

Site Specific Environmental Management Plan



Site Specific Environmental Management Plan

Incorporating the CDM Construction Phase Plan.

For use where Morgan Sindall is the Principal Contractor

Morgan Sindall business unit / region:	Energy/Water
Project name:	Welsh Water Capital Delivery Alliance – AMP7
Project no.:	1W7000 / Z4
Customer:	Dwr Cymru Welsh Water

Name of Scheme: Trebanos WwTW	
Scheme Code: 1W7000 / Z4	Plan Number: 1232

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Scope of Works:

Trebanos WwTW is located in Trebanos, Swansea, South Wales, SA8 4BR. The site is Located off the B4603 near Trebanos Rugby pitch.

Trebanos WwTW currently has a population equivalent of 16,645 (2021). This is expected to increase to 19,012 by the 2040 design horizon. The PFF at this site will remain at 146 l/s and all other consents remain unchanged.

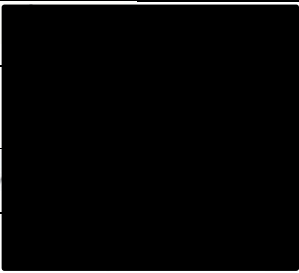
The purpose of scheme is to install and construct a PFET side stream reducing the volume of untreated storm water going to the river Tawe.

The proposed modifications and extensions to the treatment works shall include:

- New outfall;
- Replacement of existing inlet screens;
- Upgrades to PSTs – new edge protection;
- Upgrades to ASP plant – replacement of aeration system;
- New 2 no. FST tanks;
- New PFET filtration plant;
- New first flush storage tank;
- New potable water booster plant;
- New FE booster plant;
- New sludge thickener;
- New 2no. sludge holding tanks;
- New FE flow meter and sampling chamber;
- Modifications to existing RAS/SAS pumping station;
- New transformer;
- New MCC kiosk to provide power and control for the new instrumentation;
- New standby generator;
- Associated lift pumping stations;
- Associated pipework, manholes, distribution and collection chambers;
- Associated access roads and footpath; landscaping, swale, planting and fencing;
- Abandonment of redundant structures (existing FSTs, nitrifying filter, etc.)

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	Name	Position	Signature	Date
Prepared by	Andrew Good	Site Agent		11.01.24
Reviewed by	Abigail Clifford	Environmental Advisor		25.01.24
Checked by	Mark Thomas	Project Manager		20.1.24
Authorised by:	Sean Murray	Snr Contract Manager		25.01.24

Note: This document has been prepared in accordance with the CDM 2015 regulations, contract requirements and the Morgan Sindall company management system. This is a **site-specific** plan which is to be used in conjunction with the Project Execution Plan.

UPDATE ALL TEXT HIGHLIGHTED YELLOW TO IDENTIFY ALL RELEVANT SITE-SPECIFIC INFORMATION

Amendment no.	Issue date	Details of amendment	Approved for issue by:
Rev 11		New Environmental SSP – separated SHQ and Environmental Information i.e. formalised document based on what sites are already doing	D Stacey
Rev 12		Changed referencing to AMP7, changed Environmental Advisor details	Mike Sellers
Rev 15		Changed Environmental Advisor Details	Mike Sellers
Rev 16		Updated Environmental Objectives (Section 2.2) and Emergency incident (Section 2.8).	
Rev 17		Updated Responsibilities Section to include Ecologist Clerk of Works	Mike Sellers
Rev 18		Updated 2.8.1 with new tel no for Ideal Response & App B	Mike Sellers
Rev 19		Updated 1.1 removed reference to South Wales, added reference to new Env Policy. Updated 2 and 2.1 with new references to IMS standards and guidance. 2.7 removed reference to CCS. 2.8 amended TY to Env Manager and added Abi Clifford as Env Advisor. 2.10 and 2.12 included HVO in monitoring requirements. 3.8 removed reference to WRAP and added reference to	Tara Yates

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APPENDICES

- A Register of Environmental Effects
- B Site Specific Organisation and Arrangements
- C Welsh Water Capital Delivery Alliance/Morgan Sindall Management Organisation Structure Chart
- D Site Specific Organisation Structure Chart
- E NRW- Flood Activity Permit – In progress
- F Invasive Species Management plan
- G Emergency Ideal Response Poster

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1. Introduction

1.1. Purpose of this plan

It is the intention of Morgan Sindall that all schemes carried out as part of the overall AMP7 programme of improvements within Wales should be executed with the highest regard for safety, health, environmental and quality matters.

This Environmental Site-Specific Plan (SSP) when read with the Project Execution Plan (PEP) meets the requirements of the Construction Design and Management (CDM) Regulations 2015 with regard to the construction phase plan.

It identifies those aspects of site activities with potentially significant effects on the environment and the controls in place to mitigate those effects. Subcontract works supervised by Morgan Sindall's project team are also subject to this EMP.

Morgan Sindall is certified to ISO 14001: 2015

This plan is a 'live document' to be supplemented and/or revised as the scheme develops, by the introduction of supporting documents such as subcontractor method statements, risk assessments or any documentation relevant to the environment of the project, which may include:

- Appropriate legislation
- Corporate governance
- Morgan Sindall policies
- Customer requirements (to include stakeholders)
- Company processes and procedures (amend as necessary)
- Methodologies and programmes
- Organisational structures
- Supply chain requirements.

It conforms to Morgan Sindall's Environmental and Responsible Business policies which will be clearly displayed in site offices.

1.2. Authorisation

This plan is authorised when the preparation, approval, authorisation and distribution section on page 1 is completed.

This SSP will be reviewed by the Project Manager at regular intervals, if appropriate, amended and re-issued so that it reflects the requirements of the scheme. Reviews will be recorded on the front page of the current plan.

Any changes made to personnel or circumstances shall be marked up in ink on the live site copy and initialled as such changes take place.

This SSP shall be retained as a 'hard copy' on site. An electronic version of the first revision of the SSP must be returned to Document Control to be made available on the Morgan Sindall AMP7 server to all staff with responsibilities for managing, monitoring and implementing its requirements. This will include the CDM Manager.

On completion of the scheme the final revision of the SSP must be returned to Document Control for filing on the server.

2. Environmental Management

Morgan Sindall has a series of standards and guidance that supplement this EMP. Please visit the IMS, available through Connect. Please see IMS for the following environmental standards:

- Environmental incident investigation, reporting and control standard (E STD 01)

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- Energy and carbon management (E STD 02)
- Contaminated land (E STD 03)
- Invasive species and injurious weeds (E STD 04)
- Ecology and biodiversity (E STD 05)
- Environmental consents and permitting (E STD 06)
- Waste management (E STD 07)
- Materials management (E STD 08)
- Nuisance (E STD 09)
- Water management (E STD 10)
- Historic environment (E STD 11)

2.1. Environmental aspects and effects

The project manager and site engineer/senior general foremen, in line with the Framework Environmental Advisor, is to ensure that the Register of Environmental Effects (E FRM 01), specific to the project is completed before works begin and updated as circumstances occur, such as a change in scope, or a change in Morgan Sindall customer or legislative requirements. The completed Register of Environmental Effects is appended as Appendix A to this document. Note any legislative requirements in the register. The input of designers at pre-handover meetings will also be considered in developing the register. Completion of the Register of Environmental Effects should be made with reference to the DCWW Capital Delivery Alliance's Enabling Third Party checklist (CAF 317). All required consents and licences are captured within both the Register of Environmental Effects and the DCWW Capital Delivery Alliance's Third Party Checklist (CAF317) and have to be recorded on the SHEQ Tracker.

Site specific environmental constraints and requirements for this scheme are set out within the DCWW AMP7 Environmental Checklist which is completed by the Morgan Sindall design partners (Arup & Sweco) environmental teams.

Legislative requirements should be assessed with reference to specific site conditions and requirements. The Framework Environmental Advisor is to advise on specific legal provisions. Additional checks can be made against the technical index, business environmental updates or in consultation with SHEQ Director.

2.2. Objectives and targets

Morgan Sindall will develop contract specific objectives and targets that take into account:

- Morgan Sindall's Responsible Business and SHE functional strategies
- Customer Key Performance Indicators (KPIs) and other requirements.

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Morgan Sindall Environmental Objectives and Targets (Dŵr Cymru Welsh Water's Environmental Objectives and Targets in red)

Targets	Reporting Frequency	Data Requirements	Source	Target
Safe Environment	Monthly	No. of incidents	Digest - SHEQ Tracker	0 Major (Cat One) incidents 0 CAT 1-2 incidents 75 environmental Positive Interventions
Considerate Constructors Scheme	Monthly	Audit scores	CCS Monitors Site Report	41.5
Carbon Emissions	Monthly	Carbon emissions from fleet, plant and electricity	Environmental Data	Reduce our operational carbon by 25% by 2025 Reduce our carbon in the assets we build by 25% by 2025 Have 25% of our sites fuel free by 2025
Waste Generated	Monthly	% Diversion from Landfill	Site Waste Management Plan	95%

The contract manager is to ensure that monitoring against the objectives and targets takes place and that the project manager in consultation with the contract environmental adviser reviews them periodically, generally not less than annually.

2.3. Roles and responsibilities

Good environmental practice will be achieved through the appointment of a Framework Environmental Advisor. Specific environmental roles and responsibilities are described in other parts of this plan as well as in job descriptions, however each site team shall have a dedicated Environmental Co-ordinator whose responsibilities shall include (but are not limited to) the following:

- Updates the EMP including the Register of Environmental Effects (E FRM 01) and the Consents and Pre-Notification Checklist (E FRM 06);
- Updates the Site Waste Management Plan;
- Ensures weekly environmental inspections are undertaken and actions are closed out;
- Ensures monthly environmental Toolbox Talks are undertaken;
- Report monthly environmental data.

2.4. Risk assessments and method statement (RAMS)

No activity will be permitted without an approved RAMS.

The project management team shall produce risk assessments where significant risks are identified.

2.5. Site specific RAMS

Site specific RAMS will be carried out by appointed and competent personnel on site. A register of method statements and associated risk assessments will be kept on site and reviewed.

