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Construction Environmental
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Non-Technical Summary

National Grid Electricity Distribution (NGED) is proposing the construction of a new primary electricity substation at Alexandra Docks, Newport. The substation will improve the resilience and capacity of the local electricity network.

This Construction Environmental Management Plan (CEMP) explains how environmental risks will be managed during the construction phase of the development.

The site is located within an operational dock environment and is surrounded by industrial land uses. It is adjacent to dock waters which are connected to the River Usk and Severn Estuary, both of which are environmentally designated areas. The site is also located within an area identified as being at risk of tidal flooding during extreme weather events.

The CEMP has been prepared to ensure that construction activities:

- ⊕ Do not cause pollution of dock waters or nearby rivers;
- ⊕ Do not increase flood risk elsewhere;
- ⊕ Protect retained trees and vegetation;
- ⊕ Manage noise, dust and traffic appropriately;
- ⊕ Safeguard any potential archaeological remains;
- ⊕ Comply with national and local planning policy.

During construction, a range of environmental protection measures will be implemented, including:

- ⊕ Strict controls on fuel storage and refuelling;
- ⊕ Spill kits and emergency response procedures;
- ⊕ Protection of surface water drainage systems;
- ⊕ Containment of concrete washout;
- ⊕ Dust suppression during dry conditions;
- ⊕ Use of well-maintained plant to minimise noise;
- ⊕ Archaeological supervision of groundworks;
- ⊕ Monitoring of flood warnings and weather forecasts.

Ground levels within the site will be raised in accordance with the approved Flood Consequence Assessment to ensure that critical infrastructure remains protected during extreme tidal events.

The appointed contractor will be required to follow this CEMP throughout the construction period. Environmental inspections will be undertaken regularly, and any incidents will be recorded, investigated and addressed promptly.

This CEMP demonstrates that the construction of the Alexandra Docks Primary Substation can be undertaken in a controlled and responsible manner, without unacceptable impact on the surrounding environment or designated ecological sites.

1.0 Introduction

1.1 Background

National Grid Electricity Distribution (NGED) is the licensed electricity distribution network operator for Southwest England, the Midlands and Wales. NGED proposes the construction of a new primary substation at Alexandra Docks, Newport, to support the resilience and capacity of the local electricity network.

The proposed development comprises the construction of a new electrical compound including transformers, a switch room building, internal access arrangements and associated drainage infrastructure within land currently forming part of the operational port estate.

This CEMP has been prepared in support of a full planning application for the development.

This CEMP has been prepared to outline the potential environmental impacts of the proposed construction works and the mitigation measures which will be used to minimise these whilst complying with Policy GP5 of the Newport Local Development Plan 2011–2026.

The CEMP identifies environmental risks associated with the construction phase and sets out the procedures, control measures and monitoring mechanisms that will be implemented to ensure that construction activities are undertaken in an environmentally responsible manner.

1.2 Site Setting

The proposed substation site is located within Alexandra Docks, forming part of the wider Newport Docks operational area. The site lies adjacent to the North Dock waterbody and approximately 175 metres west of the River Usk.

The surrounding land uses are industrial and port-related in character. There are no residential receptors within close proximity to the site.

The site currently accommodates an existing substation which is to be demolished by Associated British Ports (ABP) prior to NGED taking possession of the site.

The site lies within Flood Zone 3 and is subject to tidal flood risk associated with the River Usk and Severn Estuary. A Level 2 Flood Consequence Assessment has been undertaken which confirms that, during the 0.5% Annual Exceedance Probability tidal event plus climate change allowance, modelled flood levels may reach approximately 9.6m AOD. The proposed development incorporates appropriate ground raising and freeboard allowances in accordance with this assessment.

The proximity of the site to dock waters and designated ecological features associated with the River Usk and Severn Estuary Special Area of Conservation (SAC) requires particular attention to pollution prevention and surface water management during construction.

1.3 Description of the Proposed Works

The proposed works comprise:

- ⊕ Construction of a new substation compound;
- ⊕ Installation of transformers and associated electrical infrastructure;
- ⊕ Construction of a switch room building;
- ⊕ Installation of a surface water drainage system;

- ⊕ Construction of a permeable Type 3 sub-base build-up forming part of the drainage attenuation strategy;
- ⊕ Installation of an oil interceptor and flow control chamber;
- ⊕ Connection to the existing ABP surface water network.

Ground levels within the compound will be raised to a minimum of 9.4m AOD in accordance with the minimum ground raising scenario identified within the Flood Consequence Assessment.

Construction works are anticipated to have a duration of approximately 18 months and will be undertaken by an appointed Principal Contractor under the Construction (Design and Management) Regulations.

1.4 Purpose of the CEMP

A Construction Environmental Management Plan is a management tool designed to control and mitigate environmental effects during the construction phase of development.

This CEMP has been prepared to:

- ⊕ Demonstrate that NGED has identified and assessed potential environmental impacts arising during construction;
- ⊕ Establish environmental management procedures and responsibilities;
- ⊕ Provide a framework for monitoring and reporting;
- ⊕ Ensure compliance with planning policy and relevant environmental legislation;
- ⊕ Embed mitigation identified within supporting technical assessments submitted as part of the planning application.

This CEMP will be implemented throughout the construction phase and will be maintained as a live document. It will be reviewed periodically and updated where necessary to reflect changes in construction methodology, environmental conditions or regulatory requirements.

All contractors and sub-contractors appointed to undertake works at the site will be required to comply with the provisions of this CEMP.

2.0 Legal and Regulatory Requirements

2.1 Planning Policy Context

The proposed development has been designed and will be constructed in accordance with the statutory development plan and relevant national planning policy.

This CEMP has been prepared to ensure compliance with:

- ⊕ Policy GP5 of the Newport Local Development Plan 2011–2026, which requires development to protect environmental quality and prevent unacceptable adverse impacts;
- ⊕ Planning Policy Wales (Edition 12);
- ⊕ Technical Advice Note (TAN) 15: Development, Flooding and Coastal Erosion (2025).

In accordance with TAN 15 (2025), development within areas at risk of flooding must demonstrate that flood risk is appropriately managed and that the development will not increase flood risk elsewhere. A Level 2 Flood Consequence Assessment has been undertaken to inform the design of the development and identify appropriate mitigation measures.

This CEMP ensures that construction activities will not compromise the flood mitigation strategy identified within the Flood Consequence Assessment.

2.2 Flood Risk and Coastal Policy Compliance

The site lies within Flood Zone 3 and is influenced by tidal flooding associated with the River Usk and Severn Estuary.

The Flood Consequence Assessment confirms:

- ⊕ The site is defended during present-day 0.1% AEP events;
- ⊕ Flood levels during the 0.5% AEP + climate change event may reach approximately 9.6m AOD;
- ⊕ Critical infrastructure is designed with appropriate freeboard allowances

During construction, works will be undertaken in a manner that:

- ⊕ Does not obstruct existing flood pathways;
- ⊕ Does not reduce flood storage capacity;
- ⊕ Does not increase flood risk to third parties;
- ⊕ Ensures plant, materials and hazardous substances are protected in advance of forecast extreme tidal events.

The Contractor will monitor NRW flood alerts throughout the construction period and implement appropriate response procedures where required.

2.3 Habitats Regulations and Designated Sites

The site is hydrologically connected to:

- ⊕ The River Usk Special Area of Conservation (SAC);
- ⊕ The Severn Estuary SAC;
- ⊕ Associated SSSI designations.

These are European designated sites protected under the Conservation of Habitats and Species Regulations 2017 (as amended).

Under the Habitats Regulations, development must not result in likely significant effects on designated sites, either alone or in combination with other projects.

Construction-related risks that could theoretically affect designated sites include:

- ⊕ Surface water pollution;
- ⊕ Sediment-laden runoff;
- ⊕ Accidental spillage of fuels or chemicals.

This CEMP embeds strict pollution prevention measures in accordance with Guidance for Pollution Prevention (GPP) and CIRIA guidance to ensure that no deterioration of water quality occurs as a result of construction works.

No works will take place within dock waters or within the River Usk channel.

2.4 Environmental Legislation

Construction activities will comply with all relevant environmental legislation, including but not limited to:

- ⊕ Environmental Protection Act 1990;
- ⊕ Environment Act 2021;
- ⊕ Wildlife and Countryside Act 1981 (as amended);
- ⊕ Conservation of Habitats and Species Regulations 2017;
- ⊕ Environmental Permitting (England and Wales) Regulations;
- ⊕ Control of Pollution Act 1974;
- ⊕ Waste (England and Wales) Regulations 2011;
- ⊕ Hazardous Waste Regulations;
- ⊕ Control of Substances Hazardous to Health (COSHH) Regulations.

Any unforeseen contamination encountered during construction will be managed in accordance with statutory requirements and NRW guidance.

