit ongoing/programmed works;
 - Spill Response Instructions will be kept on prominent display at fuel storage areas, spill stations and in the site office;
 - Oil and fuel storage tanks will be self-bunded and will be physically protected by spill trays. All valves and tank couplings will be located within the tank bund, and a spill kit will be held beside the bulk storage tank;
 - Mobile plant and vehicles will be refuelled beside relevant tanks. Filler handles will be auto-shut-off trigger-spring type, i.e., as per garage pumps. They will be stored within the bund at all times. Static plant will be refuelled at their operational location using a mobile bunded fuel bowser or jerry cans (all static plant to have spill tray/plant nappy);

- All fuel and oil containers will be locked in a secure store to prevent theft and vandalism;
- Where fuel is to be transported in small quantities, only fuel-type marked 'jerry cans' 5/10/20 litre will be used. All bunds and settlement areas will be checked daily for evidence of pollutants. Adequate oil absorbent and containment materials must be held in signposted 'spill stations' and staff briefed on how to use spill equipment effectively; and
- Oil contaminated water from bunded areas, drip trays or plant nappies will be removed using oil-absorbent pads. Contaminated water or other materials will be disposed to an appropriate disposal site with the necessary paperwork in place in accordance with Site Waste Management arrangements (**Section** Error! Reference source not found.).

Lighting Columns

- 3.5.8 Should there be a need to provide temporary illumination of working areas in the mornings and evenings and also if any night-work is required so as to ensure safe working, then this will be achieved through the use of mobile lighting units. Although the Site is generally remote from residential properties, temporary lighting will be positioned in such a manner that light 'spillage' is avoided. No permanent lighting columns would be installed on site.
- 3.5.9 Temporary lighting during the construction phase would avoid lighting ditches, ponds, hedges and woodland. Motion sensors would be used, minimising the use of light; spill limited so only the task area is lit using accessories (e.g. hoods) to shield or direct light to where it is required. Lighting would use narrow spectrum light sources emitting minimal ultraviolet light peaking higher than 550 nm, white lighting should be of a warm /neutral colour temperature.
- 3.5.10 Where lighting cannot be avoided during the spring/summer months, advice will be sought from the project ecologist in respect of protected species and their sensitivities.

Access Tracks

- 3.5.11 The track design resulted from the optimisation of the following criteria:
- track length is kept to a minimum and utilises existing access tracks where possible to reduce environmental impact, construction time and material quantities (imported stone);
 - new track gradients are to be kept to less than 8 percent (1 in 12.5) and radius curves to 50m where practicable to accommodate the requirements of delivery vehicles and also to allow construction plant to move safely around the Site;
 - track layout is designed to reflect contours and avoid cross slopes and deep cut and fill into existing terrain where possible; and
 - tracks are routed to avoid sensitive ecological, archaeological and hydrological features, where possible.

3.6 Details for Post-Construction Restoration/Reinstatement of Temporary Working Construction Areas Not Required During the Operation of the Development

- 3.6.1 There will be a number of temporary working areas that will need to be created during the construction works. Following completion of the construction works, the land used for

temporary working construction areas will be returned to soft landscape elements to maximise biodiversity and appropriate to the overall land use as an area of upland grazing. These objectives are compatible with the Outline Landscape and Ecology Management Plan (LEMP) and should be considered in conjunction with this document. The LEMP will be secured via a suitably worded condition.

3.7 Construction SuDS

- 3.7.1 Throughout the construction phase of the development, Sustainable Drainage Systems (SuDS) will be provided. This will help to ensure that contaminated surface water runoff, arising from earthworks, roads, drainage, compounds and any other associated infrastructure, do not pollute any watercourses. Further details are provided in **Appendix B**.

3.8 Water Abstraction

- 3.8.1 There will be no abstraction from watercourses. In the event that there is not enough mains water available on site for plant washing and dust suppression, water may be tankered to the Site.

3.9 Public Safety and Access

- 3.9.1 Appropriate signage and fencing as necessary will be put in place on site during the construction works to ensure that public safety is maintained. Should there be any need to restrict access during the construction works, then this will be kept to a minimum and will only be for areas where there are active works taking place.
- 3.9.2 An information board will be kept adjacent to the site compound and site access which will provide information on the timing of construction works and contact details for the appointed site manager in the event of any queries.
- 3.9.3 A number of Public Rights of Way (PRoWs) within the Site boundary have been identified for diversion. Advisory safety signs will be placed on PRoW routes advising users of the construction works and the diversions to the PRoW network in place.
- 3.9.4 Signage will be required where a PRoW crosses the Site access to advise users of the construction works taking place. Occasional temporary, short restrictions may be required when abnormal loads of high traffic loads are expected. Such temporary restrictions will be managed by site staff (banksman) at the access point.

4. Topic Specific Management Plans

4.1 Dust Management

4.1.1 The main activities involved in this project which may cause dust emissions include the following:

- Construction vehicle movements;
- Cutting and grinding of concrete and blocks;
- Earthworks; and
- Stockpiles.

General Requirements

- 4.1.2 Particular care would be required to maintain dust emissions at a practicable minimum when working in the vicinity of residential properties and environmentally sensitive areas. Good practice mitigation would be required during dry conditions. The use of Best Practicable Means (as defined in Part III of the Environmental Protection Act 1990) would be employed. The appointed contractor will be responsible for undertaking and recording daily checks to manage dust emissions. The environmental measures to be implemented to control dust emissions during construction and decommissioning are:
- Check the local weather forecast at the start of the working day, to identify likely daily weather conditions;
 - The use of dust suppression facilities on-site. This would include the provision of water bowsers with sufficient capacity and range to dampen down all areas which may lead to dust escape on-site;
 - Any storage on-site of aggregate or fine material would be properly enclosed and screened so that dust escape is avoided. Adequate sheeting would also be provided for the finer materials which are prone to 'wind whipping';
 - Wheel wash facilities would be installed for vehicles entering and exiting the Site where required. This facility would be able to automatically clean the lower parts of the HGVs, by removing mud, clay etc from the wheels and chassis in one drive through operation;
 - HGVs entering and exiting the Site would be fitted with adequate sheeting to totally cover any load carried which has the potential to be 'wind whipped' from the vehicle;
 - Good housekeeping or 'clean up' arrangements would be employed so that the Site is kept as clean as reasonably practicable. There will be daily inspections of the working areas and immediate surrounding areas to ensure that any dust accumulation or spillages are removed/cleaned up as soon as reasonably practicable;
 - The appointment of a contact to whom complaints/ queries about construction dust can be directed. Any complaints to be investigated and action taken where appropriate.
 - Undertake regular visual checks throughout the day to ensure dust at the above locations is being suppressed;

- Avoid the use of open skips wherever reasonably practicable;
- In the event that dust is being blown off-site, cease dust generating activities until wind conditions improve or dust is suitably managed;
- Undertake regular visual checks throughout the day of dust management during earthworks and regular movement of HGVs on tracks;
- Actively monitor dust management and where dust pollution is likely to affect neighbours, cease all activities until suitable management procedures can be implemented;
- A record will be kept on site of all dust related complaints and remedial actions taken;
- Complaints will be reported to the Appointed Contractor’s Site Management Team and where required, a review of the dust management procedures will be undertaken; and
- Staff will be briefed on changes required to working practices to ensure the incident is not repeated.

