

VITAL ENERGI UTILITIES LIMITED



VC50795 Sofidel Biomass

PROJECT ENVIRONMENTAL PLAN

50795-VE-SW-XX-EP-EM-XX01

Revision C.03

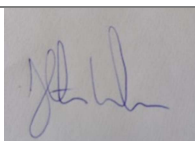
on behalf of
Sofidel UK

Sofidel Biomass – Project Environmental Plan

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APPROVAL

The signatures below certify that this Project Environmental Plan (PEnvP) has been reviewed and accepted and demonstrates that the signatories are aware of all the requirements and are committed to ensuring their provision.

	Name	Signature	Position	Date
Prepared By	Tom Denton		Senior Environmental Advisor	29/11/2024
Reviewed By	Anne Johnstone		Head of ESG	29/11/2024
Approved By	Mike Worrall		Operations Manager	29/11/2024
Subsequent Project Lead Approvals By	Jonathan Walker		Senior Project Manager	11/04/2025

*Signatures are required for the first construction issue only before work commences. After that, the Project Lead can approve changes recorded in the amendment record section below.

AMENDMENT RECORD

This document is reviewed to ensure its continuing relevance to its described systems and processes. A record of contextual additions or omissions is given below:

Revision	Date	Comments/Amendments
P0.1	29/11/24	The initial draft for comment
C1	02/12/24	Approved and issued for Construction
C2	20/12/24	Further detail added on dust and noise in relation to construction activities on site
C3	11/04/25	Admin update plus added complaints procedure

DISTRIBUTION RECORD

Copy	Issue To/Holder's Name	Organisation	Position
1	Sean Black	Vital Energi	SHEQ Director
2	Anne Johnson	Vital Energi	Head of ESG
3	Tom Denton	Vital Energi	Senior Environmental Advisor
4	Mike Worrall	Vital Energi	Operations Manager
5	David Raley	Vital Energi	Senior Construction Manager
6	Jonathan Walker	Vital Energi	Senior Project Manager
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COMPANY PROPRIETARY INFORMATION

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The electronic version of this document is the latest revision. The individual's responsibility is to ensure that any paper material is the current revision. The printed version of this PEnvP is uncontrolled, except when provided with a document reference number and revision.

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Introduction

This Project Environmental Plan (PEnvP) is a project specific plan relating to the Sofidel Biomass project. Vital Energi Utilities Ltd and Sofidel UK Ltd are referred to as “Vital Energi” and “the client” respectively throughout this plan.

This PEnvP has been developed in conjunction (as relevant) with Vital Energi’s Integrated Management System Manual, the CDM Construction Phase Plan, Project Quality Plan and the Commissioning Plan.

The plan is a “living document” to be supplemented and/or revised as the project develops by the introduction of supporting documents as required. This plan will be reviewed on a monthly basis, or in the event that works are deemed to have significantly altered, or where key changes to the plan are identified requiring urgent incorporation into the plan.

The plan details the arrangements which have been put in place for the management of environmental and sustainability matters during the project works.

All parties involved in these works must ensure that they are aware of their duties under relevant legislation. They must make themselves and their employees familiar with the content of this plan and work within the management system defined therein.

1. Aims of the PEnvP

The information contained within this document has been prepared in response to Vital Energi stated Objectives/Targets for environmental improvement and sustainability and is intended to make plain environmental issues specific to the activities associated with Vital Energi project works.

The details within will enable the main contractor and all sub-contractors to develop an Environmental Management framework relating to the project, thus explaining their proposals for ensuring the effective management of environmental issues before and during construction works.

All parties and organisations involved with procuring, developing or executing this construction project have the duty to consider the principles of prevention and protection below:

- Where possible, avoid environmental risk altogether.
- Promote an understanding of the actual and potential environmental consequences associated with existing or planned activities.
- Promote and assure the existence of a positive environmental culture.
- Combat, wherever possible, environmental aspects and impacts at source.
- Take advantage of technological progress.
- Incorporate all prevention and/or protection measures identified into a coherent plan.
- Give precedence to measures which give priority to practical environmental management activities.
- Communicate and ensure the understanding of what needs to be done to all employees and self-employed personnel connected with the project.
- To integrate environmental issues into the day-by-day activities of the organisation.