2.5 Construction Standards and Best Practice Guidance

The development will be constructed in accordance with recognised industry standards and best practice guidance, including:

- ⊕ BS 5228: Noise and Vibration Control on Construction and Open Sites;
- ⊕ Guidance for Pollution Prevention (GPP), including:
 - ⊕ GPP 2 – Above Ground Oil Storage Tanks;
 - ⊕ GPP 5 – Works and Maintenance in or Near Water;
 - ⊕ GPP 6 – Working on Construction and Demolition Sites;
 - ⊕ GPP 21 – Pollution Incident Response Planning;
 - ⊕ GPP 22 – Dealing with Spills;
- ⊕ CIRIA C811 – Environmental Good Practice on Site Guide;
- ⊕ CDM Regulations 2015.

The appointed Principal Contractor will operate under an Environmental Management System aligned with ISO 14001 principles.

2.6 Archaeology

In accordance with national planning policy and local requirements, a programme of archaeological work will be secured prior to commencement of development.

All intrusive works will be undertaken under an archaeological watching brief in accordance with:

- ⊕ Chartered Institute for Archaeologists' Standards and Guidance for an Archaeological Watching Brief (2014, revised 2020).

Works will cease immediately if unexpected archaeological remains are encountered, and appropriate consultation will take place before works recommence.

2.7 Compliance and Review

Regulatory compliance represents the minimum standard for this CEMP.

The appointed Principal Contractor will:

- ⊕ Maintain copies of all relevant consents and licences on site;
- ⊕ Ensure any legislative changes are communicated to site management;
- ⊕ Review method statements where regulatory requirements change;
- ⊕ Cooperate with inspections by Newport City Council and Natural Resources Wales.

This CEMP will be reviewed periodically throughout the construction phase to ensure continued compliance with evolving regulatory requirements and site conditions.

3.0 Roles, Responsibilities and Communication

3.1 Overview

The effective implementation of this Construction Environmental Management Plan (CEMP) relies upon clearly defined roles and responsibilities.

NGED will ensure that all personnel involved in the construction of the Alexandra Docks Substation are aware of their environmental responsibilities and that appropriate supervision, inspection and monitoring arrangements are in place.

The CEMP will apply to:

- ⊕ NGED personnel;
- ⊕ The appointed Principal Contractor;
- ⊕ Sub-contractors;
- ⊕ Specialist consultants (including archaeological and ecological specialists).

All parties working on site will be required to comply with the requirements set out within this CEMP.

3.2 Project Manager

NGED Project Manager: Ray Andrews

The Project Manager will have overall responsibility for ensuring that the construction works are carried out in accordance with this CEMP and all relevant environmental legislation.

Responsibilities include:

- ⊕ Ensuring the CEMP is implemented throughout the construction phase;
- ⊕ Liaising with Newport City Council and Natural Resources Wales where required;
- ⊕ Ensuring that flood risk management procedures are adhered to;
- ⊕ Ensuring archaeological and ecological mitigation measures are implemented;
- ⊕ Reviewing environmental performance at regular project meetings;
- ⊕ Approving revisions to the CEMP where necessary.

The Project Manager will ensure that adequate resources are allocated to implement the environmental controls identified within this document.

3.3 Environmental Manager / Ecological Clerk of Works (ECoW)

For the duration of the construction phase, Ray Andrews will assume the role of Environmental Manager and Ecological Clerk of Works (ECoW), unless otherwise delegated to a suitably qualified specialist.

The Environmental Manager / ECoW will be responsible for:

- ⊕ Monitoring compliance with the CEMP;
- ⊕ Undertaking regular site inspections;
- ⊕ Providing environmental advice to the construction team;
- ⊕ Delivering environmental toolbox talks;
- ⊕ Coordinating ecological mitigation measures;

- ⊕ Liaising with specialist consultants where required;
- ⊕ Responding to environmental incidents;
- ⊕ Coordinating with the appointed archaeologist during intrusive works;
- ⊕ Ensuring pollution prevention measures are functioning effectively;
- ⊕ Monitoring flood alerts and ensuring appropriate site response measures are implemented.

Where specific ecological expertise is required (e.g. nesting bird checks), a Suitably Qualified Ecologist will be appointed to undertake those tasks.

3.4 Archaeological Consultant

A suitably qualified archaeological contractor will be appointed to promote archaeological compliance.

The appointed archaeologist will:

- ⊕ Undertake a watching brief during intrusive groundworks;
- ⊕ Record archaeological features in accordance with Chartered Institute for Archaeologists' standards;
- ⊕ Advise the Site Manager if unexpected remains are encountered;
- ⊕ Produce a post-excavation report;
- ⊕ Manage archive deposition.

In the event of archaeological discoveries, the Site Manager will cease works in the affected area and notify the archaeologist and Local Planning Authority immediately.

3.5 Principal Contractor

The appointed Principal Contractor (under CDM Regulations 2015) will be responsible for day-to-day implementation of environmental controls on site.

Responsibilities include:

- ⊕ Ensuring all works are undertaken in accordance with approved method statements;
- ⊕ Maintaining pollution prevention measures;
- ⊕ Implementing temporary surface water protection prior to interceptor installation;
- ⊕ Ensuring bunded storage of fuels and chemicals;
- ⊕ Maintaining spill kits on site;
- ⊕ Monitoring weather forecasts and implementing flood response measures;
- ⊕ Ensuring compliance with BS 5228 for noise control;
- ⊕ Ensuring waste segregation and appropriate disposal;
- ⊕ Maintaining site housekeeping;
- ⊕ Ensuring plant and machinery are regularly inspected for leaks;
- ⊕ Ensuring operatives attend inductions and toolbox talks.

The Principal Contractor will operate under an Environmental Management System aligned with ISO 14001 principles.

3.6 Site Manager

The Site Manager will be responsible for day-to-day environmental compliance and reporting.

Responsibilities include:

- ⊕ Ensuring operatives understand environmental risks associated with the dock-side location;
- ⊕ Undertaking daily visual environmental inspections;
- ⊕ Recording and reporting environmental incidents;
- ⊕ Maintaining the site environmental log;
- ⊕ Ensuring temporary drainage controls are maintained prior to interceptor installation;
- ⊕ Ensuring refuelling is undertaken in designated areas only;
- ⊕ Monitoring weather forecasts and NRW flood alerts;
- ⊕ Ensuring that plant, fuel and chemicals are relocated in advance of forecast extreme flood events;
- ⊕ Ensuring open excavations are secured overnight;
- ⊕ Acting as the first point of contact for regulators if required.

The Site Manager will ensure that any breach of the CEMP is addressed immediately and corrective action implemented.

3.7 All Staff and Sub-Contractors

All personnel working on the site will have a responsibility to protect the environment.

All staff must:

- ⊕ Attend site induction;
- ⊕ Comply with environmental procedures;
- ⊕ Stop work immediately in the event of an environmental incident;
- ⊕ Report spills or contamination to the Site Manager;
- ⊕ Follow pollution prevention procedures;
- ⊕ Avoid disturbance to retained boundary vegetation;
- ⊕ Ensure plant is switched off when not in use;
- ⊕ Maintain good housekeeping practices.

Failure to comply with environmental requirements may result in removal from site.

3.8 Communication and Escalation Procedures

In the event of an environmental incident:

1. Works will cease immediately in the affected area.
2. The Site Manager will be notified.
3. Spill containment measures will be implemented.
4. The Environmental Manager will assess the incident.
5. Where required, Natural Resources Wales will be notified.
6. The incident will be recorded in the site log.

7. Corrective measures will be implemented.
8. Toolbox talks will be delivered to prevent recurrence.

Where incidents have potential to affect dock waters or designated sites, NRW will be contacted immediately via the NRW incident hotline.

4.0 Environmental Management Framework

4.1 Environmental Induction

Prior to commencing work on site, all personnel (including sub-contractors and visitors undertaking operational activities) will attend a site-specific environmental induction.

The induction will:

- ⊕ Introduce the requirements of this CEMP;
- ⊕ Identify site-specific environmental sensitivities;
- ⊕ Highlight the site's proximity to dock waters and hydrologically connected designated sites;
- ⊕ Explain flood risk context and flood alert procedures;
- ⊕ Outline pollution prevention controls;
- ⊕ Explain emergency response procedures;
- ⊕ Identify ecological and archaeological constraints;
- ⊕ Define incident reporting requirements.

The induction will emphasise that the site is located within a flood risk area adjacent to the operational dock environment and that pollution prevention is a critical priority.

A register of attendance will be maintained and retained on site.

4.2 Toolbox Talks

In addition to the initial induction, regular environmental toolbox talks will be delivered throughout the construction period.