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Method statements will identify tasks, responsible personnel, control measures and monitoring arrangements in line with the Morgan Sindall method statement tracking and content sheet. Method statements will be assessed, tracked and accepted by Morgan Sindall prior to commencement of work. The contents of the method statement will be communicated to all those undertaking and associated with the work activity.

Contractors shall hold a signed copy at the work face while the works are taking place ensuring all operatives have read, understood and signed stating they will comply with the method

Change control for systems of work

A change control will have significant repercussions with respect to the prevention or control of accidents and may require changes in the measures taken to ensure that those risks remain as low as reasonably practicable.

Whether a change has significant repercussions will depend on the degree to which it:

- Introduces a new hazard
- Changes the risk from an existing hazard
- Affects control or mitigation measures (including off-site emergency plans).

Changes that have a positive impact on the risk profile are also important.

Morgan Sindall has in place systems for the communication of changes and any changes to approved systems of work shall be agreed in writing.

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Prepared in conjunction with the Pre-construction Information and other relevant information. Process to reflect construction programme details.	Water	Contaminated Land	Noise	Vibration	Dust	Fire/Explosion	Buried Services	Overhead Services	Mobile Plant	Traffic	Manual Handling	Substances	Electricity	Lifting Operations	Hand Tools	Confined Space	Grout	Demolition	Temperature	Lighting	Weather	Lone Working	Asbestos	Sewers	Pedestrians (Public)	Waste	Working at Height	Litter	Visual	Ecology	SSSI	Archaeology	Heritage	Protected Species	LPG
PROCESS																																			
Site Set Up/Maintenance	2	2	3	3	3	1	1	1	1	1	1	3	1	1	1					3	3	1		3	1	3	1	1	1	2		2		2	
Traffic Management			1	2	3				1	1		3													1			1	1	2		2		2	
Caisson																																			
Excavations	3	2	3	3	3	1	3	1	1	1	1	3	1	1	1	1				1	1			1	1	1	1	1	1	2		2		2	
Construction	3	2	3	3	3	1	3	1	1	1	1	3	1	1	1	1			1	1	1	1		1	1	1	1	1	1	2		2		2	
Temporary Works	3	2	3	3	3	1	3	1	1	1	1	3	1	1	1	1				1	1			1	1	1	1	1	1	2		2		2	
Live Connections	3		3	2	3		3		1	1	1	3		1	1	1				1	1			1		1	1	1	1	2		2		2	
Permanent Installations																																			
Reinstatement	2	2	1	1	1		3	3	1	1	1				1				1	1	1				1	1	1	1	1	2		2		2	
Site Clearance	2	2	1		1			1	1	1	1	3		1	1					1	1	1		2	1	2		1	1	2		2		2	

Authorised for Use: Mark Thomas (Snr Contracts Manager)

Date: 20/1/24

H&S	1
Environmental	2
Both	3

Note: The horizontal and vertical titles are provided as prompts. Authors may modify these titles to suit the specific requirements of the project.

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2.6. Training

Training is to be given in accordance with the company's personal development and training processes, operated at corporate level by HR. Further training will be given as identified in the contract specific training plan. Requests for training personnel on the contract will be coordinated by the project management team. Typically,

- All project operatives and supervisory staff will receive a contract induction that covers environmental issues and their roles and responsibilities including environment
- More detailed training, such as that required for waste management plans, will be given to staff as identified in the contract training plan
- Training on specific environmental topics will be given by suitably qualified personnel. This may be the contract environmental adviser.

Site supervisors, safety coach and engineers will give Toolbox Talks (TBTs) to operatives on key issues such as spill response and waste management on a basis of a minimum of one per month and as near miss trends are identified, drawing upon the full site of Toolbox Talk's (TBT's) (E GUID 11) and Bulletins as relevant to the project condition.

It is a Morgan Sindall requirement that the spill response TBTs are undertaken on a six-monthly basis.

2.7. Communication

Internal

Environmental information will be delivered to contract personnel in the following way:

- Including environmental issues as an agenda item on project progress meetings
- Inductions, topic-specific training, Toolbox Talks
- Posting information on notice boards
- Monthly cascade briefings
- Morgan Sindall magazine
- Morgan Sindall intranet.
- Alliance Design Alerts

Additionally within the contract, information will be communicated through:

- SHEQ meetings
- Supply chain meetings
- Other meetings e.g. design team, NRW Environmental, DCWW Land Agent and Senior Project Manager

External

Where contact is made with any regulatory authorities, the SHEQ department will be informed and records will be entered onto SHEQ Tracker.

Complaints and compliments will also be recorded on SHEQ Tracker and resolved particularly when from regulators, the public and customers.

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2.8. Environmental incident and emergency controls

Control measures to prevent and control environmental incidents and emergencies on sites are referenced in the Register of Environmental Effects (E FRM 01), and detailed in site emergency plans.

Generally, pollution prevention will be achieved by adequate training, by the provision of containment measures such as drip trays, absorbent mats or materials, drain covers for preventing impact on sewers or watercourses and by complying with safe working methods.

Adequate and appropriately placed spill kits will be provided for rapid incident response when and where prevention fails. Incidents and emergencies will be reported in accordance with Morgan Sindall's and the customer's procedures.

Regular drills (either practical or desk top) shall be conducted and recorded to maintain competency levels of site personnel and adequacy of response plans.

An environmental emergency spill drill and record of same will be completed, within the first six months of a project and repeated at least annually thereafter.

2.8.1 Incidents and emergencies

Actions in response to environmental incidents and emergencies will be communicated at inductions and task briefings. Spill response posters will be displayed on office and welfare facility notice boards.

Site plans showing the locations of spill kits and waste facilities, in addition to the locations of health and safety facilities will be available on site office and welfare cabin notice boards. Plans will include the names of personnel with specific environmental responsibilities, and actions to be taken. Cross reference will be made to contingency planning requirements.

Ideal Response act as our emergency response specialists, contact the Ideal Response team on the dedicated 24-hour emergency helpline 0808 239 9598 and provide the building number, type and location of the emergency (full description), together with contact details. Refer to Appendix B for Ideal Response poster.

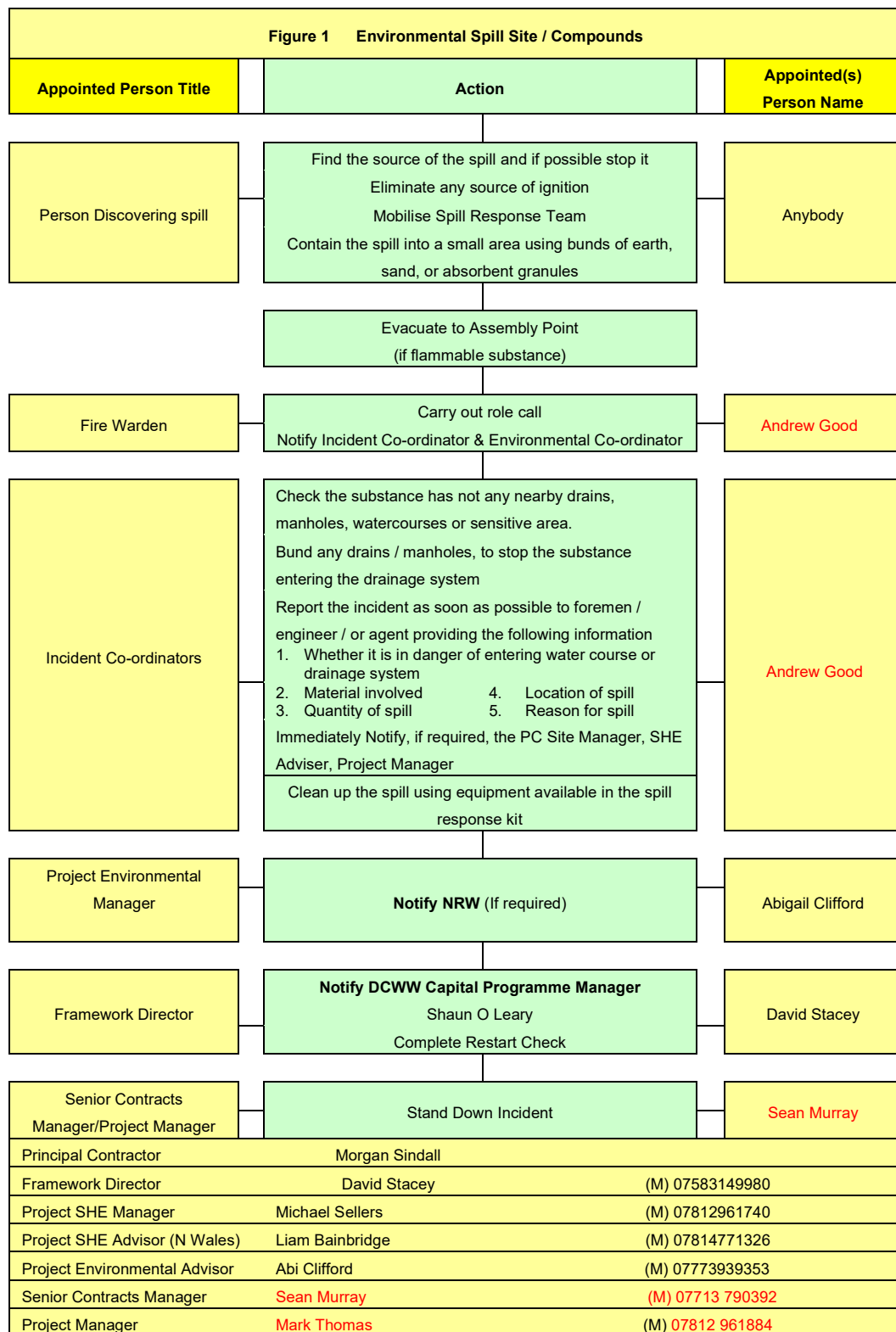
2.8.2 Incident reporting and investigation

Incidents are to be reported through the management hierarchy as soon as practically possible after they have been identified. Site management will assess the significance of the incident and determine the level of investigation. All incidents must be reported to the SHEQ department and entered onto SHEQ Tracker.

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Figure 1 Environmental Spill Site / Compounds



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2.9 Auditing

Audits will be carried out to check compliance with requirements and to ensure good site practices are in place. They may include

- Customer
- External – third party assessors to Morgan Sindall, British Standards Institute (BSi)
- Internal.