4.1.3 In addition to the above daily checks, the following dust management procedures will be followed on site:

- All staff will be trained on the importance of dust management procedures;
- Activities on site will be planned to ensure risk of pollution from wind-blown dust is reduced to a minimum;
- The B4246 in the vicinity of the site will be monitored regularly and a road sweeper will be deployed along the B4246 should that be deemed necessary by Blaenau Gwent County Borough Council, Torfaen County Borough Council or the site manager.
- Only appropriate plant will be used, and all equipment will be regularly maintained; and
- Burning of materials is not permitted in any working area.

4.2 Noise Management

4.2.1 Whilst adverse effects from construction noise and vibration are considered very unlikely, the works to construct the Site and associated connection will be undertaken in accordance with best practice, and in line with specific measures set out in the CEMP. Embedded measures to minimise noise and vibration from the construction of the development are identified in **Table 4.1**.

Table 4.1 Summary of the embedded environmental measures related to noise

Receptor	Potential Changes and effects	Embedded Measures	Compliance Mechanism
All	Construction noise and vibration effects from site works	All construction activities undertaken in accordance with good practice as set out in BS5228-1:2009+A1:2014	Construction Environmental Management Plan (CEMP)

Receptor	Potential Changes and effects	Embedded Measures	Compliance Mechanism
All	Construction noise and vibration effects from site works	All employees on the construction site will be advised of quieter methods of operating plant and tools. Noise control measures (silencers, mufflers, any noise barriers, etc.) are to be subject to regular inspection and maintenance.	CEMP
All	Construction noise and vibration effects from site works	Where practicable, for any particular activity, suitable plant, machinery and working practices will be adopted.	CEMP
All	Construction noise and vibration effects from site works	Construction plant capable of generating significant noise and vibration levels will be operated in a manner to minimise noise emissions.	CEMP

4.3 Water Management Plan

- 4.3.1 A Pollution Prevention Plan (PPP) and surface water and groundwater management measures are included within the Water Management Plan (WMP) in support of the CEMP and is provided at **Appendix B**.

4.4 Land Contamination and geohazards

Introduction and the requirement for land contamination measures in the CEMP

- 4.4.1 The Phase 1 Geoenvironmental Desk Study¹ (**Appendix 11A** in the ES) completed for the Wind Farm site and Grid Connection identified potential contamination sources on the Wind Farm site as shown below and summarised in paragraph 4.4.2. For future developments, The Town and Country Planning Act 1990 requires the consideration of the potential for contamination to be present and ensure a site is suitable for the proposed end use.
- 4.4.2 In general, the identified sources of contamination are likely to be limited in extent or where larger potential sources are present (e.g., restored mine workings) they were considered in the Phase 1 Geoenvironmental Desk Study to present a low risk due to capping and/or lack of disturbance/exposure during routine site activities. However, moderate/low risks to current and future site users (site workers, public open space users) were identified, associated with possible asbestos in areas where landfill or suspected landfill, or made ground is present, and in proximity to demolished or dilapidated farm buildings where asbestos fibres could feasibly have been released to ground. It was also noted in the Phase 1 Geoenvironmental Desk Study that the Proposed Development could potentially expose soils currently covered by vegetation, increasing the risk of exposure. A moderate/low risk to current and future site users was assessed in relation to potential mine gas. The Proposed Development will have limited enclosed spaces where gas could accumulate, however The Coal Authority Report in the Phase 1 Geoenvironmental Desk Study notes remedial works for mine gas from the vicinity of the

¹ WSP (2023) Mynydd Llanhilleth Wind Farm, Phase 1 Geoenvironmental Desk Study (Ref. 807095-WOOD-RP-OG-0002_P01, November 2022).

Site, and the risk level reflects the severity of consequence of a contaminant linkage being realised.

- 4.4.3 The Phase 1 Geoenvironmental Desk Study recommends that to mitigate the risks associated with potential land contamination, a targeted ground investigation is needed in in areas where development is proposed. This must be undertaken during the pre-construction phase so that sufficient information on the ground conditions and chemical status of the soil, groundwater and ground gas is available that the land can be demonstrated to be suitable for the proposed end use.

Requirement to review and update the CEMP in relation to ground conditions

- 4.4.4 Compliance with the Environment Agency (2020, as updated), Land Contamination Risk Management (LCRM) guidance is a commitment stated in the ES, and LCRM advocates a phased approach to land contamination assessment, starting with desk study and site walkover (both completed for the Wind Farm site) then progressing to exploratory investigation. At each stage of land contamination risk assessment, hazards must be identified, and risks assessed using a source-pathway-receptor linkage approach to determine whether there are any potentially unacceptable risks requiring further investigation / assessment or remediation. The LCRM also requires the use of competent persons to carry out land contamination risk assessment and to carry out site work.
- 4.4.5 This CEMP will remain a live document throughout the pre-construction and construction phases and in relation to ground conditions, including land contamination, it will be reviewed and updated when further information on ground conditions is obtained by ground investigation or by other means. Based on the updated assessment(s), the CEMP will be updated to set out the required measures to mitigate any potentially unacceptable risks at each stage. This will enable the requirements detailed in **paragraph 4.4.4** to be complied with.
- 4.4.6 Potential geohazards are identified in the Phase 1 Geoenvironmental Desk Study. In relation to ground stability, the commitments in the ES include that design for the Proposed Development will comply with good practice in structural design including compliance with the Eurocodes and relevant British Standards. The design will account for the expected ground conditions and design loads, accounting for the effects of climate change. The ES also includes a commitment that the Proposed Development will be completed in accordance with The Construction (Design and Management) Regulations 2015 (CDM 2015). Under CDM 2015, designers must avoid foreseeable risks so far as reasonably practicable by: eliminating hazards from the construction, cleaning, maintenance, and proposed use and demolition of a structure; reducing risks from any remaining hazard; and giving collective safety measures priority over individual measures.
- 4.4.7 The Phase 1 Geoenvironmental Desk Study recommends that to mitigate the risks associated with potential geohazards, intrusive ground investigation is needed. This will enable the commitments detailed in **paragraph 4.4.6** to be complied with.