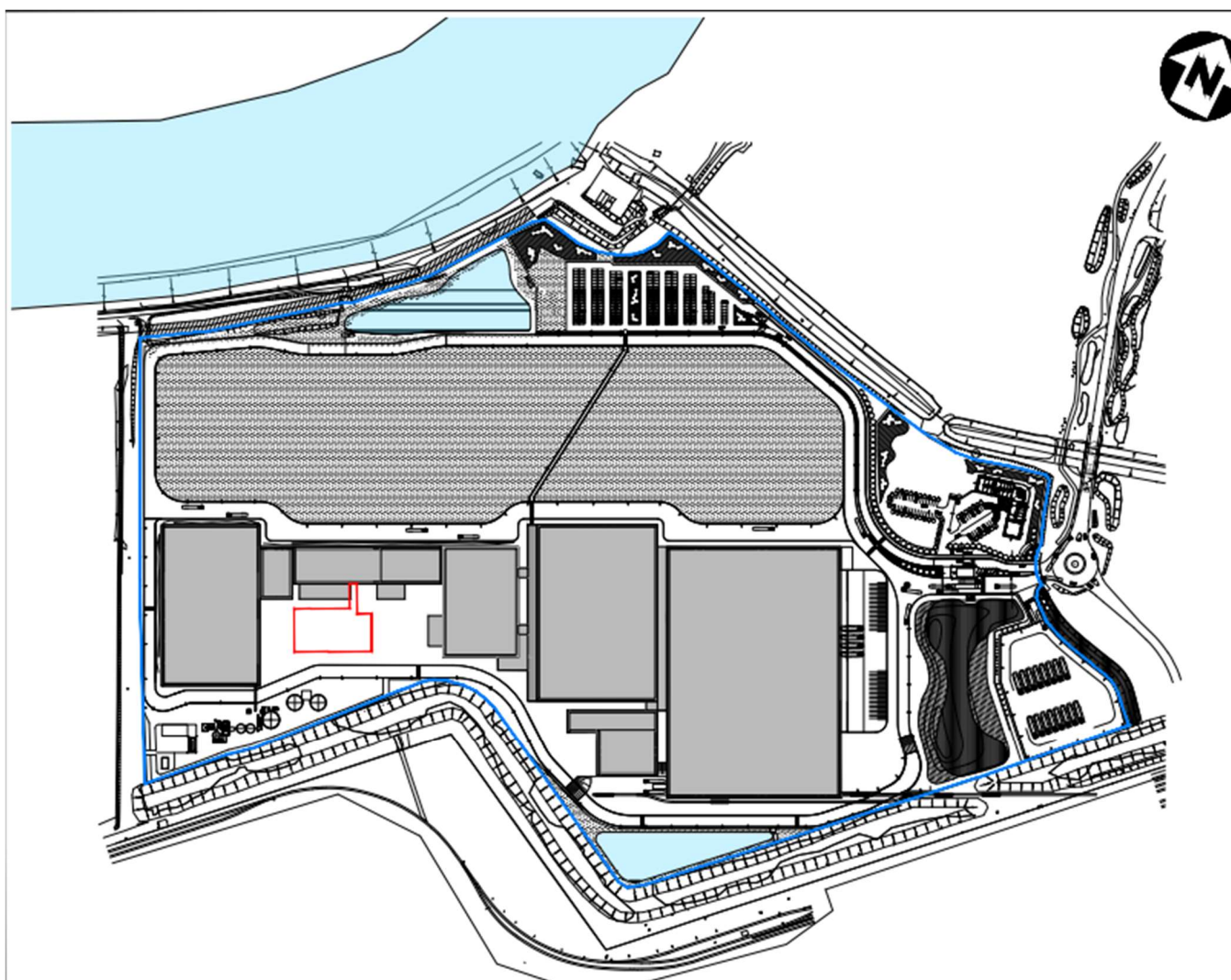
Copies of Vital Energi's Environmental Policy and Sustainability Policy are included in Appendix 1.

2. Project Details

Please refer to the CDM plan (50795-VE-SW-ZZ-HS-PM-XX01) for project details.

2.1 Location

Sofidel UK Ltd, Brunel Way, Baglan Energy Park, Briton Ferry, SA11 2HZ



2.2 Scope of Works

- 1 x 8MW packaged Agroforst Biomass Boiler systems with overall controls integration
- Construction of Energy Centre, associated ground works and landscaping
- Installation of bespoke pipe bridge to connect new Biomass Boiler and associated services to the existing system
- Walking floor fuel store building containing 2 x walking floor fuel feed systems
- Bulk fuel store to accommodate Biomass fuel
- Upgrade of existing controls systems to accommodate new plant and equipment

2.3 List of Parties Involved in the Project

Duty holder	Company Name & Address	Contact	Telephone
Client	Sofidel UK Ltd, Brunel Way, Baglan Energy Park, Briton Ferry, SA11 2HZ	Giuseppe Munari – Country Operations Manager	Email: giuseppe.munari@sofidel.com Mob: 07789 173 833
Client	Sofidel UK Ltd, Brunel Way, Baglan Energy Park, Briton Ferry, SA11 2HZ	Alessandro Dinucci – Corporate Technical Machinery Manager	Email: alessandro.dinucci@sofidel.com Mob: +393469419152
Principal Designer	Safer Sphere, Victoria House, 15 Pocket Nook Street, Merseyside, WA19 1LR	Richard Proctor - Associate	Email: richard.procter@safersphere.co.uk Tel: 01256 510961 Mob: 07704 026 132
Principal Contractor	Vital Energi Utilities Ltd Century House Roman Road Blackburn BB1 2LD	Mike Worrall	Email: mike.worrall@vitalenergi.co.uk Tel: 07818 596845
Designer	Vital Energi Utilities Ltd Century House Roman Road Blackburn BB1 2LD	Lee Moran	Email: lee.moran@vitalenergi.co.uk Tel: 01254 296 000