Internal audits may be conducted by the contract environmental adviser or by competent personnel from other Morgan Sindall business units / regions. In line with any audit programme and plans, system compliance audits will be conducted or as directed by the Head of Internal Audit, the SHEQ Director, and the Head of Function – Assurance NEW. The contract manager is responsible for ensuring that any non-conformances arising are closed out as soon as is practicable within the time frame specified. Close out will confirmed by the auditor.

2.10 Monitoring

The site team's appointed Environmental Co-ordinator will be responsible for ensuring environmental inspections are completed at site level to record on the company's Intranet database SHEQ Tracker. Inspections may also be carried out by the project SHE advisors and Contract Managers.

Environmental performance at site level will be regularly monitored during weekly inspections carried out by delegated site personnel.

Environmental Performance Monitoring is a legal requirement of Morgan Sindall. The site team's appointed Environmental Co-ordinator shall ensure that an appropriate method of recording monthly environmental performance is implemented and meters are fitted and available where required:

- Water (m³)
- Electricity (Kwh)
- Gas (Kwh)
- Diesel consumption – Morgan Sindall and Subcontractors (Litres)
- HVO consumption - Morgan Sindall and Subcontractors (Litres)
- Aggregates (Primary, Secondary, Re-use – Tonne)
- Waste (Landfill, Incineration, Recycling Reuse – Tonne)
- Carbon

Subcontractor data should also be recorded.

2.11 Records

Environmental records will include

- Inspections
- Site visit records (by others)
- Internal and external audit reports
- Waste management records and plans
- Sub-contractor waste returns
- Minutes of progress meetings
- Correspondence including complaints and regulatory units
- Incident and investigation reports

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- Permits, licences and consents
- Environmental data e.g. recycled aggregates, sustainable timber, etc.

2.12 Carbon reporting

Requirements of the legal Carbon Reduction Commitment (CRC) necessitate the recording of energy consumption specifically gas and electricity consumption. Nonetheless, as a minimum the following fuel uses will be recorded (where appropriate to do so and where information is available and/or not recorded elsewhere):

- Electricity (direct purchase) kWh
- Electricity (customer supply) kWh
- Diesel consumption (Morgan Sindall and Subcontractors) litres
- HVO consumption (Morgan Sindall and Subcontractors) litres
- Gas consumption kWh
- Other power sources if needed e.g. renewable.

2.13 Water management

The quantity of potable water supplied to the project shall be monitored and recorded (in SHEQ Tracker). Where practicable and appropriate, water conservation devices and practices shall be put in place.

3 Operational and project specific controls

The following sections describe minimum controls. Site specific controls to be implemented by the site team will be detailed in the register of environmental effects and supporting method statements and risk assessments.

This section (3.0 onwards) should be expanded or reduced as required to ensure that project specific issues are addressed.

3.1 Site set up

Selection and establishment of site compounds shall be undertaken mindful of site sensitivity, security, neighbours, storage and handling of chemicals (spill prevention), materials storage needs, drainage, vehicle access including employee commuting needs and nuisance potential, planning constraints, etc.

Site compounds, storage and construction areas will be fenced or have barriers to delimit areas of operation and separate them from other occupied work sites. Where appropriate, sub-project site plans will show site establishment and the locations of environmental facilities such as fuel tanks, spill kits and waste bins.

Welfare units to be located with the works itself to the concrete hardstanding west of the site. Final layout plan to be confirmed.

3.2 Housekeeping - litter

Adequate waste bins will be placed in work areas, storage areas and temporary site compounds for the depositing of work-related waste and mixed welfare wastes.

Regular inspections will be carried out to monitor housekeeping and initiate action to clear litter and debris.

Personnel are encouraged to avoid littering and to clear litter where it occurs within site boundaries.

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3.3 Nuisance

As a courtesy, and to establish a relationship, the Local Authority's Environmental Health Officer should be notified of the intended start date of construction works on-site where possible. A record of this correspondence should be maintained. The Framework Environmental Advisor may be able to assist with this if required.

3.3.1 Noise control

Site works located in residential and other locations can create noise nuisance to neighbours and the general public, as well as posing an occupational risk. The presence of sensitive receptors will be identified and recorded on the Register of Environmental Effects and the necessary control measures implemented.

Welsh Water will make contact with neighbours likely to be affected by construction works informing them about the works and what mitigation measures have been implemented to reduce nuisance and disruption as much as practically feasible.

If, during construction, the Site Manager anticipates an excessive increase in noise levels likely to cause a nuisance, control measures will be adopted. Where possible noisy operations must be programmed for times when the least perceived nuisance will occur. Contact should be made with Welsh Water to determine whether additional neighbour consultation is required.

Negotiation with local authorities may be required to establish and manage Control of Pollution Act Notices (S60 / S61).

Section 60/61 Notice will not be required

Morgan Sindall define normal working hours as:

0730-1730 hours Monday to Friday;

0800 to 1300 hours on Saturday; *(not required at the current time on this project)*

No work, processes or other activities shall take place at all on Sundays, bank or public holidays.

3.3.2 Traffic Management Plan

A Traffic Management Plan (TMP) shall be developed for individual schemes where appropriate detailing deliveries, including abnormal loads, regular commuting, public transport options, parking, restrictions detailed in any local planning agreement or Section 61 consent, out of hours working and with view to minimising local congestion and impact on local roads.

Further details of the TMP can be found within the project file.

3.3.3 Mud and dust control

Wind-blown dust, generated from dry, exposed ground or soil and wastes stockpiles, will be prevented generally with the use of water sprays. Surfaces and stockpiles will be damped down to minimise dust as necessary.

In wetter conditions, deposits of mud on roads, pavements and areas of hard standing may need to be cleared. Installation of wheel washing devices may be required, preferably with water recycling equipment. Small occurrences will be cleared manually with a broom and shovel; elsewhere road sweepers will be called upon. The need to control mud and dust is covered in site inductions and in relevant task risk assessments, method statements and briefings.

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3.3.4 Housekeeping and Visual Standards

Adequate waste bins will be placed in work areas, storage areas and temporary site compounds for the depositing of work-related waste and mixed welfare wastes. Ensure adequate signage is used throughout the site. Regular inspections will be carried out to monitor housekeeping and initiate action to clear litter and debris. Personnel are encouraged to avoid littering and to clear litter where it occurs within site boundaries.

3.3.5 Plant Emission Control

Where feasible, electric plant will be used in preference to diesel or petrol powered units.

No plant will be allowed to idle for long periods when not in use. Plant operators are encouraged to switch off as soon as practically sensible.

Evidence of poor plant maintenance, such as black exhaust fumes, will be monitored by supervisory staff on a continuing basis. Plant with unacceptable performance is prohibited from work until rectified or replaced. Plant will be routinely inspected in line with prescribed requirements including emissions as well as leaks and drops.

Any operated plant entering the river will use biodegradable hydraulic oil.

3.3.6 Lighting

Where feasible, electric lighting will be used in preference to diesel or petrol powered units. Lighting shall be positioned to prevent nuisance to neighbours or sensitive receptors surrounding the site and where feasible shall be fitted with PIR movement sensors and/or timers, and shall only be used when required. If additional lighting is a required (permanent or temporary) it will be reviewed by an ecologist prior to installation to assess the effects to nocturnal wildlife (including foraging and commuting bats, badger, hedgehog and otter).

Water management plan

Where there is risk of impact on controlled waters, a water management plan shall be developed setting out project specific controls and mitigation for the management of rivers, streams, lakes, canals, coastal waters, estuaries and groundwater during the construction phase.

The plan shall include detail of regular inspection, sampling and contingency in the event of equipment failure, fire or other emergency.

3.4.1 Site drainage

Drainage systems can act as rapid pathways for the spread of pollutants. Small quantities of pollutants such as oil can spread over large areas and cause significant harm.

Both storm and foul drainage systems should be identified and shown on plans. It is good practice to colour code drain covers; surface water – blue, foul water - red and combined – red.

Interceptors and cut-off valves, and other pollution control equipment must be maintained, inspected and clearly identified.

No specific additional requirements.

Foul Drainage

No specific additional requirements.

Surface Water

To ensure no silt enters the local watercourse, silt netting will be erected within the river down stream of the working areas near to receptors – this will be required as part of the FRAP working conditions.

All surface run off will be minimised and controlled to ensure that no silt is discharged into the River Tawe. Silt mitigation materials such as silt fencing and silt socks will be used as required.

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Any soft spots within the access track will be excavated and compacted with stone.

Temporary works designs to be completed for all silt mitigation measures.

3.4.2 Pumping from excavations

Greater or lesser quantities of surface and ground waters that occasionally require to be cleared from excavations and exposed surfaces will be discharged to sewer, to land or to controlled waters either directly or indirectly via minor drainage systems. The need for approvals or consents will be determined on a case-by-case basis. Priorities will be to prevent

- i. Ingress of surface waters
- ii. As far as is practical, disturbance to clean waters needing to be cleared from excavations and exposed surfaces.

Generally, discharges to sewers will require the consent of the relevant statutory undertaker. If necessary, silty water will be passed through a settlement tank of appropriate capacity before discharge to the receiving medium.

Water known to be contaminated with hydrocarbons or other hazardous substances will be handled in accordance with specific risk assessments and method statements (RAMS).

Pumping operations and working in waters lead to the largest number of environmental incidents for the construction industry. Control measures must include detailed requirements being set out in risk assessments and method statements as well as use of the "Permit to Pump" (PTP) system shall be used for all dewatering activities. This also applies to over pumping of effluent to facilitate works.

PTP's must be task specific and include details of inspection, equipment, location of dewatering and discharge, and risks such as watercourses and monitoring to be carried out.

Any dewatering of significant volume or for an extended period of time must be reviewed by the Framework Environmental Advisor to ensure that it remains compliant.

From initial ground investigation undertaken at the site groundwater has been found in the associated construction areas. As such discussions and arrangements are underway to undertake potential pump tests on site to establish the extent of the groundwater for management during construction phases. Once details are finalised approvals will be obtained from the Natural Resource Wales to undertake.