Pre construction phase ground investigation

- 4.4.8 The measures below are to inform the design of the first phase of pre-construction ground investigation so that sufficient information can be obtained to enable the Applicant to comply with the embedded measures in the ES to address potential effects of the Proposed Development on land contamination receptors, potential effects of temporary dewatering of excavations (where required) on local water receptors and to inform the design of the Proposed Development regarding mitigating risks associated with ground stability. Further phases of ground investigation may be needed during pre-construction, depending on the findings of the first phase.

- 4.4.9 The scope of the pre-construction ground investigation is to be confirmed, however as a minimum will include environmental testing of soil for potential contaminants, including asbestos, metals and hydrocarbons, in addition to geotechnical testing to inform the design and material selection. Deeper soil testing will be carried out as needed to inform the detailed (post consent) design of the Proposed Development in relation to former colliery tip areas or other areas of suspected made ground. The results of the soil testing will be used to carry out a contaminated land risk assessment to confirm that the soils are suitable for use in the Proposed Development. Monitoring for gas and groundwater is to be undertaken at the proposed turbine locations and associated with mine related features beneath access/internal roads to inform the design. The contaminated land risk assessment will be completed in accordance with the Environment Agency LCRM guidance.
- 4.4.10 If, during development, contamination not previously identified is found to be present at the Site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until a remediation strategy detailing how this unsuspected contamination shall be dealt with has been submitted to and approved in writing by the Local Planning Authority. The remediation strategy shall be carried out as approved prior to development taking place.

Development of a Materials Management Plan (MMP)

- 4.4.11 The ES includes the commitment to the use of a Materials Management Plan (MMP) which will cover the use of excavated materials on the Proposed Development site. The MMP will be developed following the phases of appropriate risk assessment (as outlined in **paragraph 4.4.4**) needed to underpin the Remediation Strategy or Design Statement for the Proposed Development prior to the construction phase. There must be sufficient information to demonstrate that the objectives of preventing harm to human health and pollution of the environment will be met if materials are used in the proposed manner.
- 4.4.12 Temporary storage of soils known or suspected to contain contaminants will be carried out in accordance with the MMP. Materials reused must be suitable for use without further treatment. The MMP will outline where excavated non-waste materials will be reused in line with the CL:AIRE Definition of Waste Code of Practice (DoWCoP). The MMP will include a declaration by a Qualified Person that the MMP has been completed in accordance with the DoWCoP and that best practice is being followed. The CEMP refers to the MMP. Ensuring that materials are actually treated and used as set out in the MMP and that this is subsequently demonstrated in a Verification Report.

Protection of workforce, site visitors and members of the public during the pre construction and construction phase

- 4.4.13 In relation to potential health effects of the Proposed Development on workers, site visitors or members of the public associated with land contamination during the pre construction and construction phases, all works will follow safe working practices as part of normal construction health and safety management under the Health and Safety at Work Act (1974) and regulations made under the Act. These legal obligations include the requirement for risk assessments and method statements for all construction related activities. Compliance with the Control of Asbestos Regulations 2012 (in relation to preventing the spread of asbestos) is also a commitment in the ES.
- 4.4.14 Risk assessments and method statements will include consideration of land contamination and ground instability in developing appropriate working methods and the use of appropriate Personal Protective Equipment (PPE).

4.5 Soil Storage and Management

- 4.5.1 This section of the CEMP sets out the measures to be used to help protect soil resources during construction in order to maintain soil health and functions and avoid degradation of the existing topsoil and subsoil on the Proposed Development site.
- 4.5.2 Soil stripped from the temporary construction compound and the turbine foundation area and any other areas on site where soil has to be stripped, will be stored in temporary mounds alongside each area, for re-spreading, following completion of turbine installation. Soils stripped from the crane hardstandings, will be stored alongside each area for future use in reinstatement.
- 4.5.3 The following measures will be employed on site to store and manage soil during the construction works:

Topsoil and Subsoil Storage

- 4.5.4 Storage and handling of soil will be informed by the Defra (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites to avoid damage to soil structure and help to minimise soil compaction.
- 4.5.5 During topsoil stripping, machinery with low ground pressure will be used to minimise soil compaction, including during construction of the access tracks, the tracks will then be available for heavier vehicles to use to avoid impacts on other areas.
- 4.5.6 If ground conditions require it, a temporary trackway of either metal, wood, or plastic, would be used for vehicles to access the working areas. This would be removed once construction is complete.
- 4.5.7 If unexpected contamination or suspected contamination is detected, additional testing and risk assessment will be required to determine appropriate measures. Materials will be segregated, where possible, to prevent cross-contamination occurring and will only be reused if confirmed to be suitable for use and in accordance with other requirements of the MMP.
- 4.5.8 Elements of the Proposed Development which require removal of topsoil during construction and where topsoil cannot be reinstated will be kept to the minimum footprint required for the Proposed Development
- 4.5.9 Where topsoil and subsoils are placed into storage, the following measures would be carried out to minimise the potential for compaction, especially in the bund core, and maintain biological activity:
- The soil would be placed in storage bunds, no more than 4m in height, and would be seeded with a suitable grass seed mix as soon as it is identified as likely to be left in storage for longer than 6 months.
- 4.5.10 Where this is not possible, the topsoil would be placed in storage bunds no more than 3m in height and would be seeded with a suitable grass seed mix, if anticipated to be left in storage for the winter or longer than 6 months.
- Temporary storage of soils will be carried out in accordance with the MMP. This document will outline where excavated non-waste materials will be reused in line with the CL:AIRE DoWCoP. The MMP will include a declaration by a Qualified Person that the MMP has been completed in accordance with the DoWCoP and that best practice is being followed.

- Permanently displaced soil will be reused within the Proposed Development application boundary where practicable in accordance with the MMP.

Subsoil Handling During Replacement

- 4.5.11 Where possible, and for much of the subsoil activity at the Site, the subsoil will be placed directly onto restored ground. This reduces the potential for soil degradation.
- 4.5.12 Before replacement of any topsoil, the subsoil layer will be lightly graded to provide a suitable bed for topsoil replacement.

Topsoil Handling During Replacement

- 4.5.13 Plant and machinery engaged in topsoil replacement operations shall only travel across previously replaced subsoil, via clearly marked access routes to avoid damage to any areas where topsoil has been restored.
- 4.5.14 The soil shall be replaced as a single unit by 'loose tipping' methods to ensure that a uniform restored, and uncompacted soil profile is achieved.
- 4.5.15 Following completion of the respreading of an area restored to topsoil, the surface will be lightly graded.