2.4 Programme

Construction Start Date	15 th March 2024
Construction Programme	88 weeks
Completion Date	19 th December 2025

3. Environmental Site Overview

3.1 Technical Reports

The following documents have been reviewed in the preparation of the PEnvP:

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- Subsurface North West Ltd Desk Study with Walkover Survey, Ref: M3822, May 2024
- IDOM Letter Report, Factual Report – Trial Pitting July 2024, Ref: L-22714-2.4.2-24-536
- Subsurface North West Ltd Ground Investigation Report, Ref: M3822B, September 2024
- Appendix C - Transport Statement
- Appendix D - Air Quality Assessment
- Appendix E - Preliminary Ecological Appraisal
- Appendix F – Ecological Impact Assessment
- Appendix H - Flood Consequences Assessment
- Environmental Risk Assessment – Driven Precast Piles
- 50795-VE-SW-XX-DR-M-XX01 - PA2 - OVERALL SITE STATUTORY PLAN
- 50795-VE-SW-XX-DR-M-XX02 - PA2 - SITE LAYOUT
- 50795-VE-SW-XX-DR-M-XX03 - PA1 - GENERAL ARRANGEMENT PLAN

3.1.1 Current Site Use and Previous Land Uses

The Site sits wholly within the secure boundary of the Intertissue Briton Ferry Paper Mill site, which is situated approximately 1.2km to the south-west of Briton Ferry and 4km to the north-west of Port Talbot and is located on Plot 5 of the Baglan Energy Park (BEP). The existing Paper Mill site occupies circa 32 ha of land, in total, and comprises a series of large, interlinked buildings together with a separate office block and associated infrastructure such as weighbridges, car parking and a HGV trailer parking area. No development prior to the construction of the existing factory (c. 2006) has been identified; however the site does lie within the River Neath estuary and extensive land reclamation has taken place in the area, suspected to be comprised of slag from the local steel industry.

3.1.2 Geology, Hydrogeology and Hydrology

The British Geological Survey (BGS) online mapping (1:50,000 scale) indicates that the site is underlain by superficial tidal flat deposits, generally comprising clay, silt and sand. The superficial deposits are identified as being underlain by the South Wales Middle Coal Measures Formation consisting of mudstone, siltstone and sandstone.

The Phase II investigation established the following ground conditions:

Table 4.1 – Summary of Geological Conditions		
Geological Unit	Description	Thickness/Depth below ground level (bgl)
Made Ground	Bituminous macadam surfacing over black and dark brown ashy gravelly fine to coarse sand with localised low slag and sandstone cobbles and localised shell fragments. The gravel sized component mainly comprised fine to coarse slag, clinker and sandstone with localised siltstone, quartz, brick and plastic	0.41 – 2.8m bgl to 4.0m bgl
Drift deposits	Mainly loose or medium dense becoming dense and very dense brown and greyish brown slightly gravelly slightly silty medium locally fine to medium sand with localised	2.8m – 4.0 m bgl to maximum depth of

	shell fragments. Gravel component comprised mainly subangular to rounded fine to medium sandstone and siltstone	boreholes (15.08m – 15.5m bgl)
Bedrock	Not proven	

Monitoring of groundwater standpipes after the Phase II investigation found groundwater to be around 3.8m bgl. Given the proximity to the estuary, groundwater is likely to be under tidal influence.

A nearby borehole at a similar elevation to the site identified the presence of groundwater at 1.65m.bgl. The site will be wholly hard standing, limiting the vertical migration of groundwater. There are no records of groundwater flooding at or near the site. It can therefore be concluded that the risk of groundwater flooding is very low.

The Phase I assessment identified the site as being in a low-risk radon area (<1% of properties in the surrounding area above the Radon Action Level).

The nearest watercourse is the River Neath which is located approximately 280m north-west of the site. The River Neath flows south-west to Swansea Bay and is tidally influenced in this location. Other watercourses in the area include Baglan Brook which is located approximately 425m north of the site and flows north-west in this location. Baglan Brook joins the River Neath and its flows are regulated by the Seaway Parade pumping station in Baglan.

The Welsh Government Development Advice Map shows that the site is located within Flood Zone B - an area known to have been flooded in the past evidenced by sedimentary deposits. The NRW 'Flood Map for Planning' shows that the site is located within an area outside of the extreme flood extent (Flood Zone 1), meaning it has a less than 0.1% annual probability of flooding from rivers and the sea, including the effects of climate change.