3.4.3 Flood Risk

Flooding can become a rapid pathway for the transportation of pollution, oils and silts and materials, chemical storage and access should be planned to avoid such areas during time of wet weather.

Manage stockpiles carefully to avoid silt runoff. Cover or reseed semi-permanent stockpiles, install control measures such as silt fencing and protect watercourse/drainage where required.

Flood Risk Potential

The site has been assessed for the likelihood of flooding on the government website and the location of the access roads and compound has a risk of flooding from rivers and also from surface water flooding.

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Figure 6: Flood Map (NRW). Red dot marks STW.

Where works are being carried out within the river to build the Outfall, weather forecasts and flood warning will be monitored and where necessary all plant & tools will be removed from the river during the increased flows.

A Flood Risk Activity Permit (FRAP) is being applied for construction of the outfall headwall due to the location on the River bank. This application is ongoing, and progress will be updated within this love document as the scheme progresses.

An additional FRAP maybe required for the main works within the field and as such the design partner for the scheme "ARUP" are currently undertaking an Flood Consequence Risk Assessment in collaboration with NRW. The model for the area has been requested and received by ARUP and review is currently being undertaken.

Flood Risk Activities

Are there any site specific requirements derived from an Environmental Permit needed for Flood Risk Activities (Main River), or a Land Drainage Consent from the IDB or Lead Local Flood Authority (e.g. NYCC, Derbyshire CC) (Ordinary Watercourse).

A NRW Flood Activity Permit is required for permanent outfall works in the River Tawe. Detail TBC once received from the NRW. Details of the management have been including within the FRAP application itself.

There shall be no stockpiling or storing of materials in the floodplain unless in broken heaps parallel to the direction of flood flow.

Spill kits must be kept on site and be readily available for use. Spillages must not be washed away but must be remediated with suitably absorbent material (e.g. booms, sand etc.) and disposed off-site to a permitted waste facility.

The agreed method of working must be complied with at all times to avoid discolouration / sedimentation or pollution of the watercourse. Should any discolouration/sedimentation or pollution of the watercourse occur, work must stop immediately and Natural Resources Wales notified on 0300 065 3000 to review working practices before work recommences.

All plant, machinery, tools and excavations must be kept in such a manner as to prevent mammals from becoming trapped, particularly during periods where the site is unsupervised.

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3.4 Storage of fuels, oils and COSHH materials

Fuels, oils, paints, solvents and other Control of Substances Hazardous to Health (COSHH) materials will be kept in lockable containers, with controlled access to keys, and in line with legal requirements e.g. oil storage regulations, 110% bunding, plant nappies/Enviro pads, etc.

Fuelling operations will be planned to minimise the risk of spillage and environmental risk. This may be the subject of a specific plan for high-risk operations and sensitive areas.

Designated refuelling areas to be provided with sufficient plant nappies and spill kits to mitigate any potential spills. All refuelling will be at least 10m away from any drain or watercourse. Site team to be briefed on Emergency Response Procedure.

3.5 Resource and energy management

In line with Morgan Sindall strategy, the contract will plan and carry out operations with due regard to energy (CO₂e emissions), as well as resource efficiency, e.g. efficiency using WRAP or CL:aire protocols, storage of materials, delivery management, etc.

Is a CL:aire Protocol Materials Management Plan (MMP) required or being considered/prepared for any part of the scheme? No.

3.6 Contaminated land

Contaminated land identified prior to or during the contract will be managed in line with Morgan Sindall standards and guidance.

A contaminated land checklist is available for use on the forms section of the IMS (SE FRM 4).

Have the Ground Investigations undertaken identified any contaminated ground No

3.7 Waste management

Site Waste Management Plan

A Site Waste Management (SWMP) shall be developed, implemented and maintained for the project and held on SmartWaste Online. All projects are required to have a SWMP in place irrespective of scale or value.

Waste Characterisation

Anticipated waste streams and their List of Wastes (LOW) / European Waste Catalogue (EWC) codes shall be estimated prior to construction. Any waste streams likely to be sent directly to Landfill should be WAC Tested prior to excavation.

Waste Contractors

Waste Carrier Licenses and the Environmental Permits/Exemptions of planned disposal sites shall be obtained prior to any waste movements. All licenses and permits will be checked on the public register of the appropriate regulator.

Duty of Care details must be correctly recorded within the SWMP and copies of all licenses/permits shall be kept on-site in the project waste file for the duration of the project.

Waste Storage and Segregation

The Waste Hierarchy 'Prevention – Reduce – Reuse – Recover – Dispose' must always be implemented (legal requirement).

Suitable skips, bins and storage areas shall be provided and closed or sheeted where required to prevent the escape of wind-blown debris. Waste storage must be suitably signed and display the correct EWC code.

Waste Disposal

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Waste collections can only be carried out following the correct Duty of Care checks.

Any Waste Carriers whose details are not held on file must be turned away from site.

Waste Movement Duty of Care

All waste movements must be covered by or accompanied by the correct Duty of Care documentation.

Waste movements without the correct document in place or not containing the correct information must be refused.

Non-hazardous Waste Transfer Note

All Non-Hazardous Waste leaving the site will be accompanied with a Waste Transfer Note (WTN) or "Ticket".

Many waste carrier companies provide their own WTN. These will be checked to ensure that the following information is detailed:

- a written description of the waste
- any processes the waste has been through
- how the waste is contained or packaged
- the quantity of the waste
- the place, date and time of transfer
- the name and address of both the producer and carrier of the waste
- details of the permit, licence or exemption of the waste carrier
- the appropriate EWC code for your waste
- The 2007 SIC code for the activity producing the waste - 42.21 (Construction of utility projects for fluids)
- A declaration that the waste hierarchy has been implemented.

Once complete, the WTN will be signed by a suitable person and a copy retained on site.

Seasonal Waste Transfer Note

There may be circumstances where waste produced on a site will be of a similar nature throughout the year and it may not be appropriate to issue WTN for every load, if it is being transported by the same contractor and is going to the same location. A 'Seasonal Waste Transfer Note' may be used instead, for a period up to 12 months. The seasonal note must contain the same information as a WTN above and;

- the commencing and termination date

Once complete, the Seasonal Waste Transfer Note will be signed by a suitable person and a copy retained on site.

Hazardous Waste

In Wales, sites must be registered as a hazardous waste producer with NRW before the disposal of hazardous waste can commence.

A Consignment Note is required for the disposal of hazardous waste which contains details of the hazardous nature of the waste.

Consignment Notes follow the Hazardous Waste to the Transfer/Disposal location and must be completed by other parties that handle the waste. To ensure the waste has been correctly consigned, we must either obtain a Consignment Notes with Part E completed from the waste carrier, or if there are numerous transfers a quarterly statement summarising the wastes consigned between parties.

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Consignment Notes collected at site, completed part E's or quarterly statements shall be kept in the site waste file. Hazardous/ special waste Consignment Notes must be kept for a minimum of 3 years.

Waste Records

Key Waste Records include:

- Site Waste Management Plan
- Evidence of Waste Characterisation/WAC Testing
- Waste Contractor Authorisation Checks; Licenses, Permits etc.
- Duty of Care Records; WTN, Seasonal WTN, Consignment Notes
- Waste Returns, Hazardous Waste Part E or Quarterly Returns

The SWMP shall be updated with Waste Contractor authorisations/disposal sites regularly.

All waste movements must be recorded in the SWMP. The SWMP shall be stored on SmartWaste Online.

The SWMP shall be sent to the Framework Environmental Advisor monthly for inclusion in corporate and customer reporting.

At the end of the project the Site Manager shall ensure the SWMP and all Waste records are obtained, updated and archived correctly.

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Wastes from road sweepers

The volumes of sweeper wastes are small and deemed to be inert. Wastes will either be taken to the operator's normal discharge location, for which there is a valid waste management licence or an exemption or discharged at a location designated by site management.

Burning of wastes

The burning of waste is strictly prohibited and not allowed under any circumstances.

3.8 Ecology and biodiversity

Protection and enhancement of biodiversity and ecology is a legal requirement. Plans should be developed, if not already in place at tender stage, to conduct pre-construction surveys, and during construction phase to continue monitoring for protected and/or invasive species.

Specific ecological and biodiversity risk assessments will be completed as part of normal completion of the Register of Environmental Effects, and where mitigation measures are required; they shall be detailed either below or in site-specific plans.

It is expected that projects of over £1m in value will complete the risk assessment (Register of effects) with specific focus on biodiversity and ecology, record its completion on Tracker and establish mitigation and control plans where required. (Smaller projects should focus on biodiversity and ecology where there is a direct project need.)

Biodiversity net gain (BNG) is a way to contribute to the recovery of nature while developing land. It is making sure the habitat for wildlife is in a better state than it was before development. Biodiversity Net Gain (BNG) is the legal requirement to deliver 10% BNG on all schemes going through planning permission or located within a designated area (Special Area of Conservation, Special Protection Area, Ramsar, Site of Special Scientific Interest, Local Nature Reserve, Area of Natural Beauty, National Park, or Conservation Area) in England under the Environment Act (2021).

In Wales as of 18th October 2023, all schemes requiring planning permission will need to demonstrate Net Benefit for Biodiversity and must establish a baseline of existing habitats to ensure that there is a measurable Net Benefit for Biodiversity once the scheme has been completed. Currently, there is no standardised metric for measuring this in Wales. As part of DCWW's AMP7 target on all Capital Delivery Alliance schemes, we aim for No Net Loss and we should maintain and enhance biodiversity on our schemes.

Project specific issues

Biodiversity and ecological sensitive areas have been identified within the site, **the river corridor including the watercourse and bank fall within the zone of influence of the River Tawe Corridor and Swansea Canal Site of Importance for Nature Conservation (SINC), as well as the blanket SINC designation to all watercourses in Neath Port Talbot (NPT). Due to the small nature of the proposed works, no direct effects are anticipated on the River Tawe corridor, Swansea Canal SINC or NPT corridor. Adverse effects are not anticipated. The proposed works have the potential to indirectly affect these sites through pollution or surface run-off during the construction phase, therefore best practice pollution prevention methods will be adhered to at all times.**

The Scheme's Environmental and Ecology information is saved in the S Drive under the project Folder. A Preliminary Ecological Appraisal has been completed, Trebanos WwTW Preliminary Ecological Appraisal P00009789, which contains the following biodiversity and ecologically sensitive areas below (further comments have been added following subsequent site survey)-

- Designated sites: Best practice pollution prevention methods (including dust and silt control) should be adhered to at all times during the construction phase. At no point during construction should any water be discharged into waterways (including the River Tawe).