Toolbox talks will be delivered:

- ⊕ At the commencement of each new phase of works;
- ⊕ Following significant rainfall events;
- ⊕ Following environmental incidents or near misses;
- ⊕ Prior to intrusive groundworks (archaeological watching brief);
- ⊕ During nesting bird season where vegetation clearance occurs;
- ⊕ Where changes to method statements affect environmental controls.

Topics may include:

- ⊕ Surface water protection;
- ⊕ Refuelling controls;
- ⊕ Spill response;
- ⊕ Flood alert monitoring;
- ⊕ Sediment control;
- ⊕ Archaeological stop-work procedures;
- ⊕ Waste segregation and housekeeping;
- ⊕ Protection of retained boundary vegetation.

Toolbox talk records will be signed and retained in the site office.

4.3 Pre-Construction Environmental Checks

Prior to commencement of construction works, the following pre-construction checks will be undertaken:

- ⊕ Appointment of archaeological contractor;
- ⊕ Pre-commencement ecological walkover (if required);
- ⊕ Confirmation of surface water protection measures in place prior to interceptor installation;
- ⊕ Identification and protection of retained boundary vegetation;
- ⊕ Confirmation of designated refuelling area;
- ⊕ Installation of spill kits and bunded storage facilities;
- ⊕ Verification that emergency contact details are displayed on site.

The Environmental Manager will confirm that all pre-construction requirements have been satisfied before intrusive works commence.

4.4 Routine Environmental Inspections

Environmental inspections will be undertaken at the following frequencies:

Daily Visual Checks

The Site Manager will undertake daily visual inspections of:

- ⊕ Surface water protection measures;
- ⊕ Drainage inlets;
- ⊕ Temporary sediment controls;
- ⊕ Fuel storage areas;
- ⊕ Refuelling areas;
- ⊕ Waste storage areas;
- ⊕ Open excavations;
- ⊕ General site housekeeping.

Any issues identified will be rectified immediately.

Weekly Environmental Inspection

A more detailed weekly inspection will be undertaken by the Environmental Manager or delegated competent person. This inspection will:

- ⊕ Review compliance with the CEMP;
- ⊕ Check integrity of pollution prevention measures;
- ⊕ Verify spill kits are stocked;
- ⊕ Review incident log;
- ⊕ Confirm flood alert monitoring procedures are active;
- ⊕ Confirm archaeological watching brief compliance (during groundworks);
- ⊕ Confirm noise control measures are implemented.

Findings will be recorded and corrective actions tracked to completion.

4.5 Flood Alert Monitoring

Given the tidal flood risk identified in the Flood Consequence Assessment flood alert monitoring will form part of the site environmental management procedures.

The Site Manager will:

- ⊕ Monitor NRW flood alerts during the construction period;
- ⊕ Review weather forecasts daily;
- ⊕ Assess potential tidal surge risk;
- ⊕ Implement precautionary measures where elevated risk is forecast.

Where flood risk is identified:

- ⊕ Plant, fuel and chemicals will be relocated to higher ground where practicable;
- ⊕ Excavations will be made safe;
- ⊕ Materials vulnerable to floatation will be secured;
- ⊕ Workforce evacuation procedures will be implemented where required.

The primary consideration will be workforce safety.

4.6 Incident Reporting and Investigation

All environmental incidents, near misses and complaints will be recorded within the site environmental log.

Incidents may include:

- ⊕ Fuel or oil spill;
- ⊕ Sediment discharge;
- ⊕ Contaminated runoff;
- ⊕ Dust nuisance;
- ⊕ Noise complaint;
- ⊕ Discovery of unexpected contamination;
- ⊕ Archaeological find;
- ⊕ Flood-related impact.

In the event of an incident:

1. Works will cease in the affected area.
2. Containment measures will be implemented immediately.
3. The Site Manager will be notified.
4. The Environmental Manager will assess the severity.
5. Where required, Natural Resources Wales will be notified.
6. A root cause investigation will be undertaken.
7. Corrective and preventative measures will be implemented.
8. Findings will be communicated via toolbox talk.

4.7 Environmental Record Keeping

The following documentation will be maintained on site:

- ⊕ Copy of this CEMP;
- ⊕ Induction and toolbox talk registers;
- ⊕ Inspection records;
- ⊕ Incident log;
- ⊕ Waste transfer documentation;
- ⊕ Flood alert monitoring record;
- ⊕ Archaeological attendance records;
- ⊕ Correspondence with regulators (if applicable).

Records will be retained for the duration of the construction phase.

4.8 Complaints Procedure

Although the site is located within an industrial port environment, any complaints received in relation to noise, dust or environmental disturbance will be:

- ⊕ Logged;
- ⊕ Investigated promptly;
- ⊕ Responded to appropriately;
- ⊕ Reported to the Project Manager.

Corrective actions will be implemented where required.

5.0 Site Management

5.1 Ecology

5.1.1 Overview

A Preliminary Ecological Appraisal (PEA) and supporting surveys (Preliminary Roost Assessment) have been undertaken for the proposed development. The site is located within a predominantly industrial port environment; however, it lies within hydrological connectivity to the River Usk Special Area of Conservation (SAC) and the Severn Estuary SAC, SPA and Ramsar sites.

The primary ecological risks associated with the construction phase are therefore:

- ⊕ Accidental pollution of dock waters;
- ⊕ Sediment-laden runoff entering the surface water system;
- ⊕ Disturbance to nesting birds;
- ⊕ Disturbance to retained boundary vegetation;
- ⊕ Harm to mobile species via open excavations.

This CEMP embeds mitigation measures to ensure that construction activities do not result in adverse ecological effects.

5.1.2 Ecological Clerk of Works (ECoW)

The Environmental Manager will undertake the role of Ecological Clerk of Works (ECoW), unless a Suitably Qualified Ecologist is appointed for specific tasks.

The ECoW will:

- ⊕ Undertake a pre-commencement site inspection (if required);
- ⊕ Provide ecological toolbox talks;
- ⊕ Advise on vegetation clearance;
- ⊕ Monitor compliance with ecological mitigation;
- ⊕ Respond to any protected species issues that arise.

5.1.3 Designated Sites

The River Usk SAC and Severn Estuary SAC, SPA and Ramsar are designated for internationally important habitats and species.

No works will take place within dock waters or within the River Usk channel.

The only plausible pathway for impact during construction is via accidental pollution or sediment transport.

To avoid likely significant effects on designated sites:

- ⊕ Strict pollution prevention measures will be implemented;
- ⊕ Temporary sediment controls will be installed where required;
- ⊕ Refuelling will take place away from drainage inlets;
- ⊕ Concrete washout will be fully contained;
- ⊕ Spill kits will be readily available on site.

These measures ensure compliance with the Conservation of Habitats and Species Regulations 2017.

5.1.4 *Vegetation Clearance*

The development footprint comprises predominantly hardstanding and disturbed ground. Limited areas of scrub and grassland may require clearance within the site boundary.

Vegetation clearance will be undertaken in accordance with best practice.

Where vegetation clearance is required during the bird nesting season (March–September inclusive):

- ⊕ A pre-clearance nesting bird check will be undertaken by a suitably qualified ecologist within 24 hours of clearance;
- ⊕ If active nests or nest building activities are identified, a suitable exclusion zone will be established (dependent on the species) and works will be delayed in that area until nesting has concluded.

Grassland / scrub areas will be maintained short during construction to prevent the establishment of suitable habitat for reptiles or ground nesting birds.

5.1.5 *Retained Boundary Vegetation*

Boundary trees identified for retention will be protected during construction.

Protection measures can include:

- ⊕ Installation of protective fencing where required;
- ⊕ Prohibition of material storage within root protection areas;
- ⊕ No excavation within retained root zones unless supervised and agreed;
- ⊕ No vehicle tracking over retained root zones.

Protection measures will be consistent with BS 5837:2012 where applicable.

5.1.6 *Bats*

Previous survey work has identified low bat roost potential within certain structures.

Demolition of the existing substation will be undertaken by ABP prior to NGED possession. However, as a precaution:

- ⊕ No lighting will be directed toward retained boundary vegetation;
- ⊕ Construction lighting (if required) will be directional and shielded;
- ⊕ Light spill onto peripheral habitats will be minimised;
- ⊕ High noise activities will be limited to daylight hours.

No long-term impacts on commuting or foraging habitat are anticipated.

5.1.7 *Nesting Birds*

All wild birds and their active nests are protected under the Wildlife and Countryside Act 1981 (as amended).

Works that could affect nesting habitat will avoid the nesting season where practicable. Where avoidance is not possible, pre-works checks will be undertaken as described above.

If nesting birds are discovered during works:

- ⊕ Works will cease in the affected area;
- ⊕ An exclusion zone will be implemented;
- ⊕ Works will resume only once nesting has concluded.