3.1.3 Biodiversity

As the Proposed Development lies wholly within the curtilage of the Sofidel site and does not involve any loss of natural habitats, the PEA scoped out the need for any site-based ecology. The following off-site ecological impacts were considered;

- Air quality impacts on statutory and locally designated sites within 1.5km of the emission source
- Noise impacts on birds, which are qualifying features of a nearby Site of Importance for Nature Conservation (SINC), Baglan Bay.

The Ecological survey has found that there is no requirement for ecological mitigation, as the Proposed Development avoids any damage to habitats or the connectivity of ecological networks and would not result in any indirect impacts on habitats in the wider vicinity.

A proposal has been put forward to install 2 pole mounted barn owl boxes on the western boundary of the paper mill site. The owl box location adjoins an extensive area of open coastal habitats, which provides high-quality foraging habitat. The design is outlined in the Green Infrastructure Statement and states that is subject to planning conditions. The owl boxes would increase the potential biodiversity interest for the wider Sofidel site delivering on site biodiversity gain.

4. Management and Arrangements of the Work

4.1 Project Team

The sustainability duties on this project will be under the direction of the named management team detailed in Table 5.1. The chain of responsibilities is set out in section 4.1 of the CDM Plan.

Table 5.1 – Project Team			
Position	Name	Location	Phone No.
Regional Manager	Simon Jones	Blackburn	07969 752 556
Senior Construction Manager	David Raley	Site/Blackburn	07966 272 704
Operations Manager	Mike Worrall	Site/Blackburn	07818 596 845
Senior Project Manager	Jonathan Walker	Site	07391 418 637
Site Manager	Jimmy Noon	Site	07392 868 052
Environmental Advisor	Tom Denton	Blackburn	07393 012 609
SHEQ Advisor	Simon Wesolowski	Blackburn	07384 830 079
Head of ESG	Anne Johnstone	Blackburn	07795 098 733

Details of the sub-contractors working on this project will be maintained on a project directory, a copy of which can be found in the CDM Plan for the works. This will be updated whenever new subcontractors or staff members join the team.

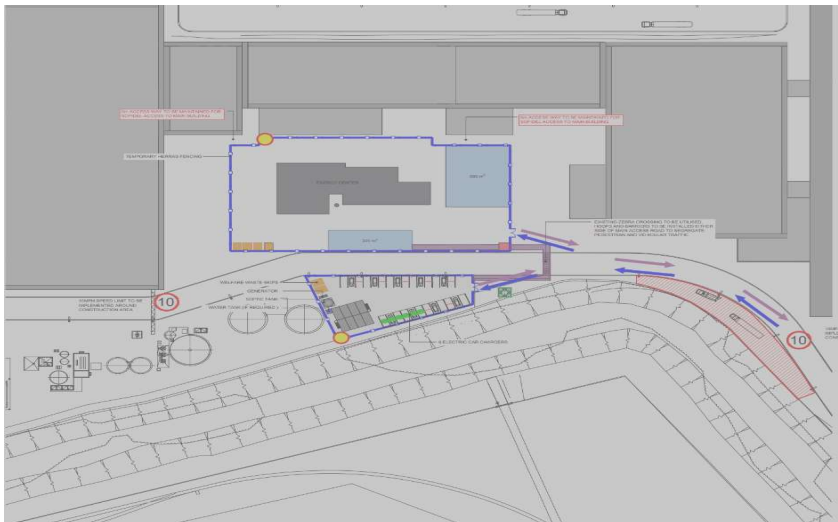
4.2 Site Restrictions

The following existing restrictions have been identified from [tender documentation, pre-construction information, and site visits]. These will be taken into consideration throughout the works.

Table 5.2 – Site Restrictions	
Existing Hazard/Consideration/Restriction	Notes/Controls
Hours of working	07:30 until 17:00 Monday to Friday.
Boundaries and permanent/temporary access	Site boundaries are noted on the site plan and include all temporary access routes, walkways, crossovers and access points.
Delivery, waste collection or storage restrictions	All deliveries will be booked in with the Sofidel Security Office, if two vehicles arrive at the same time, one of the vehicles will be advised to wait within the Sofidel vehicle holding area until the 1st delivery has been made. Our preferred waste contractor (Go Green) is to be used for all waste collections. Storage and segregation are to be identified on-site plan and at prestart meetings