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- **Priority Habitats:** If it is not possible to avoid works (including vegetation clearance) within the woodland, then the works footprint in this habitat should be minimised as far as possible. Should any excavations be necessary within the woodland, it is recommended that liaison with an Arboricultural Consultant is undertaken. Any excavation works should be carried out in such a way that soil compaction is minimised to reduce the risk of damaging the roots of trees. Appropriate methods to minimise soil compaction should be set out (e.g. in contractor RAMs) and adhered to during all phases of the development.
- **Badger and hedgehog:** A pre-works check for badger setts within a 30 m buffer of the proposed works footprint should be carried out up to four weeks before the works commence. Best practice measures such as covering open pipework and excavations at the end of each day or installing mammal ramps should be adhered to, to avoid any mammals (and other wildlife) becoming trapped.
- **Roosting bats:** Small trees along the Rugby Road access have been identified as having moderate bat potential due to the presence of rot holes, and were inspected with an endoscope December 2023. No evidence of bats was found and the rot holes did not extend significantly, so these trees were downgraded to low potential. ECoW checks with an endoscope will be undertaken prior to clearance. Trees will be section felled and left in-situ for a minimum of 24 hours in line with the Precautionary Ecological Method Statement. All trees will be re-assessed for bat potential, mainly in relation to the woodland adjacent the river, but also the scattered trees across the site (with the exception of the trees along the access track and in the bunds (as these will have already been cleared under an ecological watching brief).
- **Hazel dormouse:** Areas of low risk clearance will be completed under the Precautionary Ecological Method Statement (small bund and outfall areas). Further targeted survey (including presence/ absence surveys) are required for the woodland. Should the presence of dormice on Site be confirmed, an EPS licence from NRW is likely to be required.
- **Otter:** The removal of scrub and woodland should be avoided, and the proposed works should avoid encroaching on the river bank. If this is not possible, further targeted survey for otter is recommended. Should it be confirmed that otters use the Site (particularly as a resting place), and impacts are unavoidable, an EPS licence from NRW may be required.
- **Reptiles:** The removal of scrub and woodland habitats at the Site should be avoided. If this is not possible, removal should be minimised as far as possible. Following receipt of detailed project proposals, and provided that vegetation removal is kept to a minimum, it is unlikely that further targeted survey for reptiles will be recommended. Removal of reptile habitat will be in line with the Precautionary Ecological Method Statement. An ECoW will be present to conduct checks for reptiles prior to and during any clearance of vegetation.
- **Nocturnal wildlife:** If additional lighting is a requirement (permanent and temporary) it should be reviewed by an ecologist prior to installation to assess the impacts to nocturnal wildlife (including bats, badger, hedgehog and otter).
- **Invasive non-native species:** Japanese Knotweed and Himalayan Balsalm are present on site. Appropriate biosecurity measures will be set out (e.g. in contractor RAMs) and a specific INNS Management Plan will be produced for the scheme.

In addition to the above, Fish rescue may be required during cofferdam installation as part of the new construction outfall. Should this be required this will be in accordance with the fish rescue method statement and FR2 license acquired from NRW.

The site itself contains or has the potential to contain –

- Trees
- Watercourse – River Tawe
- Nesting birds
- Protected species – otter, bats, badgers, dormouse, amphibians and reptiles

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- Other - hedgehog

Project potential impact

The potential effects upon the existing biodiversity on this project are –

- Removal of trees – with bat roost potential
- Removal of scrub – with suitability for reptiles, dormouse, otter
- Removal of hedgerow – with suitability to support dormouse
- Relocation of reptiles and amphibians
- Possible fish rescue

Project Specific mitigation

To minimise the effects of this construction project or to mitigate for unavoidable effects upon the local biodiversity the project team will consider all opportunities to improve biodiversity. These may include:

- Improving the immediate habitat through landscaping and planting of native trees and shrubs
- Consider build design to incorporate habitat or features to accommodate local species – bat access bricks, bird nest boxes, ponds, etc.
- Consider inclusion of additional features not in design – bird tables, insect hotel, etc.
- Consider off-site local enhancements in conjunction with local wildlife groups, etc.
- **Minimise river bank and tree clearance where possible**

Responsibilities

The *Trebanos WwTW Outfall* Project/Site Manager is responsible for the implementation of this Environmental Management Plan. The PM/SM shall communicate all management techniques to relevant subcontractors during site specific inductions.

If protected species are encountered during the project, the sighting should be recorded and forwarded on to the local Biodiversity Records Centre.

The designated Ecological Clerk of Works (ECoW) for this scheme is **Lorna Rowe**

The ecologist contact details can be found below:

APEM Limited, First Floor, 7 Old field Road, Bocam Park, Pencoed, Bridgend, CF35 5LJ

Office Tel No 0161 442 8938

Mobile Tel No 07788326908

Lorna Rowe has been integral with the scheme development and will be throughout the life of the scheme

3.10 Subcontractors

Subcontractors and suppliers are required to comply with the EMP in its entirety. Site inductions, toolbox talks, training and task briefings will be given to all site personnel with relevant information from the EMP.

This EMP will be provided to subcontractors, along with the contract specific environmental details, where their works package can have a potential detrimental impact on the environment. Subcontractors will be required to develop their own environmental plans specific to work packages where appropriate and to comply with the content and direction of this and other applicable supporting documentation.

3.11 BREEAM / CEEQUAL / CCS / other registrations

Where customer requirements specify the project may need to register with BRE Environmental Assessment Method (BREEAM), Civil Engineering Environmental Quality Assessment (CEEQUAL), DREAM, etc. such registrations should be completed in a timely manner and responsibility allocated to a project individual to manage the relevant processes, registrations, filing, document collection, etc. and to facilitate audits and site inspections where required.

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All projects are required under the terms of the company Associate Membership to register with the CCS, other than for very short duration projects (typically less than six weeks), subject to permitted exception.

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Appendix A
Register of Environmental Effects

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4 Register of environmental effects

Office / depot / site:	Trebanos WwTW	Prepared by:	Andrew Good	Date	11.01.2024
Assisted by:	Abigail Clifford				
		Reviewed by:	Mark Thomas	Date	20.1.24
NOTES					

In the table below, under Environmental Impacts, assess levels of impact significance for each Development Activity and Aspect, as L, M or H, in accordance with following risk matrix. Mitigation measures are required where significance of impact is assessed as M or H.

Assessment of Significance

Likelihood of Activity resulting in impact.	Severity of Subsequent Impact				
	Low (1)	Moderate (2)	Moderate (3)	High (4)	High (5)
Negligible (1)	Low (1)	Low (2)	Low (3)	Low (4)	Low (5)
Unlikely (2)	Low (2)	Low (4)	Moderate (6)	Moderate (8)	Moderate (10)
Unlikely (3)	Low (3)	Moderate (6)	Moderate (9)	Moderate (12)	Moderate (15)

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Likely (4)	Low (4)	Moderate (8)	Moderate (12)	High (16)	High (20)
Likely (5)	Low (5)	Moderate (10)	Moderate (15)	High (20)	High (25)
Certain (6)	Moderate (6)	Moderate (12)	High (18)	High (24)	High (30)

Definitions:

Activity: generic definition relating to works being completed and medium that may be impacted

Aspect: element of an activity that can interact with the environment

Impact: any change to the environment, whether adverse or beneficial, wholly or partially resulting from an aspect

Likelihood: the chance or probability of an event occurring. Negligible – rare, occurs less than 0.1% of the time/case through to Certain – almost inevitable, 99.9% chance of occurrence

Severity: the impact that an event might have on the environment. Low – minor in inconsequential impact with no or short-term duration through to High - major impact or destruction to the environment with potential long-term consequence.

Significance: the product of likelihood and severity according to the above table.

Guidance

Likelihood of an Environmental Impact Occurring

Likelihood	Description	L Score
Certain	Occurs repeatedly / event 'only to be expected'	6
Likely	'No surprise' / will occur several times	5
Likely	Could occur sometimes	4
Unlikely	Unlikely, though conceivable	3

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Unlikely	So unlikely that probability is close to zero	2
Negligible	Not going to occur	1

Environmental Consequences of an Impact Occurring

Consequence	Description of environmental impact	C Score
High	Major damage on & off site, national reputation damage, prosecution inevitable	5
High	Considerable environmental damage, prosecution and national reputation damage likely	4
Moderate	Moderate impact, contamination or damage recoverable, local reputation damage, prosecution possible	3
Moderate	Slight impact, small scale event contained on site, possible local media interest, prosecution unlikely	2
Low	No measurable environmental consequence, no reputation damage, zero likelihood of prosecution	1

Risk Rating Categories

Risk Rating	Action to be taken
High (16-30)	Work can only continue if control measures reduce the risk rating to an acceptable level
Moderate (6-15)	Introduce control measures to reduce risk as low as reasonably practicable
Low (1-5)	Risk broadly acceptable, but situation needs to be monitored for changes and action to reduce risk

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Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
Works associated with office operations	Operation of air-conditioning and refrigerant units containing ozone depleting substances	Escape of gases and impact associated with ozone layer and climate change.	6	2	12	Use of CFC free refrigerant units within the site canteens and offices. No air conditioning is required	LOW
Works affecting Water resources	Abstraction of surface or groundwater	Deterioration in water resource quantity and quality	5	4	20	Ground investigation has been undertaken on the site that has identified a high water table. Pumps tests are being developed with a dewatering specialist contractor to establish the pump rate and potential dewatering measures that maybe required as part of the main works deeper structures	HIGH .
	Dewatering of surface or groundwater	Deterioration in water resource quantity and quality	3	3	9	No water from excavations to be pumped into any watercourse or surface water drains. Water to be removed from excavations in accordance with site specific Permit to Pump and discharged in combined sewer via a settlement tank. Minor flows will be directed to an agreed point within the treatment works itself with agreement from the works supervisor. Pending pump tests for the main scheme an discharge point	LOW