5.1.8 *Protection of Fauna During Construction*

Open excavations present a potential hazard to wildlife.

Where excavations remain open overnight:

- ⊕ They will be covered; or
- ⊕ Escape ramps will be provided.

Excavations will be inspected each morning prior to recommencement of works.

5.1.9 *Invasive Species*

No invasive non-native species have been identified within the site boundary.

However, if suspected invasive species are encountered during works:

- ⊕ The Site Manager will be notified;
- ⊕ Works in the affected area will cease;
- ⊕ Specialist advice will be sought prior to disturbance.

Machinery and boots will be cleaned before leaving site, in a designated area, in accordance with an INNS Method statement (if required), if working in areas of potential contamination.

5.1.10 *Ecological Enhancements*

The permanent development will include landscape reinstatement and planting as part of the approved design.

Reinstatement planting will be undertaken post-construction in accordance with the approved landscape strategy.

5.2 *Ground Conditions and Contamination*

5.2.1 *Site Ground Conditions*

A site-specific Ground Investigation (GI) has been undertaken to characterise the underlying soil and groundwater conditions.

The GI identified:

- ⊕ Areas of Made Ground across the site;
- ⊕ Localised contamination typical of historic dockland/industrial use;
- ⊕ Trace concentrations of chrysotile asbestos (recorded at approximately 0.002% within shallow Made Ground);
- ⊕ Presence of ground gas, including methane, although with low flow rates

The GI concluded that no significant widespread contamination requiring remediation was identified and that risks to human health and controlled waters are low provided that standard good practice measures are implemented.

Construction activities will therefore be undertaken with appropriate precautionary controls.

5.2.2 *Materials Management*

The development involves raising ground levels to a minimum of 9.4m AOD in accordance with the Flood Consequence Assessment. This will require the importation of suitable engineered fill material.

The current intention is that site-won materials will not be reused for structural build-up unless confirmed suitable by testing.

Where materials are reused on site (e.g. uncontaminated topsoil for verge dressing), this will only occur following confirmation of suitability.

All imported fill will:

- ⊕ Be sourced from appropriate suppliers;
- ⊕ Be certified as suitable for use;
- ⊕ Comply with relevant engineering and environmental standards.

Stockpiles will be:

- ⊕ Located away from drainage inlets;
- ⊕ Managed to prevent wind-blown dust;
- ⊕ Stabilised or covered during prolonged rainfall where required.

5.2.3 *Asbestos Precautionary Measures*

The GI recorded trace chrysotile asbestos at very low concentrations (approximately 0.002%) within Made Ground. Although this level represents a low risk, precautionary measures will be implemented during intrusive works.

Where Made Ground is encountered:

- ⊕ Operatives will be briefed on asbestos awareness during induction;
- ⊕ Visual inspection of excavated material will be undertaken;
- ⊕ Any suspect asbestos-containing material will be isolated immediately;
- ⊕ Works in the affected area will cease pending specialist advice.

If asbestos-containing material is encountered:

- ⊕ The material will be segregated;
- ⊕ A licensed contractor will be appointed if required;
- ⊕ Waste will be disposed of at a suitably permitted facility;
- ⊕ Appropriate documentation will be retained.

Dust suppression measures will be implemented during dry conditions to minimise the risk of airborne particulates.

5.2.4 *Unexpected Contamination Protocol*

Although no significant contamination requiring remediation has been identified, there remains potential for previously unidentified contamination to be encountered during excavation.

In the event that unexpected contamination (e.g. strong hydrocarbon odours, staining, buried drums, unusual materials) is encountered:

1. Works will cease in the affected area.
2. The Site Manager will be notified.
3. The material will be isolated.
4. Environmental Manager will assess risk.
5. Natural Resources Wales and the Local Planning Authority will be notified if required.
6. A risk assessment will be undertaken.
7. An appropriate remediation strategy will be agreed prior to recommencement of works.

This procedure ensures compliance with environmental legislation and prevents pollution of controlled waters.

5.2.5 *Ground Gas*

The GI recorded the presence of methane gas, with peak concentrations recorded during monitoring, though with low gas flow rates

The development design incorporates appropriate consideration of ground conditions.

During construction:

- ⊕ Excavations will not be left open unnecessarily;
- ⊕ Deep excavations will be ventilated naturally;
- ⊕ Operatives will not enter confined excavations without appropriate risk assessment;
- ⊕ Any evidence of strong gas odours will be reported immediately.

If additional gas protection measures are required during detailed design, these will be implemented at that stage.

5.2.6 *Protection of Controlled Waters*

The site is hydrologically connected to dock waters and ultimately the River Usk.

To prevent contamination of controlled waters:

- ⊕ Excavated materials will not be stored adjacent to drainage inlets;
- ⊕ Stockpiles will be located away from surface water features;
- ⊕ Spill kits will be available at all times;
- ⊕ Refuelling will be undertaken on impermeable surfaces;
- ⊕ Concrete washout will be fully contained and removed from site.

No discharge of contaminated water to the surface water network will be permitted.

5.2.7 *Waste Disposal*

All waste materials arising from construction will be:

- ⊕ Classified in accordance with waste regulations;
- ⊕ Transported by licensed carriers;

- ⊕ Disposed of at suitably permitted facilities;
- ⊕ Accompanied by appropriate Waste Transfer Notes or Hazardous Waste Consignment Notes.

Waste documentation will be retained on site for inspection.

5.3 Surface Water Management and Pollution Prevention

5.3.1 Overview

The proposed development incorporates a surface water drainage system designed to attenuate runoff and discharge to the existing ABP surface water network.

The permanent drainage system includes:

- ⊕ A permeable Type 3 sub-base forming part of the attenuation strategy;
- ⊕ Perforated carrier pipework;
- ⊕ A flow control chamber;
- ⊕ An oil interceptor (installed during later phases of construction);
- ⊕ Connection to the existing dock drainage infrastructure

During construction, before the permanent interceptor is installed, there is potential risk of sediment or pollutant discharge to the surface water system if not appropriately managed.

Given the site's proximity to dock waters and hydrological connectivity to designated sites, strict pollution prevention measures will be implemented throughout the construction phase.

5.3.2 Construction Phase Surface Water Strategy

During construction, temporary surface water controls will be implemented to prevent:

- ⊕ Sediment-laden runoff;
- ⊕ Hydrocarbon contamination;
- ⊕ Cementitious washout discharge;
- ⊕ Uncontrolled discharge to the ABP network.

Temporary measures will include:

- ⊕ Protection of drainage inlets with sediment control devices;
- ⊕ Use of silt socks or sediment traps where appropriate;
- ⊕ Strategic placement of geotextile protection over exposed permeable layers;
- ⊕ Controlled discharge of water from excavations;
- ⊕ Avoidance of stockpiling adjacent to drainage features.

No discharge of untreated water will be permitted to enter the ABP surface water network.

5.3.3 Management of the Type 3 Permeable Build-Up

The development includes a Type 3 permeable sub-base forming part of the attenuation strategy.

During construction:

- ⊕ The Type 3 layer will not be left exposed unnecessarily;

- ⊕ Where partially installed, temporary protection measures will prevent contamination by fine sediment;
- ⊕ Construction traffic will be controlled to prevent clogging of permeable layers;
- ⊕ The permeable sub-base will be installed in controlled stages to minimise exposure to weather;
- ⊕ The system will not be commissioned until upstream sediment-generating activities have ceased.

These measures will prevent impairment of the long-term hydraulic performance of the system.

5.3.4 *Oil Interceptor Installation (Late Phase)*

The oil interceptor forms part of the permanent drainage strategy but will be installed during the later phase of construction

Until the interceptor is operational:

- ⊕ All refuelling activities will be undertaken away from drainage inlets;
- ⊕ Refuelling will occur on impermeable surfaces using drip trays;
- ⊕ Mobile bowzers will be double-bunded;
- ⊕ Spill kits will be located adjacent to refuelling areas;
- ⊕ Plant will be checked regularly for leaks;
- ⊕ Concrete washout will be fully contained and removed from site.

Prior to commissioning the permanent drainage system, the interceptor will be inspected to ensure it is clean, free from sediment and functioning as designed.

5.3.5 *Refuelling and Chemical Storage*

Fuel, oils and chemicals represent the highest pollution risk on site.

All hazardous substances will be:

- ⊕ Stored in clearly labelled containers;
- ⊕ Stored within secondary containment (bundled areas);
- ⊕ Located away from drainage inlets;
- ⊕ Secured when not in use.

Refuelling will:

- ⊕ Take place in designated areas only;
- ⊕ Be supervised;
- ⊕ Use drip trays and absorbent mats;
- ⊕ Not occur within 10 metres of surface water drainage inlets unless no alternative is practicable and additional controls are in place.