4.6 Ecological Management

ECoW

- 4.6.1 An Ecological Clerk of Works (ECoW) will be appointed prior to commencement of construction works on site. The ECoW will carry out pre-construction surveys and will advise on ecological and environmental matters during the construction of the wind farm and ensure compliance with the Ecological Construction Method Statement (ECMS), this will be prepared for pre-construction works.
- 4.6.2 Where necessary, Tool Box Talks (TBT) will be undertaken by the ECoW with the appointed contractor for the construction works and any sub-contractors, in order to ensure that there are no adverse impacts on any habitats or protected species.
- 4.6.3 The impacts that could arise during the Site enabling and construction phases are:
- Habitat loss/damage at work locations;
 - Disturbance/killing/injury to species; and
 - Contamination from accidental spillages.

Ecology Method Statements

- 4.6.4 Ecology Method Statements will be prepared in support of this CEMP in the form of an ECMS. These outline the general mitigation measures and procedures that must be followed where there is a potential for bats, reptiles, otters, badgers, nesting birds, and Section 7 'Priority species' to be affected by the construction works. They also explain the responsibilities of Pennant Walters and contractors, the legislative protection for these species and the measures required to avoid/minimise impacts on them and thereby the risk of criminal offences being committed.

General Ecology Mitigation

- 4.6.5 A number of general mitigation measures for ecology are required on site and include the following:
- All construction activity will be limited to clearly-defined working areas, vegetation clearance will be kept to a minimum;
 - Habitats which would be subject to temporary loss, will be re-vegetated and reinstated as soon as possible after construction.
 - Storage of materials will be confined to areas of hard standing and appropriately located away from sensitive features, such as those areas of known value to protected species and watercourses
 - Construction areas, including access tracks, site compounds and storage areas will be marked with signage/barriers or taped off at all times during construction activities. No access beyond these delineated boundaries is permitted without prior authorisation from the appointed contractor's site manager.
 - Periodic ecological inspections and supervision of any sensitive works or receptors will be carried out by the ECoW.
 - Tree protection fencing will be implemented around root protection zones when working near mature trees and hedges.
 - All site staff will be briefed on procedures to be implemented if any protected species are found within the working area. In the event that a protected species is encountered during the course of the works, all works will be stopped, and the sighting will be reported to the site management team, who will liaise with the ECoW.

4.7 Archaeology & Cultural Heritage Management

- 4.7.1 A Written Scheme of Investigation (WSI) for archaeological mitigation will be prepared in response to any potential requirements of the planning permission. The details of the WSI will be agreed with the Glamorgan-Gwent Archaeological Trust (GGAT) who advise Blaenau Gwent and Torfaen County Borough Council.
- 4.7.2 In addition to any appropriate mitigation measures for direct impacts on archaeological historic assets, the WSI will set out the agreed method statement for archaeological measures pertaining to the construction of the wind farm. This will include the protection and temporary fencing of known non-designated assets located within the Development Site in proximity to construction works. The WSI may allow for observation on the archaeological resource by targeting key areas. The mitigation strategy (archaeological measures) will be devised to be appropriately responsive to the potential nature of the archaeological resource and the character of the proposed works.

Site Specific Constraints

Designated Historic Assets

- 4.7.3 No designated historic assets are located within the Development Site and so none will be directly affected by the construction works.

Non-Designated Heritage Assets

- 4.7.4 One non-designated historic asset is located within the Development Site that will be subject to a direct impact from the Proposed Development.
- 4.7.5 Seven non-designated historic assets are located within the Development Site that will not be subject to any direct impacts from the Proposed Development.
- 4.7.6 The WSI will provide a mitigation strategy (appropriate fencing) to ensure that the construction works do not adversely impact on these non-designated assets.

General Archaeology Requirements

- 4.7.7 The following other general archaeology requirements should be followed:
- The Site Management Team and all site-based staff (including subcontractors) must take all reasonable actions to protect recognised cultural heritage assets. Staff must also be vigilant for potential archaeological discoveries; and
 - If suspected archaeological finds are made, these will be protected by fencing off the area until an Archaeologist is contacted.
- 4.7.8 If any human remains or treasure is found, then the following guidance should be followed:

Human Remains

- 4.7.9 In the event of human remains being encountered, work will cease, and the area made secure. Blaenau Gwent and Caerphilly local authorities will be informed, and a licence will be obtained from the Ministry of Justice (if required under the 1857 Burials Act) prior to any removal of human remains.

Treasure

- 4.7.10 The Treasure Act 1996² sets out a legal requirement that archaeological material which meets the statutory definition of treasure must be reported to the local coroner within 14 days. The definition of treasure as set out by the Act and modified by the Treasure (Designation) Order 2002 is:
- Any metallic object, other than a coin, provided that at least 10 per cent by weight of metal is precious metal (that is, gold or silver) and that it is at least 300 years old when found. If the object is of prehistoric date it will be treasure provided any part of it is precious metal;
 - Any group of two or more metallic objects of any composition of prehistoric date that come from the same find (see below);
 - All coins from the same find provided they are at least 300 years old when found (but if the coins contain at least 10 per cent of gold or silver there must be at least ten of them);
 - Only the following groups of coins will normally be regarded as coming from the same find: (a) hoards that have been deliberately hidden, (b) smaller groups of coins, such

² UK Government (1996). Treasure Act 1996. (Online) Available at: <http://www.legislation.gov.uk/ukpga/1996/24/contents> (Accessed April 2022)

as the contents of purses, that may have been dropped or lost, and (c) votive or ritual deposits;

- Any object, whatever it is made of, that is found in the same place as, or had previously been together with, another object that is treasure³; and
- Any object that would previously have been treasure trove but does not fall within the specific categories given above. Only objects that are less than 300 years old, that are made substantially of gold or silver, that have been deliberately hidden with the intention of recovery and whose owners or heirs are unknown will come into this category.

³ An object or coin is part of the 'same find' if it is found in the same place as, or had previously been together with, the other object. Finds may have become scattered since they were originally deposited in the ground.

5. Site Environmental Inspection and Auditing Procedures

5.1 Site Environmental Inspections

- 5.1.1 Environmental inspections of the project will be carried out on a regular basis and the results recorded on form MS-HSSE-1201-4 (see **Appendix C**). Such inspections will vary according to the individual receptor. These inspections will consider the environmental aspects and potential construction impacts detailed above in Section 3. A suitably qualified ECoW will be appointed to supervise and inspect works as necessary. More detailed audits will be carried out by the Site Management Team periodically in accordance with Pennant Walters's protocol. Such audits will be undertaken in order to ensure compliance with the approved planning conditions and all other legal requirements.
- 5.1.2 Records of all training carried out at the Wind Farm (including inductions) will be retained and made available for viewing during environmental audits if required.
- 5.1.3 If a complete failure or absence of a required CEMP element is discovered during site audits, a major non-conformance will be raised. The project will have seven (7) days from the date of issue of the audit report to recover the situation and put measures in place to prevent its re-occurrence.
- 5.1.4 If an area of weakness is identified when an element of the system is not being carried out correctly, then a non-conformity will be raised, and the project will be given one month from the date of issue of the report to rectify the situation.