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Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
						will be agreed with NRW and discharge permit applied for.	
	Impoundment of watercourses	Deterioration in water resource quantity and quality	4	3	12	Works within watercourse to be carried out during low water flows in the summer months, barrier to built within the river will no surpass 50% of the river channel therefore allowing the river to pass Further details of the cofferdam and associated temporary works to be obtained from the subcontractor as the scheme develops.	LOW
	Discharge of effluent	Deterioration in water resource quality	3	3	9	Temporary Units - Discharge of effluent from self-contained welfare unit stored effluent tank situated beneath toilet unit and emptied on a regular basis by a licenced waste carried. Modular Units – Tapped into Foul Mains.	LOW
	Discharge of site drainage	Deterioration in water resource quality	4	2	8	Site drainage/surface runoff from welfare units will discharge and be allowed to filter through type 1 hardstanding area already in the compound.	LOW

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Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
	Discharge of foul drainage	Deterioration in water resource quality	5	3	15	Foul drainage from the toilet will be collected in an effluent tank and emptied by a licenced waste carrier on a regular basis – if it cannot be diverted to the WWTW.	LOW
	Physical (temp and perm) works to watercourses and Rivers	Deterioration in water resource quality	5	4	20	. Clean stone with no fines to be used in haul road construction with temporary works design, , regular inspections of water course to be carried and stop works if necessary, until alternative arrangements made. Spill kits to be located on all plant where there is a potential release of substances, workforce to be trained in spill kit usage, any releases must be reported to the immediate line manager / supervisor. All hazardous materials to be stored in a suitable locked COSHH cage and located away from the watercourse. All materials to be returned to COSHH cage once completed. Small plant/hazardous substances to be kept on plant nappies when in intermittent use.	MEDIUM

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Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
						Best practice pollution methods to be always adhered to including use of silt netting and silt socks as required.	
	Physical (temp and perm) works to watercourses and Rivers	Change in flow regime	5	4	20	All instream works in line with method statement. Submitted as part of FRAP application.	MEDIUM
	Physical (temp and perm) works to watercourses and Rivers	Loss of Biodiversity	4	2	8	All works to be agreed with NRW prior to starting on site via FRAP of which is being applied for currently. Conditions within FRAP and approved RAMS to be followed and reviewed regularly and consistently. Clean stone with no fines to us be used in haul road construction, regular inspections of water course to be carried and stop works if necessary until alternative arrangements made, spill kits available on site, all stone used in the haul road and temporary works to be removed on completion of the works.	LOW

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			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
	Physical (temp and perm) works to flood defence works	Deterioration in water resource quantity and quality	N/A	N/A	N/A	No physical works to watercourses and rivers	N/A
	Physical (temp and perm) works to estuaries	Deterioration in water resource quantity and quality	N/A	N/A	N/A	No physical works to watercourses and rivers	N/A
	Spillages of hazardous substances	Deterioration in water resource quantity and quality	3	2	6	Best practice methods to be utilised to avoid the risk of spills from construction materials and fuels/lubricants from construction machinery. Spill kits to be located on all plant where there is a potential release of substances, workforce to be trained in spill kit usage, any releases must be reported to the immediate line manager / supervisor. All hazardous materials to be stored in a suitable locked COSHH cage and located away from the watercourse. All materials to be returned to COSHH cage once completed. Small plant/hazardous substances to be kept on plant nappies when in intermittent use.	LOW

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			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
	Use and Storage of Construction Hazardous substances including Oils/ Diesels and Petroleum	Deterioration in water resource quality	3	4	12	COSHH materials to be used included in the COSHH file and briefed to operatives. COSHH materials to be stored in lockable COSHH cage.	LOW
	Use and Storage of Process Commissioning Hazardous substances	Deterioration in water resource quality	N/A	N/A	N/A	The Use and Storage of Process Commissioning Hazardous substances is not required as part of this scheme	N/A
	Concrete Washout	Deterioration in water resource quality	5	3	15	Designated concrete washout area to be provided which consists of a lined skip sited at least 10m away from a drain or watercourse. Signage to be included. All drivers to be briefed on the requirement to washout in designated areas only.	LOW
	Use of potable water	Deterioration in water resource quality	3	3	9	Potable water will be supplied as bottled water	LOW
Works affecting Ecological Habitat and Species	Works affecting Ecological Important Habitat	Loss of biodiversity	2	4	8	<i>Biodiversity and ecological controls as detailed in 'APEM Ecology Report Preliminary Ecological Appraisal'.</i> <i>Limit vegetation clearance as much as possible. Any vegetation clearance will be carried out under supervision by an Ecologist in line</i>	LOW
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			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
<i>(Note: completing this risk assessment and including mitigation measures and controls within the project environmental plan (PEP) will address the Planet target on biodiversity.</i>						with the Pre-cautionary Ecological Method Statement. Replacement planting of habitat in line with 'DCWW No Net Loss' and LPA Net Benefit for Biodiversity as required.	
	Works removing Ecological Important Habitat	Loss of biodiversity	2	4	8	Biodiversity and ecological controls as detailed in 'APEM Ecology Report Preliminary Ecological Appraisal'. Limit vegetation clearance as much as possible. Any vegetation clearance will be carried out under supervision by an Ecologist in line with the Pre-cautionary Ecological Method Statement. Replacement planting of habitat in line with 'DCWW No Net Loss' and LPA Net Benefit for Biodiversity as required.	LOW
	Works affecting ecological protected species	Loss of biodiversity	2	4	8	Biodiversity and ecological controls as detailed in 'APEM Ecology Report Preliminary Ecological Appraisal'.	LOW

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			Likelihood	Severity	Resulting Significance			
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High			
						<i>Limit vegetation clearance as much as possible. Any vegetation clearance will be carried out under supervision by an Ecologist in line with the Pre-cautionary Ecological Method Statement.</i>		
						<i>Replacement planting of habitat in line with 'DCWW No Net Loss' and LPA Net Benefit for Biodiversity as required.</i>		
						<i>Biodiversity and ecological controls as detailed in 'APEM Ecology Report Preliminary Ecological Appraisal'.</i>	LOW	
	Works removing ecological protected species	Loss of biodiversity	2	4	8	<i>Limit vegetation clearance as much as possible. Any vegetation clearance will be carried out under supervision by an Ecologist in line with the Pre-cautionary Ecological Method Statement.</i>		
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			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
	Works affecting invasive plants	Land contamination by non-native species	2	4	8	Japanese Knotweed and Himalayan Balsam present onsite. Areas detailed in 'APEM Preliminary Ecological Appraisal'. A specialist invasive species contractor has been appointed as part of the scheme to work in collaboration with the invasive species work required on site. An INNS management plan and RAMS has been developed to ensure all best practice measures are being followed and bio security managed.	LOW
	Works removing invasive plants	Land contamination by non-native species	2	4	8	Japanese Knotweed and Himalayan Balsam present onsite. Areas detailed in 'APEM Preliminary Ecological Appraisal'. A specialist invasive species contractor has been appointed as part of the scheme to work in collaboration with the invasive species work required on site. An INNS management plan and RAMS has been developed to	LOW

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			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
						ensure all best practice measures are being followed and bio security managed.	
	Works removing hedgerows	Loss of biodiversity	2	4	8	Refer to 'APEM Preliminary Ecological Appraisal'. Any clearance will be carried out under supervision of ecologist. Biodiversity Net Gain requirements to be followed and compensation planting to be undertaken as part of the main scheme in line with	LOW
	Works affecting trees and ancient woodlands	Loss of biodiversity	3	4	12	Refer to 'APEM Preliminary Ecological Appraisal'. Any clearance will be carried out under supervision of ecologist Biodiversity Net Gain requirements to be followed and compensation planting to be undertaken as part of the main scheme.	LOW
	Direct impact	Loss of historic/archaeological value	2	3	6	Proposed works within the River Tawe are not expected to affect	LOW

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			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
Works affecting historic (e.g. listed) or archaeological important sites and structures						historic or archaeological important sites or structures. Site compound to have terram layer laid beneath type 1 subbase foundation layer.	
	Near area	Loss of historic/archaeological value Subsidence vibration	2	3	6	No proposed works outside the River Tawe and therefore not expected to affect historic or archaeological important sites or structures.	LOW
	Adjacent to area	Encroachment	4	4	16	The nearest residential properties are 300 hundred metres away from the works and are unlikely to be affected by noise due to the proposed works. Noise monitoring to be considered prior to start date to compile base readings. Acoustic barriers to be erected around any works area where there is a risk of excessive noise. Use of silent generators within works area.	Low
	Physical disturbance	Potential spread of contaminated land and pollution	-	-	N/A	No potential sources of contamination have been identified associated with the temporary access road/site compound area.	N/A

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			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
Working on and disturbance of contaminated land	Disposal	Potential spread of contaminated land and pollution	-	-	N/A	No potential sources of contamination have been identified associated with the temporary access road/site compound area.	N/A
General construction activities that may lead to Nuisance	Mud on road	Nuisance to local population	4	3	12	Ensure site working area kept clean as works progress. Shovel and brush to remove locally. Where required, road sweeper to be called in to clean the affected areas.	LOW
	Atmospheric emissions	Nuisance to local population	4	3	12	Well maintained plant sited away from nearby properties. PPM maintenance checks and inspections Use of electric operated plant as opposed to petrol or diesel fuelled plant where possible. Use of low emitting plant. Reduce unnecessary journeys by advance planning	LOW
	Construction dust	Nuisance to local population	4	3	12	Jet wash pressure bowser to dampen down dust and clean moving plant when required	LOW
	Batching dust and silo emissions	Nuisance to local population	-	-	N/A		N/A