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Site access roads and traffic systems	 The diagram shows a site layout with various buildings and a parking area. A blue dashed line indicates a clockwise route for delivery vehicles. Red arrows show the flow of traffic. A red circle with the number '10' is visible in the bottom left corner of the diagram. Delivery vehicles will be instructed to follow the preexisting roads clockwise to the Vital Energi site, no banksman are required. However all heavy load vehicles such as cranes and large delivery vehicles for the Agroforst plant and equipment will require a banksman or an escort vehicle, this will be covered within the project lifting plans
Existing services (utilities)	Sofidel have issued all available existing services drawings, however Vital Energi employed Layers to carry out a utility mapping survey which is available on request.
Access Restrictions	All permanent workers shall attend a Vital Energi induction course. All visitors to the site will be given a "Visitors Site Safety Induction." Safety critical workers are not permitted to work on a visitor's pass. All permanent workers are to have CSCS or equivalent training as a minimum.
Environmental Considerations, including the historic environment	• The Phase I Environmental Assessment identified a moderate risk to site operatives during construction, end users, underlying secondary aquifers and structures and services from the potential presence of ground contamination. During the Phase II intrusive investigation, soil and groundwater samples were recovered for chemical analysis. Following screening against generic assessment criteria (GAC), the report concluded that the risk to end users, aquifers and structures and services was low, and that the risk to site operatives could be managed through the CDM plan. • A moderate risk to site operatives and end users from ground gas migration was also identified and six rounds of ground gas monitoring were carried out. The levels of gas and flow rates measured indicate the site falls into Characteristic Situation 1 (CS1), i.e. no protection or remedial measures required.

	• An asbestos screen was undertaken on the soil samples and ‘bundles’ of chrysotile and/or amosite fibres were found in four samples at concentrations between 0.003% and 0.035%. • An addendum Asbestos Management Plan was prepared by Idom, which stipulates that groundworks must be undertaken in accordance with an Asbestos Plan of Works, which will be incorporated into the Construction Plan. Health and Safety measures will be required to minimise workers’ exposure to soil and dust; these are specified in the CDM Plan. The risk of asbestos fibre reaching statutory control limits in outdoor air was assessed as very low. • The results of the groundwater analysis indicated that elevated concentrations of heavy metals and PAH compounds are present in superficial groundwater beneath the site. The report concluded that the levels detected were unlikely to have a significant impact on the River Neath or on the underlying aquifer and no remedial actions were identified. However, any groundwater pumped from excavations on site will require testing and appropriate disposal depending on the findings.
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4.3 Roles and Responsibilities

Throughout the project, the **Project Management team** will be responsible for:

- Ensuring that designers, the direct contractor, and subcontractors are promptly supplied with sustainability information relevant to their purpose.
- Ensuring that direct contractors and subcontractors are informed of the minimum time to be allowed for planning and preparation before works commence on site.

The **Design Team** will be responsible for:

- Ensuring the design meets the Client’s sustainability requirements, in particular the Client’s requirements to minimise Scope 3 carbon emissions as far as feasibly possible.
- Ensuring the design follows the requirements of Vital Energi’s Sustainable Procurement Policy and Supplier Code of Conduct.
- Design to minimise waste and use materials that can be easily reused and recycled and have recycled content.

The **Principal Contractor** is responsible for:

- Managing environmental and sustainability site impacts.
- Ensuring sufficient environmental controls are being used during the works.
- Reporting environmental performance to the Client.
- Reviewing and approving direct contractors and subcontractors’ Method Statements prior to commencing works on site.
- Ensuring suitable sustainability training is given to staff and contractors
- Ensuring that all legal requirements are being met
- Setting up the Site Waste Management Plan
- Registering with Considerate Constructors and complying with the requirements of the scheme

The **direct contractor** and **subcontractors** are responsible for:

- Production of Method Statements which detail the environmental controls and procedures which are to be used for specific Project Works activities and tasks.
- Minimising waste by reusing packaging and using takeback schemes where possible.
- Segregating waste into appropriate waste streams to maximise recycling.
- Using approved waste contractors to remove waste and ensure zero waste to landfill.
- Store hazardous materials within secondary containment to prevent pollution from spillage and provide spill kits.
- Record environmental metrics including travel distances to site for deliveries, commuting distances of site personnel, type and volume of fuel consumed on site in generators, energy consumption in site cabins etc.
- Report energy consumption, carbon emissions, wastage figures and recycling rates on a monthly basis.
- Report any environmental hazards or near-misses.
- Carry out environmental toolbox talks.

Named persons for Project Management roles and responsibilities are detailed in Table 5.3:

Description	Responsibility	Delegated To	Frequency
Waste Management Arrangements	Site Manager	Jimmy Noon	As required during the development of the project – monitored weekly
Emergency Environmental Spill Procedures	Senior Environmental Advisor	Tom Denton	Developed prior to project commencement and monitored throughout
Pollution controls	Site Manager	Jimmy Noon	At project commencement and monitored throughout
Environmental Incident and Reporting and Investigation	Senior Environmental Advisor	Tom Denton	Initial reporting and investigation of any incident and compliance with Incident Reporting and Investigation Procedure (VE-SOP-0602)
Induction	Site Manager/ SHEQ Advisor	Jonathan Walker / Jimmy Noon/Simon Wesolowski	All personnel on initial start on site and re-inducted as required
Environmental Inspections	Site Manager/ Senior Environmental Advisor	Jimmy Noon/Tom Denton	As part of the daily/weekly site inspection schedule, monthly site visits by the Environmental Advisor
Permits to Work	Senior Project Manager / Site Manager	Jonathan Walker / Jimmy Noon	Daily
Method Statement acceptance and coordination	Senior Project Manager/Site Manager	Jonathan Walker/Jimmy Noon	On receipt prior to work commencement