Plant and machinery will be inspected regularly to ensure there are no leaks of fuel or hydraulic fluids.

5.3.6 *Concrete and Cement Control*

Concrete pouring presents a significant pollution risk if not properly managed.

Concrete washout will:

- ⊕ Be undertaken within a designated area;
- ⊕ Be located at least 20 metres from drainage inlets where practicable;
- ⊕ Not discharge to the surface water network;
- ⊕ Be removed off site by the concrete contractor for appropriate disposal.

Wet concrete and cementitious materials will not be allowed to enter the permeable drainage system.

5.3.7 *Management of Excavations*

Excavations may accumulate water during rainfall events.

Water from excavations will:

- ⊕ Be visually inspected prior to discharge;
- ⊕ Be pumped to a settlement container or sediment trap where necessary;
- ⊕ Not be discharged directly to surface water without appropriate treatment;
- ⊕ Be tankered off site if contamination is suspected.

Excavated materials will not be stored in a manner that allows sediment to wash into the drainage system.

5.3.8 *Heavy Rainfall Events*

During periods of prolonged or intense rainfall:

- ⊕ Exposed soil areas will be minimised;
- ⊕ Temporary covers will be applied to stockpiles if required;
- ⊕ Sediment control devices will be checked daily;
- ⊕ Drainage inlets will be inspected to ensure they remain protected.

Toolbox talks will be delivered following heavy rainfall events to reinforce pollution prevention measures.

5.3.9 *Pollution Incident Response*

A Pollution Incident Response Plan will be implemented in accordance with GPP 21.

In the event of a spill:

1. The source of the spill will be stopped immediately.
2. Spill kits will be deployed.
3. Contaminated material will be contained and removed.
4. Surface water inlets will be protected.
5. The Environmental Manager will assess the need for regulator notification.
6. Natural Resources Wales will be informed if controlled waters are at risk.

Spill kits will be available at:

- ⊕ Refuelling areas;
- ⊕ Material storage areas;

- ⊕ Mobile plant;
- ⊕ Site compound.

5.3.10 *Protection of Dock Waters and Designated Sites*

The North Dock waterbody is directly adjacent to the site.

To ensure no deterioration of water quality:

- ⊕ No direct discharge to dock waters will occur;
- ⊕ Construction activities will remain within the site boundary;
- ⊕ Sediment-generating works will be controlled;
- ⊕ Any pollution incident will be escalated immediately.

These measures ensure that the construction phase will not result in likely significant effects on the River Usk SAC or Severn Estuary SAC.

5.4 Noise and Vibration

5.4.1 *Overview*

Construction activities have the potential to generate noise and vibration through:

- ⊕ Operation of plant and machinery;
- ⊕ Delivery vehicles;
- ⊕ Concrete works;
- ⊕ Breaking out of any residual slabs or foundations (if required);
- ⊕ Compaction and groundworks.

The site is located within an established industrial port environment and there are no identified residential receptors within close proximity. Nevertheless, NGED and the appointed Principal Contractor will implement appropriate measures to minimise noise and vibration in accordance with recognised best practice.

5.4.2 *Standards and Best Practice*

All construction activities will be undertaken in accordance with:

- ⊕ BS 5228-1: Code of Practice for Noise and Vibration Control on Construction and Open Sites (Noise)
- ⊕ BS 5228-2: Code of Practice for Noise and Vibration Control on Construction and Open Sites (Vibration)

The Contractor will adopt Best Practicable Means, as defined under the Control of Pollution Act 1974, to minimise noise and vibration emissions.

5.4.3 *Working Hours*

Construction working hours will normally be:

- ⊕ Monday to Friday: 07:30 to 17:30
- ⊕ Saturday: 07:30 to 13:00 (if required)
- ⊕ No routine Sunday or Bank Holiday working

Should works outside these hours be required for operational or safety reasons, they will be limited in duration and scope.

5.4.4 *Noise Control Measures*

The following measures will be implemented:

- ⊕ Plant and machinery will be well maintained and fitted with effective silencers;
- ⊕ Engines will not be left idling unnecessarily;
- ⊕ Reversing alarms will be broadband or low-impact where practicable;
- ⊕ Stationary plant will be positioned away from the site boundary where feasible;
- ⊕ Loading and unloading will be undertaken in a controlled manner to minimise impact noise;
- ⊕ Noisy operations will be programmed to avoid unnecessary overlap where practicable.

Where breaking out of existing slabs or foundations is required, methods will be selected to minimise vibration and impulsive noise.

5.4.5 *Vibration Management*

Although no vibration-sensitive receptors have been identified, vibration will be managed to prevent:

- ⊕ Structural damage to adjacent infrastructure;
- ⊕ Nuisance vibration;
- ⊕ Cumulative impacts from concurrent plant operations.

Low-vibration plant will be selected where reasonably practicable.

If any complaints are received in relation to vibration:

- ⊕ Works will be reviewed;
- ⊕ Methods adjusted where necessary;
- ⊕ Monitoring undertaken if required.

5.4.6 *Monitoring*

Given the industrial context of the site and absence of nearby residential receptors, routine noise monitoring is not proposed.

However:

- ⊕ The Site Manager will undertake regular observational checks;
- ⊕ Excessively noisy plant will be removed from site for maintenance;
- ⊕ Any complaint received will trigger investigation;
- ⊕ Monitoring equipment may be deployed if required to investigate specific concerns.

5.4.7 *Communication*

Although the site is within a port environment, NGED will act as a responsible operator.

Should potentially disruptive works be required, relevant stakeholders within the port estate will be notified in advance where appropriate.

5.5 *Air Quality and Dust Management*

5.5.1 Overview

Construction activities have the potential to generate dust and airborne particulate matter through:

- ⊕ Breaking out of any residual hardstanding or foundations (if required);
- ⊕ Excavation of Made Ground;
- ⊕ Movement of construction plant;
- ⊕ Importation and placement of fill material;
- ⊕ Stockpiling of soils and aggregates;
- ⊕ Vehicle movements within the site.

The site is located within an industrial port environment and there are no identified residential receptors within close proximity. Nevertheless, dust control measures will be implemented to prevent nuisance, protect worker health, and avoid contamination of adjacent drainage infrastructure and dock waters.

5.5.2 General Dust Control Measures

The Principal Contractor will implement the following general measures:

- ⊕ All plant and machinery will be maintained in good working order to minimise exhaust emissions;
- ⊕ Engines will not be left idling unnecessarily;
- ⊕ Vehicle speeds within the site will be controlled to reduce dust generation;
- ⊕ Hardstanding areas will be kept clean and free from excessive debris;
- ⊕ Road sweepers or manual cleaning will be used where required to prevent mud tracking;
- ⊕ Skips containing dusty material will be covered when not in active use.

Construction traffic will utilise existing access routes within the ABP road network, and no temporary access roads are proposed.

5.5.3 Earthworks and Stockpile Management

Excavation and ground raising works have potential to generate dust, particularly during dry weather.

To control dust during earthworks:

- ⊕ Damping down with water will be undertaken during prolonged dry conditions where necessary;
- ⊕ Stockpiles will be kept to the minimum size and duration reasonably practicable;
- ⊕ Stockpiles will be located away from drainage inlets;
- ⊕ Fine materials will be covered or stabilised if left for extended periods;
- ⊕ Drop heights during loading and unloading will be minimised.

Exposed surfaces will be reinstated or covered as soon as practicable following completion of works in each phase.

5.5.4 Asbestos and Made Ground Precaution

The Ground Investigation identified trace chrysotile asbestos (approximately 0.002%) within Made Ground.

Although the concentration recorded is very low and not considered to present significant risk, precautionary measures will be implemented to minimise airborne dust generation when disturbing Made Ground.

Where excavation of Made Ground is undertaken:

- ⊕ Dust suppression measures will be implemented during dry conditions;
- ⊕ Visual inspection of materials will be undertaken;
- ⊕ Any suspect asbestos-containing materials will be isolated immediately;
- ⊕ Works will cease in the affected area pending specialist advice.

These measures ensure that airborne particulate risk is controlled appropriately.

5.5.5 *Concrete Works*

Concrete mixing and pouring will be undertaken using ready-mix deliveries where practicable.

Cementitious materials will be:

- ⊕ Stored in sealed containers or bags;
- ⊕ Protected from wind dispersal;
- ⊕ Managed to prevent dust escape during handling.

Concrete washout will be undertaken in designated bunded areas and removed from site for appropriate disposal.

5.5.6 *Monitoring and Complaints*

Given the industrial setting and absence of nearby residential receptors, routine dust monitoring is not proposed.

However:

- ⊕ The Site Manager will undertake regular visual inspections;
- ⊕ Any excessive dust generation will be addressed immediately;
- ⊕ Any complaint received will trigger review of control measures;
- ⊕ Additional suppression measures will be implemented if required.