5.2 Environmental Audits

- 5.2.1 A planned programme of compliance audits will verify the integrity and effectiveness of the environmental management system used throughout this project and may include site visits. The purpose of any visit includes:
- Ensuring that this CEMP and all other environmental commitments are being adhered to and that the relevant documentation is being completed;
 - Ensuring that progress towards environmental objectives and targets is being monitored;
 - Ensuring that legislation and all other requirements are being complied with;
 - The audit report shall make recommendations for improvement and identify the appropriate personnel and timescales for completing these actions. The contents of the report shall, if necessary, be discussed at site HSSE meetings; and
 - Following the audit, if deemed necessary an investigation shall be instigated and corrective actions taken. The effectiveness of any resultant actions carried out will be assessed by the project at an appropriate time scale.

6. Document Control and Environmental Nuisance Complaints

6.1 CEMP Document Control

- 6.1.1 This CEMP is a working document. **Appendix D** contains a CEMP Revision Control Register which will be maintained by the appointed contractor's Environmental Management Team. The register will show any revision numbers, revision details and dates for the main CEMP and all Appendices.

6.2 Register for Environmental Nuisance Complaints

- 6.2.1 Should any complaints be received which are of an environmental nature, then these would be recorded on the complaint register (see **Appendix E**). This register will be maintained within the environmental file on site and made available during environmental audits if required. All environmental complaints will be discussed as part of regular environmental progress meetings.

7. Re-Instatement Measures

7.1.1 Any post construction requirements (for example re-instatement works) are to be confirmed with the appointed contractor for the construction works and agreed with Local Council/landowner/statutory bodies as appropriate. Any such requirements would be documented in the following table:

Table 7.1 Project Completion Requirements

Post Construction Requirements	Action	Responsibility

- 7.1.2 Whilst, as noted above, re-instatement measures will be confirmed with the appointed contractor in due course, reinstatement will occur as soon as the Wind Farm construction is finished to minimise topsoil storage time and potential for erosion. In addition, and set out below are some general re-instatement measures for the appointed contractor to follow:
- as each area of the Wind Farm is completed, that part of the site will be reinstated using selected excavated materials arising from the track, crane hardstanding and turbine foundation excavations;
 - as far as practicable, and subject to environmental and hydrological considerations, such materials will be reused throughout the site for reinstatement and landscaping to minimise the requirement for importing/exporting material;
 - site reinstatement of all peripheral areas of the site disturbed during construction will be restored, as far as is practicable, to their condition prior to commencement of the development using stripped and stored topsoil/subsoil;
 - all temporary works and fences will be removed. Where necessary, stored topsoil will be spread, rolled and re-seeded and the area put back into its former use;
 - wind turbine foundations will be backfilled and reinstated, subject to relevant drainage considerations, using stored excavated subsoil and topsoil and the surrounding land returned to its former use;



- the site tracks and crane hardstandings will be graded following completion of construction works;
- the site compound will be restored at the end of the construction period. Reinstatement will involve removing the imported material and underlying geotextile if installed. Stored subsoil and topsoil will be spread, rolled and re-seeded and the area put back into its former use; and
- upon completion, all construction plant will be removed from the site.

7.1.3 An audit will be undertaken to ensure that any project completion requirements have been satisfactorily completed and will be documented in **Table 7.2** below

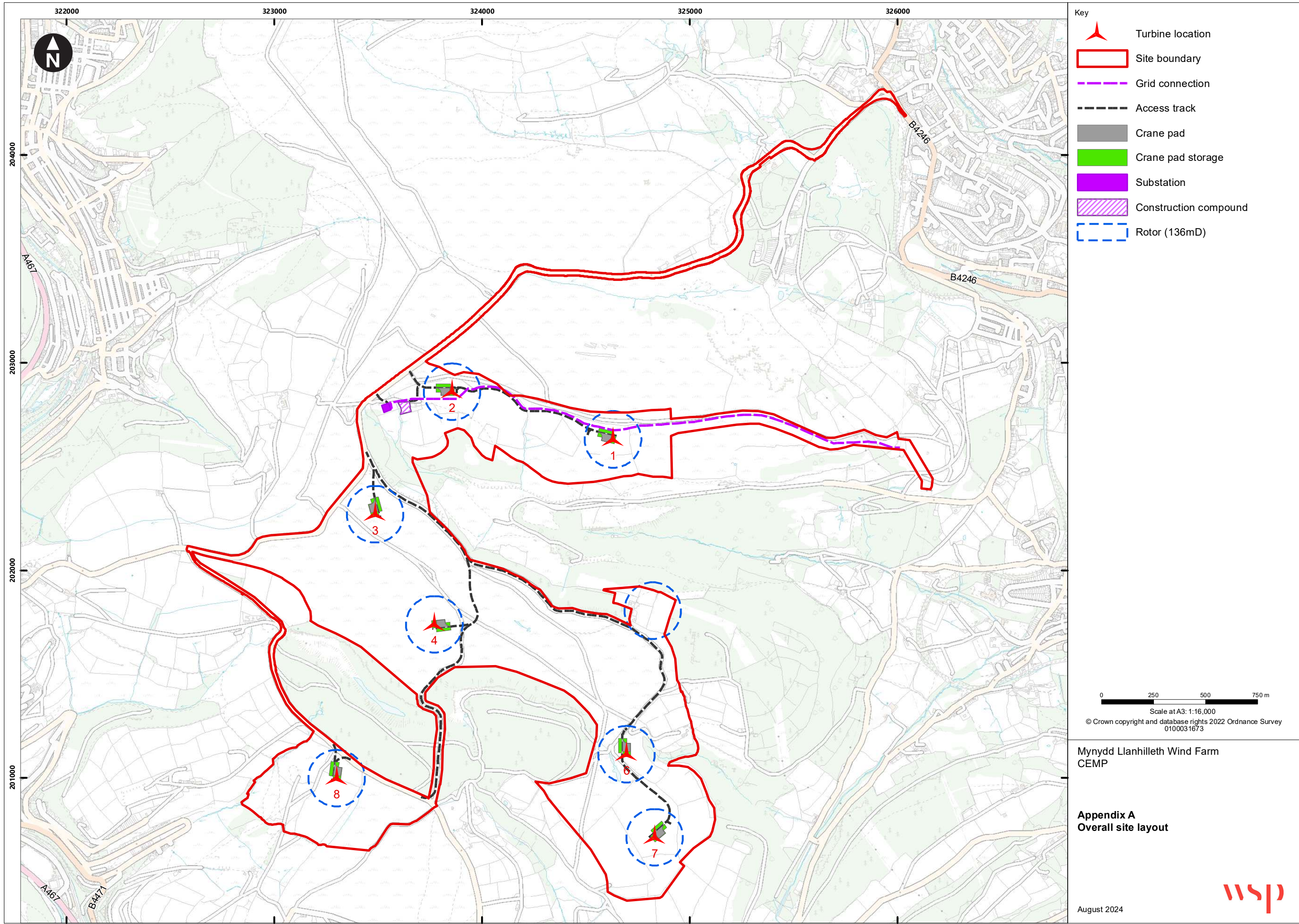
Table 7.2 Audit Record

Audit	Date Undertaken	Summary of Findings	Responsibility

Appendix A

Site Plans

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Appendix B: Water Management Plans



Pennant Walters Ltd

Mynydd Llanhilleth Wind Farm

Outline Construction Environmental Management Plan
Appendix B Water Management Plan



Report for

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Management systems

This document has been produced by WSP Environment & Infrastructure Solutions UK Limited in full compliance with our management systems, which have been certified to ISO 9001, ISO 14001 and ISO 45001 by Lloyd's Register.