Monitoring and reporting of sustainability targets	Operations Manager/Senior Project Manager/Site Manager	Mike Worrall/Jonathan Walker/Jimmy Noon	As works proceed Checking of materials used and compliance with targets Weekly checking of transport/waste/consumption figures Monthly reporting to client
Complaints Logging and response	Operations Manager/Senior Project Manager/Site Manager	Mike Worrall/Jonathan Walker/Jimmy Noon	Report on complaints received Monthly reports to clients

5. Operational Controls

5.1 Aspects & Impacts and Mitigation Measures

A copy of the Environmental Aspects & Impacts can be found in Appendix 2 of the PEnvP.

The Environmental Aspects & Impacts assessment includes a risk rating to include likelihood of an event occurring and indication of potential severity. The assessment also indicates the control and mitigation measures that need to be used to ensure a low residual risk rating.

It also includes a reference to relevant controls plans and other documentation which may give further detail on mitigation measures and best practice methods.

The following items have been identified as significant aspects and represent the key environmental risks on the project.

Table 5.1 – Project Significant Aspects & Impacts Register				
No.	Significant Aspect	Impact & Legislation	Control/Mitigation Measures	Other Documentation (if relevant)
1.2	Fuel Consumption	- Damage to natural environment - Excess noise from use of fuel-powered systems such as generators - Leaks/spills of fuel	- Turn off vehicle/plant engines when not in use - Encourage use of low-emission fuels - Vehicles and plant to be maintained regularly - All vehicles to comply with UK legislation	PUWER and LOLER registers on-site

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2.4	Emissions of greenhouse gases, particulates and other contaminants via exhaust fumes and CO2 emissions from energy consumption	- Local air pollution and contributory global pressures - Potential loss of habitat and amenities - Damage to respiratory health	- Encourage the use of low CO2 for transportation - Low energy usage plant, lighting and equipment to be used where possible	
4.2	Fire related emergency	- CO2 pollution and other harmful emissions contributing to anthropogenic climate change - Damage to local environment including wildlife, ecosystems and biodiversity	Inspection programme, emergency plans	- Emergency Situation Procedure - Toolbox talks and SHEQ bulletins
5.1	Use and consumption of materials	- Impact of waste generation on the environment - Natural resource depletion - Accidental release of hazardous waste into the environment	- Use Go Green as waste management broker - Use Go Green portal to manage waste	- Site Waste Management Plan (SWMP) - Waste Management Procedure
5.2	Use of chemicals/ hazardous substances	- High potential environmental impact if mixed with general waste streams - Impact on local biodiversity and wildlife - Potential public health risks - Impact on controlled waters	- Completion of COSHH assessments - Safe and secure storage of products - Safe and secure storage of waste and uplift by an approved specialist contractor	- SWMP - Waste Management Procedure - COSHH register

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6.5	Leaks and spills of hazardous materials	• Ground contamination • Contamination of water courses posing a threat to aquatic life • Air pollution and potential health risks for surrounding communities • Damage to wildlife and habitats • Long-term human health effects • Legal consequences, fines and reputational damage	• Use double-skinned storage containers for oil and chemicals and/or use secondary containment with sufficient capacity to contain contents • Deploy spill kits in strategic locations across the site • Segregate suspected contaminated soils and adopt measures to control ground infiltration/runoff • Management procedures for shallow groundwater ingress/rainwater in excavations	
7	Management of noise and dust during construction activities	• Noise pollution to nearby commercial and residential areas during piling and excavation works • Dust pollution which could affect air quality around Sofidel site and surrounding areas	• Use noise monitoring equipment during construction activities such as piling and steel work erection. • Measurements to be taken at site boundaries in line with NVC Noise Impact Assessment Section 6, Construction Noise & Vibration – Table 6.1 • If generated noise exceeds the required action levels, than works will cease and potential control measures will be reviewed and discussed with the relevant parties, however as stated in NVC Noise Impact Assessment, Section	• NVC Noise Impact Assessment, Section 6, Construction Noise and Vibration, Appendix D within this report

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			6, Construction Noise & Vibration – Table 6.1, it has been demonstrated that the risk of exceeding the typical residual noise levels is extremely low • Dust suppression to be used during excavation works, e.g. using water to dampen down • Any cutting works likely to create dust will be undertaken using suitable water suppression • Any vehicle movements during periods of dry weather will be restricted and / or dampened down • Speed restrictions will be in place • Road Sweepers will be used frequently • Wheel Wash facilities will be provided	
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5.2 Project Drawings

A copy of the project drawings will be held in the project site office.