Dust control effectiveness will be reviewed during weekly environmental inspections.

5.5.7 *Protection of Drainage Infrastructure*

Dust and fine sediments have potential to clog drainage systems and compromise the long-term performance of the Type 3 permeable build-up.

Accordingly:

- ⊕ Permeable layers will not be left exposed unnecessarily;
- ⊕ Fine materials will be prevented from entering the drainage system;
- ⊕ Drainage inlets will be protected during earthworks;
- ⊕ The permanent system will not be commissioned until sediment-generating activities are complete.

These measures protect both the surface water network and receiving dock waters.

5.6 Lighting Management

5.6.1 Overview

Temporary lighting may be required during the construction phase for:

- ⊕ Early morning or late afternoon working during winter months;
- ⊕ Periods of reduced daylight;
- ⊕ Site security purposes;
- ⊕ Occasional operational or safety requirements.

Although the site is located within an established industrial port environment, construction lighting has potential to:

- ⊕ Disturb retained boundary vegetation;
- ⊕ Illuminate dock waters unnecessarily;
- ⊕ Affect commuting or foraging bats;
- ⊕ Cause glare to port operations.

Accordingly, lighting during construction will be carefully managed.

5.6.2 General Lighting Principles

Construction lighting will be designed and operated in accordance with the following principles:

- ⊕ Lighting will be used only where necessary for safe working;
- ⊕ Lighting will be directional and focused on active work areas;
- ⊕ Light spill beyond the site boundary will be minimised;
- ⊕ Upward light spill and skyglow will be avoided;
- ⊕ Lighting will not be directed toward dock waters where practicable;
- ⊕ Lighting will be switched off when not required.

Temporary lighting will be mobile and repositioned as works progress.

5.6.3 Protection of Ecological Receptors

The Preliminary Ecological Appraisal identified that retained boundary vegetation may provide limited ecological value.

To minimise disturbance to wildlife:

- ⊕ Construction lighting (if required) will avoid illumination of retained trees and hedgerows where practicable;
- ⊕ Lighting (if required) will be shielded to reduce lateral spill;
- ⊕ Night-time works will be limited to essential operations only;
- ⊕ High-intensity lighting will not be directed toward dock waterbodies.

Where practicable, lighting levels at retained habitat boundaries will be kept as low as reasonably achievable while maintaining site safety.

5.6.4 Security Lighting

Security lighting, where required, will:

- ⊕ Be limited to the immediate compound area;
- ⊕ Be directed downward;
- ⊕ Avoid illumination of adjacent dock waters or ecological receptors;
- ⊕ Be fitted with timers or motion sensors where appropriate.

Lighting columns or towers will be positioned within the site boundary and will not encroach upon retained vegetation.

5.6.5 *Emergency or Flood-Related Lighting*

In the event of a flood warning or emergency response situation:

- ⊕ Temporary lighting may be required to facilitate safe evacuation or plant relocation;
- ⊕ Environmental controls will remain secondary to workforce safety during emergency response.

5.6.6 *Monitoring and Review*

The Site Manager will:

- ⊕ Undertake visual checks to ensure lighting remains appropriately directed;
- ⊕ Respond to any concerns raised by port stakeholders;
- ⊕ Adjust lighting positions if excessive glare or spill is observed.

Lighting arrangements will be reviewed as part of weekly environmental inspections.

5.7 *Traffic and Access Management*

5.7.1 *Overview*

The proposed development is located within the operational Alexandra Docks estate and will utilise the existing ABP internal road network.

No new access routes or temporary haul roads are proposed.

Construction traffic will access the site via Alexandra Docks Road and the established port highway infrastructure.

Given the modest scale of the development, construction traffic volumes are anticipated to be low and will not materially alter existing traffic conditions within the port estate.

5.7.2 *Construction Traffic*

Construction traffic will comprise:

- ⊕ Delivery of construction materials;
- ⊕ Delivery of ready-mix concrete;
- ⊕ Importation of engineered fill;
- ⊕ Removal of excavated material (if required);
- ⊕ Workforce vehicles.

No abnormal load deliveries are anticipated during the principal civil engineering phase. Transformer deliveries, if required at a later stage, will be managed separately under specific logistics planning.

Vehicle movements will be coordinated to avoid unnecessary congestion within the dock estate.

5.7.3 *On-Site Parking and Compound Arrangements*

Given the small footprint of the development:

- ⊕ There will be no separate off-site construction compound;
- ⊕ The working area will be contained within the development footprint;
- ⊕ Materials will be unloaded within the western portion of the site away from the main substation location;
- ⊕ A welfare van will be used rather than permanent site cabins.

Workforce parking will be accommodated within the site boundary where practicable and will not occur on public highway.

5.7.4 *Vehicle Management and Mud Control*

Although the site is largely hardstanding, ground raising and excavation activities may generate loose material.

To prevent mud tracking and sediment transport:

- ⊕ Vehicles will exit the site via existing hardstanding routes;
- ⊕ Wheels will be visually inspected prior to leaving site;
- ⊕ Road sweeping will be undertaken if required;
- ⊕ Loose materials will be sheeted during transport where necessary.

The Site Manager will undertake regular checks to ensure that no excessive mud or debris is deposited on the ABP road network.

5.7.5 *Protection of Drainage Infrastructure*

Given the permeable drainage build-up and connection to the ABP surface water network, it is essential that fine materials are not tracked into drainage inlets.

Accordingly:

- ⊕ Drainage inlets will be protected during construction;
- ⊕ Vehicles will not be parked over drainage features;
- ⊕ Sediment-generating activities will be controlled during wet conditions;
- ⊕ The site will be kept in a tidy condition.

5.7.6 *Stakeholder Coordination*

The Contractor will liaise with ABP as required to:

- ⊕ Ensure construction activities do not interfere with port operations;
- ⊕ Confirm any temporary traffic management measures within the estate;
- ⊕ Coordinate deliveries where required.

Given the industrial nature of the surrounding environment and the absence of nearby residential receptors, no significant off-site traffic impacts are anticipated.

5.8 *Archaeology*

5.8.1 *Overview*

An Archaeological Desk Based Assessment (Heneb, 2025/018) has identified the potential for post-medieval remains associated with the historic dockland landscape and railway infrastructure within and surrounding the site

Although the site has been subject to previous development and ground disturbance, the potential for archaeological remains cannot be entirely discounted.

Accordingly, a programme of archaeological mitigation will be implemented during the construction phase.

5.8.2 *Archaeological Watching Brief*

All intrusive construction groundworks, including:

- ⊕ Excavation for foundations;
- ⊕ Excavation for drainage infrastructure;
- ⊕ Breaking out of any residual slabs or foundations (if required);
- ⊕ Ground raising and associated earthworks;

will be undertaken under an archaeological watching brief.

The watching brief will be carried out by a suitably qualified archaeological contractor.

The archaeological works will be undertaken in accordance with:

- ⊕ Chartered Institute for Archaeologists' (CIfA) Standards and Guidance for an Archaeological Watching Brief (2014, revised 2020).

The appointed archaeologist will:

- ⊕ Monitor relevant groundworks;
- ⊕ Inspect exposed surfaces for archaeological features;
- ⊕ Record deposits using a single continuous context numbering system;
- ⊕ Prepare scaled drawings where appropriate;
- ⊕ Digitally photograph significant contexts;
- ⊕ Catalogue and retain finds pending deposition arrangements.

5.8.3 *Unexpected Archaeological Discoveries*

If previously unknown archaeological remains are encountered during construction:

1. Works in the affected area will cease immediately.
2. The Site Manager will notify the appointed archaeologist.
3. The find will be protected from disturbance.
4. The Local Planning Authority will be informed where required.
5. Appropriate mitigation will be agreed prior to recommencement of works.

5.8.4 *Human Remains*

In the unlikely event that human remains are encountered:

- ⊕ Works will cease immediately;
- ⊕ The remains will be left in situ;
- ⊕ The area will be secured;
- ⊕ The police and coroner will be notified;
- ⊕ Further action will be taken in accordance with statutory requirements.

5.9 Landscape, Trees and Reinstatement

5.9.1 Overview

An Arboricultural Report has been prepared to inform the proposed development.

The site is predominantly hardstanding; however, boundary vegetation and limited areas of scrub/grassland are present and contribute to the visual and ecological character of the site.

Where vegetation is identified for retention, it will be protected during construction in accordance with best practice.

5.9.2 Tree and Vegetation Protection

Retained trees and boundary hedgerows will be protected throughout the construction phase.

Protection measures will include:

- ⊕ Installation of protective fencing where required prior to commencement of works;
- ⊕ Prohibition of material storage within root protection areas;
- ⊕ No excavation within retained root zones unless supervised and agreed;
- ⊕ Avoidance of vehicle tracking over root protection areas;
- ⊕ Prevention of soil compaction adjacent to retained vegetation.