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			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
	Process atmospheric emissions	Nuisance to local population	3	4	12	Operatives will be briefed, and toolbox talks delivered on emissions from plant. Operators of plant will be told to drive smoothly avoiding harsh acceleration and braking to reduce unnecessary pollution.	LOW
	Noise emissions	Nuisance to local population	4	4	16	Utilise good condition silenced plant. PPM maintenance regime. Low noise emitting plant to be used, Echo sound barriers to be installed if required. Sensitive neighbours regards to the riding school present. Noise and visual barriers to be considered and deployed as part of the main scheme.	Low
	Light emissions	Nuisance to local population	3	3	9	Works are to be carried out during day working hours reducing possibility of light emissions. Site lighting to be directed away from sensitive receptors i.e. residential property.	LOW
	Vibration	Nuisance to local population	4	3	12	Low vibratory plant to be used. If necessary, to break out concrete, then this will be carried out at regular	LOW

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			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
						short intervals to reduce nuisance to residents during day working hours.	
	Odour emissions	Nuisance to local population	2	1	2	Potential odour sources will be monitored on weekly inspections.	LOW
	Road congestion	Nuisance to local population	4	4	16	Adequate signage on highway for directions to site Designated access road for site traffic.	LOW
	Other public rights of way	Loss of amenity value Disruption	3	1	3	Traffic management to be established where cycle track is crossing on the entrance to the works. Gatesman to be deployed and present for all construction vehicles.	LOW
	Visual amenity	Loss of amenity value	2	1	2	Temporary loss during construction phase, good housekeeping and best construction practices.	LOW
	Unsociable working hours	Nuisance to local population	2	4	8	Working hours to be 07:30 to 17:30 hrs with no plant to be mobilised until after 0800hrs	LOW

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			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
Works requiring the consumption of Energy and/or fossil fuels	Energy consumption/carbon management - Construction works	Direct: cost Indirect: atmospheric emissions Resource depletion	4	3	12	Order plant suitable for the task. Order materials as per material take off and enough for the task. Right 1 st time. Use energy efficient plant machinery.	LOW
	Energy consumption/carbon management - Site accommodation	Direct: cost Indirect: atmospheric emissions Resource depletion	4	3	12	Power supply anticipated to be taken from existing site supply. Turn off lights and appliances when not in use Pir to be installed on all lighting. .	LOW
	Energy consumption/carbon management - Transport and logistics	Direct: cost Indirect: atmospheric emissions Resource depletion	4	3	12	Pre order in advance to avoid unnecessary journeys to the builder's merchants. Stockpile muck away and arrange wagons to collect in advance. Order plant so that it can be delivered by the supplier during one trip to avoid multiple journeys.	LOW
	Energy consumption/carbon management - Material selection (embodied energy)	Direct: cost Indirect: atmospheric emissions Resource depletion	4	3	12	Avoid use of concrete where possible Use of FSC certified timber	LOW

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	Energy consumption / carbon management – generation of on-site power	Direct: cost Indirect: atmospheric emissions Resource depletion	4	3	12	Ensure welfare units are in good condition when received and organise/carry out maintenance checks. Thereby reducing call out visits to repair breakdowns	LOW
	Delivery and handling (transfer) of fuels (liquid or gas)	Direct pollution through spills, etc. Waste of resource and cost	3	3	9	Planned deliveries. Banksman to supervise vehicle movements on site. Designated refuelling point with plant nappy and liner inserts available. Spill kit located at buddy tank and at fuel bowser	LOW
Works leading to the generation of Waste	Material storage and damage	Direct: cost Indirect: reduced sustainability	3	3	9	Dedicated and segregated material storage area to be established within site compound. Materials prone to weather damage to be stored in sheltered stores or drying room	
	Creation of litter	Nuisance	4	3	12	All litter to be disposed of in general waste bins contained within welfare units and transferred to 8-to-12-yard enclosed general waste skip. Site compound to be clean and tidy	

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			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
	Waste disposal (duty of care) Construction waste Sewage M&E decommissioning waste, etc.	Contamination Nuisance Pollution Legal compliance	4	4	16	All generated construction waste will be segregated into their separate waste streams. Duty of care checks will be carried out on the waste carrier for their up-to-date licence on NRW website. Disposal tip locations to also be checked to verify they can accept the designated waste by written evidence. Smart waste management plan to document waste movements on site. A waste transfer note will be in place to cover each waste stream movement off site.	
	Surplus excavation/aggregate disposal	Increased cost Reduced sustainability	4	3	12	Ensure temporary works are tight in the excavation to prevent unnecessary loss of ground. Order aggregate for what is needed to minimise waste. Plan through a material take off and monitor during construction phase to better estimate quantities.	
	Packaging waste	Increased cost of disposal Depletion of resources	4	3	12	Packaging waste to be recycled where possible. For example, cardboard boxes. Other packaging waste to be compressed and placed into general waste skip	

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			1 - Negligible 2-3 - Unlikely 4-5 - Likely 6 - Certain	1-2 - Low 2-3 - Moderate 4-5 - High	1-5 - Low 6-15 - Moderate 16-30 - High		
Works in sensitive location or where abnormal operating conditions arise e.g. Emergency response	Abnormal operating conditions e.g. pumping, filtration, water treatment, etc.	Pollution of environment Legal sanction	2	3	6	Follow correct Control and Mitigation measures to prevent abnormal or emergency occurrences. In the event of emergencies, follow correct procedures, act to prevent further damage, report immediately and keep records.	LOW
	Unplanned event (Incidents e.g. spill, fire, etc.)	Pollution of environment Legal sanction	3	4	12	Fire extinguishers inspected weekly and located in the site compound. Spill kits located on moving plant, within site compound and working area as a precautionary measure. Morning briefings to be carried out to communicate weather updates, daily tasks, daily hazards etc.	LOW

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Appendix B

Site Specific Organisation and Arrangements

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Site Specific Environmental Management Plan

Site Specific HSEQ Organisation and Arrangements

Client: Dwr Cymru Welsh Water	Date Compiled:	20/11/2023	Review Date:	16/11/2024
Principal Designer: Morgan Sindall Infrastructure Plc. Contact Peter Brookes, CDM Manager			Principal Contractor: David Stacey Framework Director Morgan Sindall	
Authorised for Use: David Stacey (Framework Director)				
Site	Trebanos WwTW			
Senior Contracts Manager	Sean Murray	Mobile number	07713790392	
Project Manager	Mark Thomas		07812 961 884	
Site Supervisor	Andrew Good		07890 905045	
Incident control:		Office Tel: 01633 963277		
Fire assembly point:		IN PARKING AREA, ADJ. TO COMPOUND		
Welfare facilities located at:		Main Compound		
Will include the following:		Office(s), drying room(s), washing facilities, canteen(s), COSHH cage(s) and stores		
Level of provision	Male	Female		
Facilities as listed below will be provided in compliance with PM STD8 for number of persons as stated	1 to 20	2 VISITING		
CDM Regulations Schedule 2 Requirements.	Male	Female		
Sanitary conveniences	Yes	Yes		
Washing facilities (located in toilets)	Yes	Yes		
Showers (if applicable)	N/A	N/A		
Drinking water (located in canteen)	Yes	Yes		
Changing rooms and lockers (located in drying room)	Yes	N/A		
Facilities for rest (located in canteen)	Yes	Yes		
First aid facilities located at:	IN CANTEEN & IN SITE OFFICE			
Hospital location & contact details:	Moriston Hospital, Heol Maes Eglwys, Morriston, Cwmrhydyceirw, Swansea, SA6 6NL Tel: 01792 702222			
Natural Resources Wales:	Customer Care Centre 0300 065 3000 Incident Hotline 0300 065 3000 Flood line 0345 988 1188			
Design liaison:	ARUP, Barbara Modrzejewska-Baudin			

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List of Appointments

The following named persons shall be appointed in writing detailing their responsibilities. This chart should be displayed on site safety notice boards.

WWCDA App no.	Morgan Sindall procedure	Appointment	Names
1.	PM STD1	Project Manager	Mark Thomas
2.	Letter of appointment	Site Forman/Supervisor	Andrew Good
3.	Letter of appointment	Site Safety Supervisor	Andrew Good
4.	SH PRO7 SH7 STD1 SH STD3	Temporary Works Co-ordinator Appointment by Rugby office	Andrew Good
5.	SH PRO7 SH7 STD1	Temporary Works Supervisor Appointment by Rugby office	Neil Derrick
6.	SH STD5	COSHH Co-ordinator	Andrew Good
7.	PM STD8	First Aider(s)	Andrew Good
8.	Letter of appointment	Emergency/Fire Marshalls	Neil Derrick
9.	Letter of appointment	Waste Co-ordinator	Andrew Good
10.	Letter of appointment	Highways Co-ordinator	Andrew Good
11.	Letter of appointment	Traffic Management Foreman / Supervisor	Andrew Good
12.	SH STD3	Scaffold Inspector	Andrew Good
13.	SH PRO4 SH4 STD1	Electrical Duty Holder	Simon Griffiths
14.	SH PRO4 SH4 STD1	Electrical, Authorised Person, Competent Person or Instructed Person	CARL LLEWELLYN
15.	Letter of appointment	Safety Advisor	Michael Sellers
16.	SH PRO6 SH6 STD1 SH6 GUID1	Service Co-ordinator	Andrew Good
17.	SH PRO6 SH6 STD1 SH6 GUID1	Services Locator	Andrew Good
18.	Letter of appointment	Plant Co-ordinator	Andrew Good

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19.	SH PRO9 SH9 STD1 SH9 GUID1	Appointed Person for Cranes	Huw Williams
20.	SH PRO9 SH9 STD1 SH9 GUID1	Crane / Lift Supervisor(s)	Huw Williams
21.	PM STD2	Induction / Orientation Presenter	Andrew Good
22.	Letter of appointment	Fire Safety Co-ordinator	Andrew Good
23.	Letter of appointment	Incident Co-ordinator	Andrew Good
24.	SH PRO9 SH9 STD1 SH9 GUID1	Signaller /Slinger	TBC
25.	Letter of appointment	PUWER Co-ordinator	Andrew Good
26.	SH PRO3 SH3 STD1	Confined Space Work Entry Permit issuer	Andrew Good
27.	SH REG GUID2	Lifting Equipment Inspector	Andrew Good
28.	SH PRO3 SH3 STD1	Hot Works Permit issuer	Andrew Good
29.	SH PRO6 SH6 STD1 SH6 GUID1 SH PRO3 SH3 STD1	Permit to Break Ground issuer	Andrew Good
30.	Letter of Appointment	Plant/Transport Administrator	Andrea Williams