5.3 Permits and Consents

No permits or consents are required.

5.4 Legal and Other Requirements

Vital Energi subscribes to an online legal register supplied by Croner. This register is updated monthly and provides access to and evaluation of all environmental and health & safety legislation which is applicable to Vital Energi’s activities. The register provides access to the full legislation and includes a summary of its contents. It also includes details on the applicability to Vital Energi’s operations and a summary of our methods of compliance.

Vital Energi's SHEQ Director and Head of ESG will review all applicable legislation to ensure that our operational procedures as defined in our Integrated Management System manual are in compliance. Legal requirements will be checked during the regular SHEQ visits and site audits.

Vital Energi's *Friday Pack Return Sheet* (VE-FRM-0618) must be completed weekly by the Project Manager. A blank copy is included in Appendix 3 of this plan by way of information.

5.5 Objectives and Targets

The specific project works stage environmental objectives and targets are listed below.

Table 5.2 Project Works Sustainability Targets		
Target	Requirement	Notes
Sustainable Sourcing	Follow Vital Energi <i>Sustainable Procurement Policy</i> Avoid products difficult to reuse or recycle Choose local suppliers where possible Use materials with high recycled content where possible Avoid hazardous materials Avoid products/services at risk of forced labour/modern slavery without sufficient transparency about supply chain	
Incident Management	Zero Notifiable Environmental Incidents	Report all environmental incidents or near misses Follow the <i>Incident Reporting and Investigation Procedure</i> (VE-SOP-0602)
Waste	All waste will be segregated into mixed timber and metal waste. Materials will be utilised as best practices to minimise the amount of waste produced. Use Go-Green as Waste Management Broker and local authorised waste carriers /disposers to satisfy environmental statutes/targets. Project Dashboard available via Go-Green portal.	See Site Waste Management Plan

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	Spoil and other “Muck” to be controlled and recycled where possible – See <u>Temporary Works Procedure</u> VE-SOP-0647	
Air Quality	Control dust Use low emission vehicles Use HVO fuel in generators Ensure plant is well maintained and avoid idling of vehicles/plant	
Biodiversity	No ecological protection measures required.	
Energy & Carbon	Turn off plant and equipment when not in use Use EV or hybrid vehicles for employee transport	
Land & Groundwater Contamination	Use drip trays under all equipment containing oil Use bunds/secondary containment to store drums of fuel/chemicals Have spill kits next to all hazardous materials Store hazardous materials away from water courses and drains Sample any groundwater pumped from excavations and test for contamination Follow the Asbestos Plan of Works	
Noise & Vibration	Work only within permitted times	
Surface Water Protection & Drainage	Use plant nappies or drip trays under all oil using equipment Use bunds for storage of all hazardous materials Store hazardous materials away from water courses	

	Site surface water drainage system has been designed and approval has been received from the SAB authority. Application number S2024/0033	
Sustainable Transport	Use low carbon forms of transport wherever possible Record mode of transport Maximise sustainable transport wherever possible Follow Traffic Management Plan	

5.6 Procurement Process

All potential contractors and suppliers must comply with Vital Energi's pre-qualification requirements. This includes signing up to either Alcumus SafeContractor or SafeSupplier, complying with Vital Energi's Supplier Code of Conduct and issuing relevant documentation to determine health, safety and environmental competence as required by the CDM regulations. A full credit check is also carried out as part of the pre-qualification process.

Once a contractor/supplier has passed the pre-qualification process they are entered onto the Vital Energi Supply Chain database and are available for the project teams to use.

A key part of meeting both our own net zero commitments and the sustainability commitments we have made in this project, our suppliers and contractors have also been asked to provide us with information on their Scope 1 and 2 emissions, as well as information on the embodied carbon of the products that will be utilised as part of the project.

The tender list for the various works packages on the project has been drawn up from contractors/suppliers selected from the Supply Chain database dependent upon their experience and capability to undertake the works required. Shortlisted contractors and suppliers have then been asked to provide information related to sustainability targets, including embodied carbon, geographical location, and modern slavery policies to name a few.

Upon the return of the tender documents, the Vital Energi Commercial team will prepare a Tender Report and make recommendations for appointment. These recommendations are based on an optimum mix of expertise, market leading technical excellence, local social added value, sustainability performance, cost control and quality compliance.

Environmental and sustainability requirements are further reviewed as part of the pre-commencement process before works start on site.

5.7 Competence, Training and Awareness

Vital Energi determines the need for competence, training and awareness of staff via its training matrix. The training matrix is managed by the People team with input from senior divisional and line managers to ensure that all staff have the appropriate skills, abilities, and competence for their roles within the business generally and on the project specifically. These are reviewed regularly throughout the year and more formally annually during the performance appraisal process.