Tree protection measures will be implemented in accordance with BS 5837:2012 “Trees in relation to design, demolition and construction – Recommendations”, where applicable.

The Site Manager will ensure that protective fencing is not removed or repositioned without prior approval.

5.9.3 Storage and Compound Management

Construction materials, plant and welfare facilities will be located within the defined working area and will not encroach into retained vegetated areas.

Given the compact footprint of the site:

- ⊕ No separate off-site construction compound is proposed;
- ⊕ Materials will be unloaded within the site boundary;
- ⊕ A welfare van will be utilised rather than permanent cabins;
- ⊕ The western portion of the site will be used for material laydown where practicable.

These measures minimise unnecessary disturbance to retained vegetation.

5.9.4 Soil Handling and Reinstatement

Where topsoil is stripped, it will be:

- ⊕ Stored separately from subsoil where practicable;
- ⊕ Kept free from contamination;
- ⊕ Protected from excessive compaction;
- ⊕ Reused on site where suitable.

Stockpiles will be located away from drainage inlets and retained vegetation.

Following completion of construction works:

- ⊕ Disturbed areas will be reinstated;
- ⊕ Surplus materials will be removed from site;
- ⊕ Temporary works will be dismantled;
- ⊕ The site will be left in a clean and tidy condition.

Any planting or landscape reinstatement will be undertaken in accordance with the approved landscape proposals.

5.9.5 *Visual Amenity*

Although the site is located within an industrial dock environment, good site housekeeping will be maintained to:

- ⊕ Prevent unnecessary visual clutter;
- ⊕ Ensure materials are stored neatly;
- ⊕ Avoid accumulation of waste;
- ⊕ Maintain a professional working environment.

Lighting will be minimised and directed to avoid unnecessary light spill beyond the site boundary, as set out in Section 5.6.

6.0 Flood Risk and Construction Phase Flood Management

6.1 Overview

The site is located within Flood Zone 3 and is subject to tidal flood risk associated with the River Usk and Severn Estuary.

A Level 2 Flood Consequence Assessment (FCA) has been undertaken to support the planning application. The FCA confirms that:

- ⊕ The site benefits from existing flood defences;
- ⊕ Modelled flood levels during the 0.5% Annual Exceedance Probability (AEP) tidal event plus climate change allowance may reach approximately 9.6m AOD;
- ⊕ The proposed compound will be raised to a minimum of 9.4m AOD under the minimum ground-raising scenario

Under extreme climate change scenarios, shallow inundation of the compound may occur; however, critical infrastructure is designed with appropriate resilience and freeboard allowances.

This section sets out how flood risk will be managed during the construction phase.

6.2 Construction Phase Flood Risk Context

Construction activities will take place within an area potentially at risk of tidal flooding during extreme events.

Flood risk during construction may arise from:

- ⊕ Tidal surge events;
- ⊕ Extreme rainfall combined with high tide;
- ⊕ Surface water accumulation;
- ⊕ Temporary obstruction of drainage pathways.

Construction works will be programmed and managed to ensure that:

- ⊕ Flood risk to third parties is not increased;
- ⊕ Flood storage capacity is not reduced;
- ⊕ No obstruction to overland flow routes occurs;
- ⊕ Materials are not mobilised during flood events.

6.3 Ground Raising and Floodplain Considerations

The compound will be raised to at least 9.4m AOD in accordance with the FCA

During construction:

- ⊕ Imported fill will be placed in controlled layers;
- ⊕ Compaction will be undertaken in accordance with engineering specifications;
- ⊕ Temporary stockpiles will not obstruct overland flow routes;
- ⊕ Excess materials will be removed promptly from site.

Construction activities will not materially alter existing flood pathways beyond the footprint of the development.

6.4 Flood Alert Monitoring

Flood risk monitoring will form part of the site environmental management procedures.

The Site Manager will:

- ⊕ Monitor Natural Resources Wales (NRW) flood alerts;
- ⊕ Review weather forecasts daily;
- ⊕ Assess tidal surge forecasts during periods of elevated risk;
- ⊕ Maintain awareness of port-specific flood warnings if issued.

Flood monitoring responsibilities will be clearly communicated during site induction.

6.5 Flood Response Procedures

Where elevated flood risk is forecast, the following precautionary measures will be implemented as appropriate:

- ⊕ Plant and machinery relocated to higher ground where practicable;
- ⊕ Fuel bowzers and hazardous materials secured or removed from lower areas;
- ⊕ Temporary materials and lightweight items secured to prevent flotation;
- ⊕ Excavations made safe;
- ⊕ Electrical equipment isolated if required;
- ⊕ Workforce evacuation implemented if necessary.

Workforce safety will remain the primary consideration during any flood event.

6.6 Protection of Hazardous Substances

To prevent pollution during flood conditions:

- ⊕ Fuel and chemicals will be stored within bunded containers;
- ⊕ Mobile fuel bowzers will be double-bunded;
- ⊕ Hazardous substances will not be stored in low-lying areas without secondary containment;
- ⊕ Spill kits will be maintained on site at all times.

These measures ensure that even in the event of shallow inundation, hazardous materials will not be mobilised.

6.7 Surface Water Management During Flood Conditions

The temporary construction drainage system will:

- ⊕ Remain free of debris;
- ⊕ Be inspected following heavy rainfall;
- ⊕ Avoid uncontrolled discharge to dock waters;
- ⊕ Be monitored during extreme weather events.

Sediment controls will be inspected after rainfall to ensure they remain effective.

6.8 Emergency Contacts

In the event of a significant flood-related incident:

- ⊕ The Site Manager will notify the Project Manager;
- ⊕ Natural Resources Wales will be contacted where required;
- ⊕ ABP will be informed if port infrastructure may be affected;
- ⊕ All incidents will be recorded in the site log.

6.9 Compliance with TAN 15 (2025)

This CEMP demonstrates that construction activities will:

- ⊕ Not increase flood risk elsewhere;
- ⊕ Not compromise flood defence infrastructure;
- ⊕ Incorporate monitoring and response procedures;
- ⊕ Manage hazardous materials appropriately;
- ⊕ Maintain safe access and egress during flood events.

The construction phase management measures are therefore consistent with the requirements of TAN 15 (2025) and national planning policy.

7.0 Foul Water Drainage

7.1 Overview

Construction activities will generate limited foul water arising from welfare facilities used by site personnel.

Given the compact nature of the site and the absence of permanent construction cabins, foul water generation during construction is anticipated to be minimal.

Foul drainage arrangements will ensure that no untreated wastewater enters the surface water drainage system, dock waters, or controlled waters.

7.2 Construction Phase Welfare Facilities

During the construction phase:

- ⊕ A welfare van or temporary portable welfare facilities will be utilised;
- ⊕ No permanent on-site foul drainage infrastructure will be installed for construction purposes;
- ⊕ Foul water will not be discharged to the surface water drainage system.

Portable welfare units will be self-contained and maintained by a licensed contractor.

7.3 Disposal Arrangements

Foul waste from portable welfare facilities will be:

- ⊕ Collected by a licensed waste contractor;
- ⊕ Removed from site at appropriate intervals;
- ⊕ Transported to a suitably permitted treatment facility;
- ⊕ Managed in accordance with waste legislation.

No foul discharge to the ABP surface water network will occur.

7.4 Protection of Surface Water Infrastructure

Under no circumstances will foul water:

- ⊕ Be discharged into the permanent surface water drainage system;
- ⊕ Enter the Type 3 permeable build-up;
- ⊕ Be discharged to dock waters;
- ⊕ Be allowed to mix with construction runoff.

Welfare facilities will be located away from drainage inlets to prevent accidental spillage.

7.5 Pollution Prevention

In the unlikely event of spillage or failure of welfare units:

- ⊕ The Site Manager will be notified immediately;
- ⊕ Spill containment measures will be implemented;
- ⊕ Contaminated material will be removed;
- ⊕ The incident will be recorded;

⊕ NRW will be informed if controlled waters are at risk.

7.6 Permanent Foul Drainage

The permanent foul drainage arrangements associated with the operational substation (if required) will be constructed in accordance with the approved design and will not discharge to the surface water system.

Permanent foul drainage will not be commissioned until construction-phase pollution risks have ceased.

8.0 Pollution Prevention and Emergency Response

8.1 Overview

The proximity of the site to the North Dock waterbody and its hydrological connectivity to the River Usk and Severn Estuary SAC places particular emphasis on robust pollution prevention during the construction phase.

Although the proposed works are of limited scale, construction activities inherently carry risk associated with:

- ⊕ Fuel and oil storage;
- ⊕ Refuelling operations;
- ⊕ Concrete works;
- ⊕ Sediment-laden runoff;
- ⊕ Accidental spillages;
- ⊕ Flood-related mobilisation of contaminants.