Document revisions

No.	Details	Date
01	Draft Submission	November 2022
02	Final Submission	June 2023
03	Final Resubmission	August 2024

Contents

1.	Introduction	2
1.1	Purpose of this Document	2
1.2	Development Proposal	2
1.3	Structure of this Document	2
2.	Water Management	3
2.1	Introduction	3
2.2	Surface Water Management	3
2.3	Proposed SuDS Solution	3
2.4	Groundwater Management	4
3.	Pollution Control Measures	5
3.1	Introduction	5
3.2	Pollution Prevention Guidance	5
3.3	Protection of Watercourses	6
	Specific Measures for Preventing Pollution from Surface Water Discharges	6
	Specific Measures for Preventing Pollution from Watercourse Crossings	6
	Specific Measures for Preventing Pollution from Stockpiles and Exposed Ground	6
	Specific Measures for Preventing Pollution from Concrete and Cement	7
	Specific Measures for Preventing Pollution from Storage and Use of Oils and Chemicals	7
	Specific Measures for Preventing Pollution from Refuelling Activities	8
	Specific Measures for Preventing Pollution from Vehicle and Wheel Washing	8
3.4	Protection of Groundwater	9
3.5	Water Quality Monitoring	9
Table 2.1 Indicative proposed SuDS Solution for the Proposed Development (construction phase)		4

1. Introduction

1.1 Purpose of this Document

- 1.1.1 The objectives of this document are to set out working methods to protect surface water and groundwater from pollution and other adverse impacts, including change to flow and water levels, during the construction phase of the proposed Mynydd Llanhilleth Wind Farm, hereafter referred to as 'the Proposed Development'.

1.2 Development Proposal

- 1.2.1 A summary description of the Proposed Development is provided below. A more detailed description is provided in the ES **Chapter 4: Description of the Proposed Development**.
- 1.2.2 The Proposed Development is a wind farm consisting of a maximum of seven wind turbines, each with a three-bladed rotor with a diameter of up to 150m, a hub height of 122m and maximum height to blade tip of 180m. The Proposed Development also comprises associated infrastructure including internal wind farm access tracks, crane pads and blade storage at each of the turbines, a temporary construction compound (TCC), on-site substation and grid connection infrastructure (underground cable).
- 1.2.3 The Proposed Development area lies across both the Blaenau Gwent County Borough Council (BGCBC) and Torfaen Borough County Council (TCBC) administrative areas, approximately 3km southeast of Abertillery and 4.5km northwest of Pontypool. The Site is accessed by a track running from Golynos to the northeast of the Proposed Development area.
- 1.2.4 The Proposed Development area sits on a watershed between the Afon Ebwy Fach/Afon Ebwy catchment to the west, and the Afon Lwyd catchment to the east, both of which are classified as Main Rivers by NRW. The Proposed Development area is intersected by the headwaters of several tributaries of the Afon Ebwy and Afon Lwyd which are classified as Ordinary Watercourses. The headwaters of the Nant Cwmmllwydrew, Nant Cyffin and Nant y Cnyw intersect the west and southwest boundary of the Proposed Development area and drain south into the Afon Ebwy. The headwaters of the Nant Ffwydd-oer, Nant Caws and Nant Dbu intersect the southeast limits of the Proposed Development area and drain east into the Afon Lwyd catchment.

1.3 Structure of this Document

- 1.3.1 The document is structured as follows:
- Section 2 – provides a description of the proposed surface water management, groundwater management and required consents/permits during the construction phase of the Proposed Development;
 - Section 3 – sets out mitigation measures designed to prevent the potential release of pollutants from the Proposed Development construction areas; and
 - Section 4 – sets out the flood emergency management measures for the construction phase of the Proposed Development.

2. Water Management

2.1 Introduction

- 2.1.1 This Section provides a description of the proposed surface water management (**Section 2.2**), groundwater management (**Section 2.3**) and required consents/permits (**Section 2.4**) during the construction phase of the Proposed Development.

2.2 Surface Water Management

- 2.2.1 Flooding from surface water sources is a potential risk when the intensity of rainfall is greater than the local drainage and infiltration capacity, causing water to flow overland. Where low-points or barriers to flow are present, particularly deep areas of flooding may occur. It is therefore important to consider changes in surface water runoff patterns during the construction of the Proposed Development.
- 2.2.2 The creation of the hardstanding surfaces associated with temporary hardstanding during construction and permanent hardstanding areas of the Proposed Development have the potential to increase surface water runoff rates and volumes and modify runoff pathways. Appropriate management of surface water will therefore be necessary to ensure risks to on-site and off-site (down-gradient) third party receptors are appropriately addressed.
- 2.2.3 The following measures will be implemented by the Site Contractor to manage surface water runoff during the construction phase of the Proposed Development:
- Water pumped from excavations and surface water runoff from new areas of hardstanding will be collected using SuDS features (including ditches, check dams and swales) and allowed to infiltrate at source. Further investigation of the viability of infiltration as a means by which water could be discharged to ground will be undertaken post-submission of the ES to inform final design for construction. In the case that the soakaway testing concludes that infiltration is not solely sufficient in managing runoff, and discharge to the watercourse is required, this will be subject to a Consent from NRW and from BGCBC and TCBC via approval from Caerphilly County Borough Council (CCBC) as the SuDS Approval Body (SAB) who undertake this role on behalf of BGCBC and TCBC¹. Any discharge to surface water would be restricted to the greenfield runoff rate; and
 - Temporary dewatering of excavations would be suspended if a flood alert or flood warning is in place downstream (and the on-site discharges could feasibly contribute to the flood event).

2.3 Proposed SuDS Solution

- 2.3.1 The indicative SuDS solution proposed for the construction and operational phases of the Proposed Development is set out in **Table 2.1**.