Appendix C

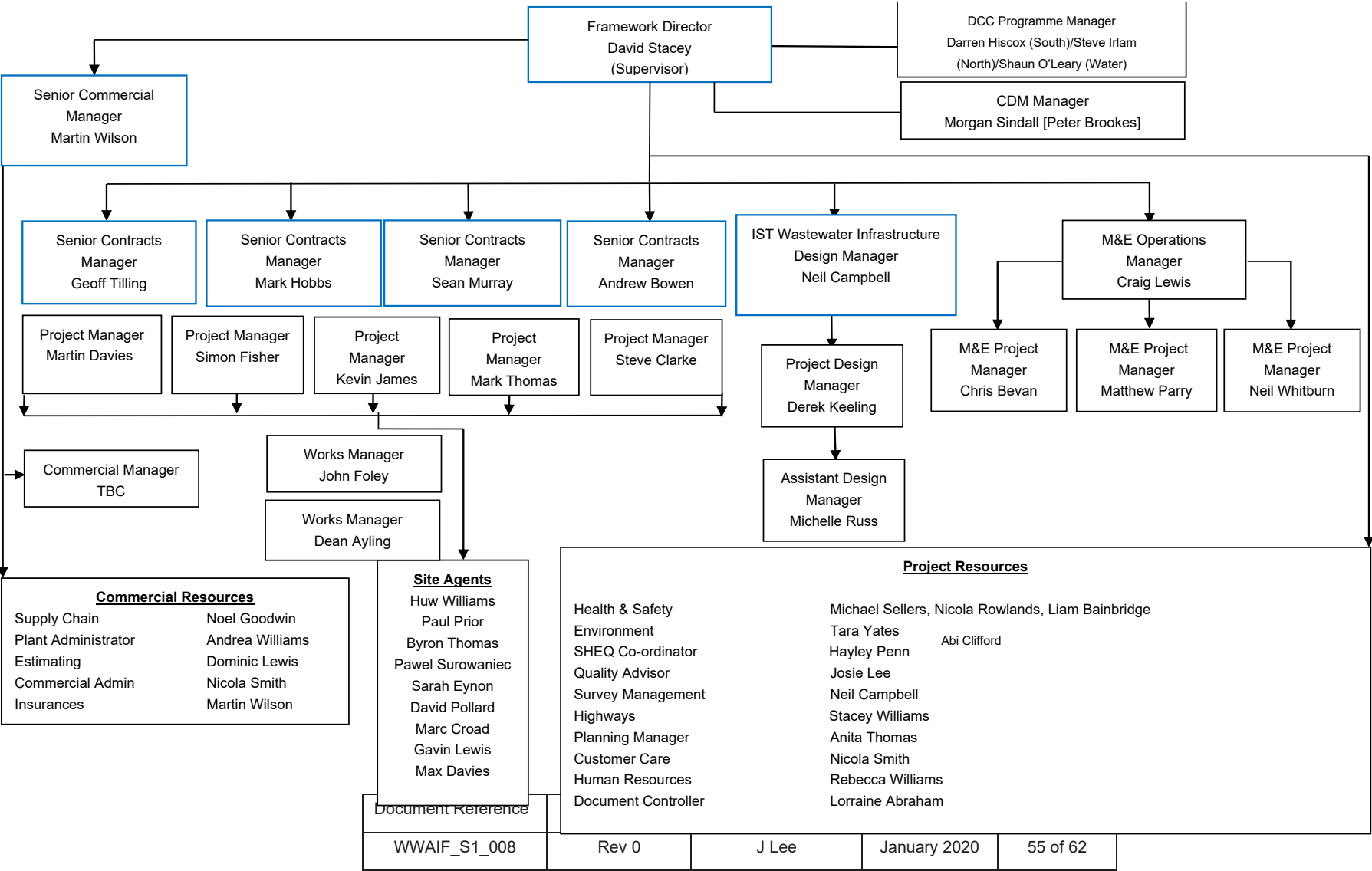
Welsh Water Capital Delivery Alliance

Morgan Sindall Management

Organisation Structure chart

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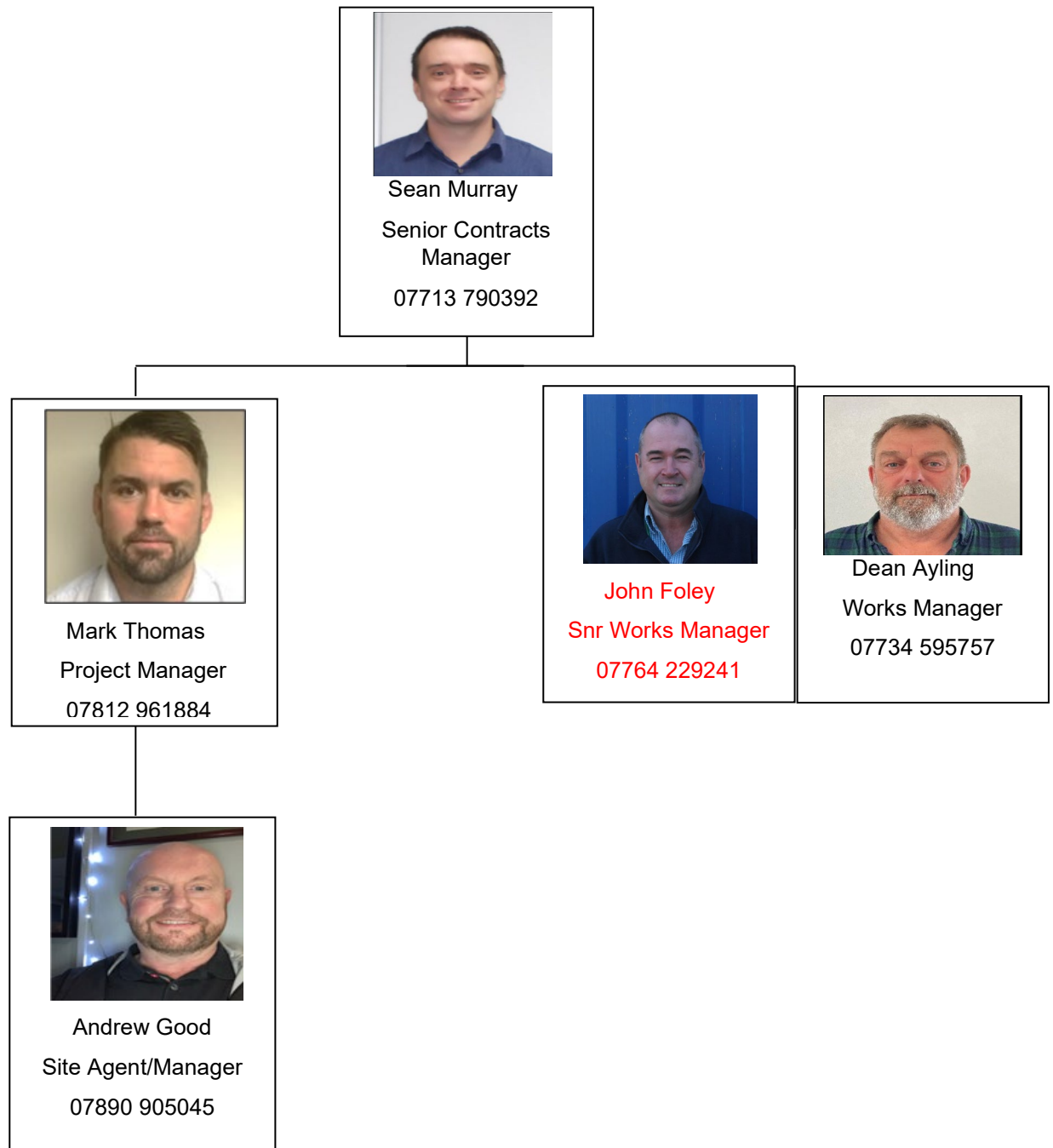
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Site Specific Organisation Structure Chart

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Site Specific Organisation Structure Chart



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Appendix E

NRW – Flood Activity Permit

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Appendix F

Invasive Species Management plan

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Appendix G

Emergency Ideal Response Poster

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S

Q

ENVIRONMENT

BULLETIN



Ideal Response - emergency response partner

Ideal Response will provide emergency response services to Morgan Sindall Infrastructure projects 24 hours a day, 365 days a year. The Ideal Response team aims to attend site within 4 hours of receiving the emergency call to the help desk.
Should we require an emergency response following a major environmental incident, such as a fire, flood, sewage contamination, decontamination, oil or chemical spillage, the following process should be followed:

Stage one Contact the Ideal Response team on the dedicated 24-hour emergency help line 0808 239 9598 And provide the building number, type and location of the emergency (full description), together with contract details.	Stage two Ideal Response will then confirm the expected time of arrival and will send out alerts to the sites nominated managers. Alerts will continue to be sent out during the time the team is on site updating managers and confirming when works have been completed. They aim to be on site within a four hour period.
Stage three Ideal Response will update the project team, in the event that any further steps need to be taken as part of the emergency management process. Before, during and after photographic evidence will be taken by the Ideal Response team and included in the final report together with all other reports as required and agreed by the Ideal Response team.	Stage four Ideal Response project team will project manage the whole operation from the initial assessment through to completion.

Primary points of contact

Adam Bourgeois Key Account Manager Ideal Response T: 0808 239 9598 M: 07515 599 904 W: www.idealresponse.co.uk E: adam@idealgroupuk.co.uk	Murat Kunacav Business Development Manager, Ideal Response T: 0808 239 9598 M: 07515 599 900 W: www.idealresponse.co.uk E: murat@idealresponse.co.uk
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24 Hour Dedicated no: 0808 239 9598

Follow this link to the view the Group trading agreement: https://morgansindallgroup.sharepoint.com/sites/MSIGroup/SharedDocuments/Ideal_Response.aspx



SH&Q Alert date: 31/12/23 Display unit: 31/12/2023

Distribution: Morgan Sindall x Supply Chain x Plant Hire Desk x Morgan Sindall Group

Communication: Toolbox talks / briefings x Noticeboards x SH&Q update x

Everyone has the right to be

100% Safe

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