This section sets out the framework for pollution prevention and emergency response during the construction phase.

8.2 Pollution Prevention Principles

The following core principles will be applied throughout construction:

- ⊕ Prevention is prioritised over remediation;
- ⊕ Pollutants will be stored and handled in a manner that minimises risk;
- ⊕ Drainage systems will be protected at all times;
- ⊕ Hazardous substances will be segregated and banded;
- ⊕ Spill response equipment will be available and accessible;
- ⊕ All personnel will be trained in spill response procedures.

Construction activities will be undertaken in accordance with relevant Guidance for Pollution Prevention (GPP), including GPP 2, GPP 6, GPP 21 and GPP 22.

8.3 Storage of Fuels and Hazardous Materials

Fuel, oil and chemicals will be managed in accordance with best practice.

All hazardous substances will be:

- ⊕ Stored in clearly labelled containers;
- ⊕ Located within secondary containment (minimum 110% capacity of stored volume);
- ⊕ Positioned away from drainage inlets and permeable areas;
- ⊕ Secured against unauthorised access.

Mobile fuel bowers will be double-banded and fitted with lockable valves.

Hazardous materials will not be stored in low-lying areas vulnerable to flood inundation without appropriate containment.

8.4 Refuelling Procedures

Refuelling represents one of the highest pollution risks on site.

Refuelling will:

- ⊕ Be undertaken in designated areas;
- ⊕ Take place on impermeable surfaces where practicable;
- ⊕ Use drip trays and absorbent mats;
- ⊕ Be supervised at all times;
- ⊕ Not occur within 10 metres of drainage inlets unless additional controls are in place.

Plant and machinery will be inspected regularly for signs of leaks.

No refuelling will take place directly over permeable Type 3 build-up layers.

8.5 Spill Kits and Equipment

Spill response equipment will be maintained on site at all times.

Spill kits will be located:

- ⊕ Adjacent to refuelling areas;
- ⊕ Within site vehicles;
- ⊕ Near hazardous material storage areas;
- ⊕ Within the main site working area.

Spill kits will contain appropriate absorbent materials suitable for hydrocarbon and chemical spills.

Spill kits will be inspected regularly and replenished as required.

8.6 Pollution Incident Response Procedure

In the event of a spill or pollution incident, the following procedure will be implemented immediately:

1. Stop the source – cease activity and isolate the source of the spill.
2. Contain the spill – deploy absorbent materials and prevent spread.
3. Protect drainage – cover nearby drainage inlets and prevent entry to surface water system.
4. Notify Site Manager – report incident without delay.
5. Assess severity – determine risk to controlled waters.
6. Notify regulators – contact Natural Resources Wales if controlled waters are at risk.
7. Clean-up and disposal – remove contaminated material and dispose appropriately.
8. Record and review – log the incident and implement corrective measures.

Where pollution has potential to affect dock waters, Natural Resources Wales will be contacted immediately via the incident hotline.

ABP will also be informed where port infrastructure may be affected.

8.7 Concrete and Cement Control

Concrete and cementitious materials are highly alkaline and can cause significant ecological harm if released to water.

To prevent cement pollution:

- ⊕ Concrete washout will be undertaken in designated bunded areas;
- ⊕ Washout water will not be discharged to the surface water system;
- ⊕ Wet concrete will not be permitted to enter drainage inlets;
- ⊕ Residual washout material will be removed from site for appropriate disposal.

8.8 Flood-Related Pollution Risk

Given the site's tidal flood risk context, pollution prevention measures must remain effective during extreme weather events.

In advance of forecast flood events:

- ⊕ Hazardous materials will be relocated where practicable;
- ⊕ Fuel bowsers will be secured;
- ⊕ Lightweight materials will be restrained;
- ⊕ Spill kits will remain accessible.

Flood risk monitoring procedures are set out in Section 6.

8.9 Environmental Incident Log

All environmental incidents and near misses will be recorded in an Environmental Incident Log.

The log will include:

- ⊕ Date and time of incident;
- ⊕ Nature and cause;
- ⊕ Materials involved;
- ⊕ Immediate actions taken;
- ⊕ Regulator notification details (if applicable);
- ⊕ Corrective measures implemented.

The log will be reviewed during weekly environmental inspections.

8.10 Continuous Improvement

Following any environmental incident:

- ⊕ A root cause analysis will be undertaken;
- ⊕ Method statements will be reviewed;
- ⊕ Toolbox talks will be delivered to reinforce lessons learned;
- ⊕ Additional mitigation will be implemented where required.
- ⊕ This approach ensures continual improvement throughout the construction phase.

9.0 Monitoring, Review and Compliance

9.1 Overview

This Construction Environmental Management Plan (CEMP) will be implemented throughout the duration of the construction phase.

The purpose of this section is to define:

- ⊕ How compliance with the CEMP will be monitored;
- ⊕ How performance will be reviewed;
- ⊕ How corrective action will be implemented where required;
- ⊕ How the document will remain effective throughout the project lifecycle.

The CEMP will be treated as a live management document.

9.2 Implementation

The appointed Principal Contractor will be contractually required to comply with the provisions of this CEMP.

Implementation will be secured through:

- ⊕ Site inductions;
- ⊕ Toolbox talks;
- ⊕ Approved method statements;
- ⊕ Environmental inspection regimes;
- ⊕ Management oversight.

The Project Manager will retain overall responsibility for ensuring the CEMP is adhered to.

9.3 Inspection and Monitoring Regime

Environmental monitoring will comprise the following structured approach:

Daily Monitoring

Undertaken by the Site Manager and including:

- ⊕ Visual inspection of pollution prevention measures;
- ⊕ Check of refuelling areas;
- ⊕ Inspection of drainage inlets and sediment controls;
- ⊕ Review of housekeeping standards;
- ⊕ Verification of spill kit availability;
- ⊕ Confirmation that hazardous substances are stored correctly.

Weekly Environmental Inspection

Undertaken by the Environmental Manager or delegated competent person and including:

- ⊕ Review of compliance with this CEMP;
- ⊕ Review of incident log;
- ⊕ Inspection of flood risk preparedness;
- ⊕ Review of archaeological watching brief coordination (where relevant);

- ⊕ Inspection of tree protection measures;
- ⊕ Confirmation that mitigation measures remain effective.

Findings will be recorded and any required corrective actions tracked to completion.

9.4 Flood Monitoring

Given the site's location within Flood Zone 3 and tidal flood risk context, flood monitoring will form part of the routine management process.

The Site Manager will:

- ⊕ Monitor NRW flood alerts;
- ⊕ Review weather forecasts daily;
- ⊕ Assess tidal surge risk where relevant;
- ⊕ Implement precautionary measures as set out in Section 6.

Flood preparedness will be reviewed during weekly environmental inspections.

9.5 Archaeological and Ecological Compliance

Where archaeological watching brief supervision is required:

- ⊕ Groundworks will not proceed without prior notification to the appointed archaeologist;
- ⊕ Attendance records will be maintained;
- ⊕ Any discoveries will be logged and reported.

Ecological mitigation measures, including nesting bird checks and vegetation protection, will be verified during inspections.

9.6 Incident Review and Corrective Action

All environmental incidents and near misses will be:

- ⊕ Recorded in the Environmental Incident Log;
- ⊕ Investigated by the Environmental Manager;
- ⊕ Reviewed with the construction team;
- ⊕ Used to inform revised control measures where necessary.

Where significant incidents occur:

- ⊕ Natural Resources Wales will be notified as required;
- ⊕ The Local Planning Authority will be informed if appropriate;
- ⊕ Method statements will be amended if necessary;
- ⊕ Additional training will be delivered.

9.7 Document Review

This CEMP will be:

- ⊕ Reviewed at key construction phases;
- ⊕ Updated where construction methodologies change;
- ⊕ Amended if regulatory requirements are updated;

- ⊕ Revised following significant environmental incidents if necessary.

Revisions will be recorded in a document control table at the front of the final version.

9.8 Compliance Statement

NGED confirms that:

- ⊕ Construction of the Alexandra Docks Primary Substation will be undertaken in accordance with this CEMP;
- ⊕ Appropriate environmental management procedures will be implemented;
- ⊕ Flood risk will be managed in accordance with the Flood Consequence Assessment
- ⊕ Surface water and pollution risks will be controlled in accordance with best practice and GPP guidance;
- ⊕ Archaeological mitigation will be implemented during intrusive works in accordance with the Heneb Desk Based Assessment recommendations
- ⊕ Construction activities will not result in likely significant effects on designated sites.

This CEMP forms part of the planning submission and demonstrates that environmental impacts during construction can be appropriately managed.



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