¹ See: <https://www.blaenau-gwent.gov.uk/en/resident/planning/how-to-apply-for-planning-permission/permission-for-drainage/> (accessed August 2022)

Table 2.1 Indicative proposed SuDS Solution for the Proposed Development (construction phase)

Proposed Development element	Indicative SuDS
TCC	<p>Permeable sub-base (uncompacted Type 3 stone) to be used, with a minimum depth of 200mm, across the entire compound. If infiltration rates are favourable, then surface water will infiltrate at source. If an outlet is required, then a perforated pipe will collect water within the stone and direct it towards the nearest open channel, alongside the access track.</p> <p>Runoff from the roof is proposed to be captured using a rainwater harvesting system for all on-site non potable water usage.</p> <p>Further details will be developed at detailed design stage.</p>
Crane pads	The crane pads will be exposed during the construction period, considered to be up to 6 months in duration. Attenuation is proposed in the form of a ditch downslope of the pad.

2.4 Groundwater Management

- 2.4.1 Excavations associated with the construction phase of the Proposed Development are of limited duration, footprint and depth including the turbine foundations (20m diameter x 4m depth) and underground cables (trench width of 0.60m to 1.5m and depth of up to 1.5m). The potential for encountering groundwater during excavations is considered to be limited, and where encountered, it is likely to be of low sensitivity, perched and in small quantities.
- 2.4.2 Any groundwater dewatered from excavations (e.g., excavations associated with turbine foundation and underground cables linking the turbines to the substation) would be discharged to adjacent ground, away from watercourses as far as possible. If infiltration is not possible, and discharge to the watercourses is required, this will be subject to a Consent from the NRW and CCBC (on behalf of BGCBC and TCBC) and dewatering would be suspended if a flood alert or flood warning is in place downstream (and the on-site discharges could feasibly contribute to the flood event).
- 2.4.3 Any discharge to surface water would be restricted to the greenfield runoff rate and will be treated in a suitable basin/trench before discharging.

3. Pollution Control Measures

3.1 Introduction

- 3.1.1 This Section sets out mitigation measures designed to prevent the release of pollutants from the Proposed Development construction areas. This is because contaminated runoff has the potential to impact on the water quality of receiving water bodies (**Section 10.9 of ES Chapter 10: Water Environment**). An overview of the relevant pollution prevention guidance is first provided in **Section 3.2** followed by a description of the pollution control measures for watercourses (**Section 3.3**) and groundwater (**Section 3.4**) and the water quality monitoring programme (**Section 3.5**).

3.2 Pollution Prevention Guidance

- 3.2.1 NRW direct developers to a range of guidance documents covering pollution prevention published on the NetRegs website². Some of these documents have been rebranded as Guidance for Pollution Prevention (GPP) documents, whilst others remain as Pollution Prevention Guidance (PPG) documents, awaiting updates. This suite of guidance will be followed during construction of the Proposed Development to prevent pollution of the water environment. This is not an exhaustive list and will need to be developed further by the Applicant prior to construction.

- GPP 1: Understanding your environmental responsibilities - good environmental practices;
- GPP 2: Above ground oil storage tanks;
- GPP 3: Use and design of oil separators in surface water drainage systems;
- GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer;
- GPP 5: Works and maintenance in or near water;
- PPG 6: Working at construction and demolition sites;
- PPG 7: Safe storage – The safe operation of refuelling facilities;
- GP 8: Safe storage and disposal of used oils;
- GPP 13: Vehicle washing and cleaning;
- PPG 18: Managing fire water and major spillages;
- GPP 20: Dewatering underground ducts and chambers;
- GPP 21: Pollution incident response planning; and
- GPP 26: Safe storage - drums and intermediate bulk containers.

² See: <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/guidance-for-pollution-prevention-gpps-full-list/> (accessed June 2023)

3.3 Protection of Watercourses

- 3.3.1 Construction activities may adversely affect the quality of surface water or groundwater as a result of contaminated runoff from, or spillages within the construction areas. Control and mitigation measures to be implemented to prevent pollution are set out below.

Specific Measures for Preventing Pollution from Surface Water Discharges

- 3.3.2 Pollution control measures with respect of surface water discharges include:
- Surface water runoff from the construction areas will be collected, attenuated and treated in SuDS prior to discharge, either by infiltration to the ground or into an open surface water body (**Table 2.1**). Water disposal route will be confirmed post-ES submission and will be subject to a Consent from NRW or BGCB and TCBC via approval from CCBC; and
 - If dewatering of the excavations is required, appropriate treatment will be provided before discharge to surface water or groundwater. No silty water will be pumped directly into any watercourse.

Specific Measures for Preventing Pollution from Watercourse Crossings

- 3.3.3 Site specific pollution control measures for the watercourse crossings will be employed in line with the PPG guidelines detailed in Section 3.2, with the provisions of PPG5 being particularly pertinent. These include:
- If dewatering of any open trench excavations is required appropriate treatment of the pumped water will be provided before discharge to adjacent ditches or ground, and this could include the use of silt busters (or similar), if necessary;
 - Surface water runoff from exposed ground and stockpiles will be collected and treated (for example silt busters (or similar)) prior to discharge to adjacent ditches or ground; and
 - All equipment containing hazardous fluids will have double skinned fuel tanks or be parked on drip trays with appropriately sized PVC berms to contain any fluid spills or storm water runoff. Spill kits will be carried on all plant that operates with hazardous fluids.

Specific Measures for Preventing Pollution from Stockpiles and Exposed Ground

- 3.3.4 Pollution control measures with respect to stockpiles and exposed ground include:
- Minimise the amount of exposed ground and soil stockpiles from which water drains and the period of time such water drains (any surplus excavated materials would be disposed of off-site as early as possible);
 - Only remove vegetation from the area that needs to be exposed in the near future (ensure a vegetated strip will be left adjacent to any watercourses in accordance with the 20m stand-off distance from any watercourse);
 - Stockpiles will be present for the shortest practicable timeframe, with materials being reinstated as the construction work progresses. Stockpiles which remain present for three months or longer will be carefully managed using seeding techniques;

- Excavated materials during construction works will be segregated and stored or re-used on-site in compliance with the CL:AIRE Definition of Waste: Code of Practice. The appointed contractor will prepare a Materials Management Plan (MMP) prior to construction, responding to the final design and balance of materials that need to be managed. Any temporary onsite storage of excavated materials suspected or confirmed to be contaminated will be on impermeable sheeting, covered over and with adequate leachate / runoff drainage to prevent migration of contaminants from the stockpile. Materials will be segregated where possible to prevent cross-contamination occurring. Such materials will only be reused if they are confirmed as suitable for use in line with the requirements of the Materials Management Plan; and
- Detention basins, swales, straw bales will be provided where necessary to remove suspended solids from runoff from stockpiles before discharge into the watercourses (see above). Where used, straw bales will be removed and replaced every three weeks.

Specific Measures for Preventing Pollution from Concrete and Cement

3.3.5 Pollution control measures with respect to safe storage and use of concrete and cement, concrete and cement mixing and washing areas should:

- Be sited no closer than 30m from any watercourse or surface water drain to minimise the risk of contaminated runoff entering a watercourse;
- Have settlement and re-circulation systems for water re-use, to minimise the risk of pollution and reduce water usage; and
- Dispose of contained water to either foul sewer if possible or tanker off site.

Specific Measures for Preventing Pollution from Storage and Use of Oils and Chemicals

3.3.6 Pollution control measures with respect to safe storage and use of oils and chemicals include:

- Fuel storage will be in accordance with the Control of Pollution (Oil Storage) (Wales) Regulations 2016³ and other NRW recommended guidance (in particular the following documents on the NetRegs website²: GPP1, GPP2, GPP3, PP7, GPP8 and GPP26). All stores of fuel will be located at least 10m from any watercourses, at least 50m from any well, borehole or spring, and away from areas at risk of flooding;
- Areas that are used for fuel storage, plant maintenance and refuelling will be surfaced with fully impermeable materials to prevent any infiltration of contaminated runoff and within a secondary containment system such as a bund;
- Any tanks containing oils, fuels and chemicals will be double skinned. There will be a bunded capacity of 100% of the maximum tank volume for non-hazardous fluids. For hazardous chemicals, fuels or oils bund capacity will be the larger of 110% of the largest tank volume for single tank bunds, (or, in the case of multi tank bunds, 110% of the largest tank capacity or 25% of the combined tank capacity, whichever is the largest);
- An accident response protocol will be developed to ensure any spillages or potential pollution incidents are dealt with appropriately including the provision of containment

³ See: <https://naturalresources.wales/media/681287/osr-wales-faq-rt-pc-final-draft-v2-01022017.pdf> (accessed June 2023)

for spills of contaminated liquids. Appropriate spill kits should be stored in the immediate vicinity of the storage facility, and trained staff should be available in case of incident;

- Plant and machinery will be maintained to minimise the risks of oil leaks or similar;
- Areas for transfer of contaminating materials/substances (i.e., from vehicular tankers to onsite storage tanks) will be protected in a similar manner to the measures outlined for the storage areas;
- All oiling and greasing will take place above a drip tray or on an impermeable base to protect underground strata and be located away from drains, watercourses, or abstraction locations;
- Drip trays will be placed below static mechanical plant;
- If possible, use a biodegradable hydraulic oil in plant, when working in or near watercourses;
- If possible, use water based or low solvent products; and
- Avoid products containing lead as a drying agent and those containing hazardous solvents (toluene or chlorinated hydrocarbons).

Specific Measures for Preventing Pollution from Refuelling Activities

3.3.7 The following pollution control measures with respect to refuelling will be implemented (risk of spillage is greatest when refuelling plant):

- Refuel mobile plant in designated areas, or on impermeable base a minimum of 30m away from drain, watercourses, or abstraction locations;
- Use a bunded bowser;
- Supervise all refuelling and bulk deliveries;
- Check the available capacity in the tank before refuelling;
- Don't jam open a delivery valve;
- Check hoses and valves regularly for signs of wear;
- Turn off valves after refuelling and lock them when not in use;
- Position drip trays under pumps to catch minor spills;
- Keep a spill kit with sand, earth, or commercial products for containment of spillages; and
- Provide incident response training to staff and contractors.

Specific Measures for Preventing Pollution from Vehicle and Wheel Washing

3.3.8 Pollution control measures with respect of vehicle and wheel washing on site include:

- Vehicle washing and cleaning will be carried out in areas that are clearly marked and isolated from surface water drainage systems, unmade ground, and porous surfaces (designated washing bays); and

- A designated washing bay should be designed so that runoff is isolated using channels, gullies, gradients, directed to a silt trap or sediment tank to remove larger particles, and either collected in a sealed system for re-use or authorised disposal or discharged to public foul sewer (subject to approval).

3.4 Protection of Groundwater

- 3.4.1 The pollution prevention measures outlined above, along with good construction practices would ensure that any oils, fuels, solvents, and other pollutants used during the construction process will not discharge to the ground. Such measures would also ensure that surface water bodies that may be hydraulically linked to groundwater would not be impacted upon by groundwater.

3.5 Water Quality Monitoring

- 3.5.1 A water quality monitoring programme will be agreed with NRW and implemented during the construction phase. This could include monitoring of the discharges to surface water (if any proposed) to demonstrate that the discharges are not having an impact on the receiving watercourse. The frequency, duration and analytical suite of the monitoring programme will be agreed with NRW or BGCBC and TCBC prior to the commencement of construction activities.
- 3.5.2 The water quality management plan will include:
- Private Water Supply Assessment;
 - Details of the monitoring methods/sampling programme (including increased frequency of monitoring during the winter period);
 - Timescales for construction;
 - Timescales for submission of monitoring and interpretative reports to the LPA during construction; and
 - Details of triggers for specific action and any necessary contingency actions.

Appendix C

Environmental Inspection Form

Contract Name		Contract Number		
Date:	Time:	Area:		
		Yes	No	N/A
Waste				
Are Skips/Containers in good condition?				
Are skips overfull?				
Are they clearly labelled with the contents?				
Are the waste streams (general, hazardous, and recyclable waste) segregated correctly?				
Drums, Cans etc.				
Are drums stored in safe area when not in use?				
Are they sealed to prevent leaks?				
Are funnels, drip trays used during filling of plant?				
Bunds / Bowsers / Containment				
Are bunds in good condition and free from excess oil / water / debris?				
Are Drains covered near operations?				
Are Bowsers Securely locked while				
Plant				
Is plant in good condition?				
Are any spills evident				
Are drip trays being used when refuelling?				
Are drip trays located beneath mobile plant?				
Are adequate spill kits available and labelled?				
Is unused mobile plant sited in plant compound?				
Are signs and warnings visible?				
Is the mobile hand pump in good condition?				
Nuisance				
Are machines switched off when not used				
Any excessive noise				
Is there adequate lighting				
Is there any silt / particulates / oil / grease or colour in any of the watercourses?				
Are stockpiles / mounds etc not located close to any sensitive receptors such as watercourses?				

Contract Name		Contract Number		
Date:	Time:	Area:		
		Yes	No	N/A
Is there any excessive dust? Are control measures being adhered to?				
Is there any evidence of contamination on public roads (mud, etc)				
Is there any evidence of interference with vegetation?				
Is there any evidence of damage to wildlife?				

Appendix D

CEMP Control Revision Register

Date	Revision	Author

Appendix E

Register for Environmental Nuisance Complaints

Complaint No.	Date	Complainant	Description of complaint	Actions taken	By whom	Accepted yes/no	Completion date
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