Environmental training is delivered via a number of channels. These include:

5.7.1 Vital Energi Company Induction

All new Vital Energi staff receive a one-day company induction on their first day in the business or as soon as practicable thereafter, delivered at our Head Office in Blackburn, including Health & Safety and Environmental awareness.

5.7.2 Site Induction

All Vital Energi staff, consultants, visitors and contractors will receive a specific site induction for the project. This will include the environmental aspects and impacts and sustainability objectives and targets for the project.

5.7.3 Risk Assessment Briefings

All persons working on the project will receive detailed briefings on applicable Method Statements to ensure that they are fully understood before works commence. These will include a briefing on any environmental aspects to the works and mitigation measures which must be employed.

5.7.4 Toolbox Talks

Weekly toolbox talks will be given on a range of applicable SHEQ topics relevant to the project. Below is a list of toolbox talks that need to be delivered during the construction phase of the project. The list is based on the significant environmental aspects, impacts and risks outlined in this PEnvP. This will ensure that all on-site personnel are aware of key environmental issues and have a practical understanding of key issues. Please note that this list is not exhaustive:

- E01 – Sustainable Construction
- E03 – Environmental Incidents
- E04 – Emergency Spill Control
- E05 – Waste Management
- E10 – Pumping, over pumping and washing down plant

5.7.5 Project Environmental Awareness

A specific training workshop will be held covering all the project environmental and sustainability issues to raise awareness of the objectives and targets that must be achieved.

5.7.6 Waste Management Awareness

A zero waste to landfill plan will be prepared for the project by our specialist waste management contractor, Go Green. We will engage with all subcontractors to identify reduction methods, opportunities for reuse of materials and the segregation of waste for recycling.

5.7.7 Spill Kit & Emergency Procedures Training

Key individuals and supervisors will be given spill kit and environmental emergency response procedures training. Any Emergency Procedures required for ecological protection will be communicated to all staff and contractors as part of the site induction; copies will be held on site and all personnel will be expected to be familiar with the required measures.

5.7.8 Record Keeping

Training will be provided when required by the contract programme and upon the availability of staff and contractors. All environmental training will be recorded using the QA training record form and stored on the company training record database.

5.8 Operational Control

The Vital Energi Integrated Management System (IMS) is used by all Vital Energi staff.

The IMS covers all aspects of operations in our offices and on our projects and acts a guide and a procedures manual for Vital Energi staff. It covers all aspects of health and safety, quality and environmental management as well as including advice and guidance on sustainability initiatives.

To ensure that our procedures are in accordance with the highest standards possible we have certified the IMS in accordance with the latest versions of five main international standards for management systems. These are:

- ISO 9001 Quality Management System
- ISO 14001 Environmental Management System
- ISO 27001 Information Security Management System
- ISO 45001 Occupational Health & Safety Management System
- ISO 50001 Energy Management System

Our certification body BMT Trada carry out routine inspections and audits of our offices and sites to ensure that we are compliant with these standards.

Contractors will produce Method Statements which detail the environmental controls and procedures which are to be used for specific project activities and tasks. These will be reviewed and approved by the Vital Energi Project Manager before the contractors commence work on site.

To ensure compliance with the Vital Energi company standards and to the requirements of this PEnvP, regular site inspections and audits will be undertaken by Vital Energi site staff and visiting supporting staff.

5.9 Pollution Prevention

A range of mitigation measures will be used during the works to prevent pollution:

5.9.1 Mitigation of Water and Land/Soil Pollution

- Drainage plans – a comprehensive drainage plan of the site will be available showing all drainage routes and the location of surface watercourses.
- All storage containers, drums and tanks will be clearly marked up with their contents.
- COSHH data sheets for all substances will be kept in the Vital Energi site office.
- Spill kits will be located close to refuelling and storage areas and project staff will be trained in their use.
- Drip trays or plant nappies to be used under oil using plant such as generators. These will be checked and emptied/replaced regularly.
- Pumping of silt water from excavations, wheel washing, road cleaning etc. will not be allowed to enter surface watercourses or drains. Methods of disposal must be agreed with Vital Energi and included within Method Statements.
- Rainwater contaminated with silt, oil or chemicals will not be allowed to enter surface watercourses or drains. Drain covers will be used where necessary.
- Concrete spillage or washout to be controlled and not be allowed to enter surface watercourses or drains. Drain covers will be used where necessary.
- Skips and waste containers will be located on impervious ground to prevent leaks contaminating ground and surface watercourses.
- Waste streams will be segregated to maximise recovery. Skips and waste containers will be clearly labelled, will not be overfilled and will be covered to prevent litter being blown out and rain penetration.

5.9.2 Mitigation of Air and Noise Pollution

- Ensure materials are used as defined by their COSHH assessments.
- Ensure material deliveries have adequate covering and sheeting.
- Ensure that all vehicles and plant are well maintained and switch off engines when not in use.
- All vehicles comply to UK regulations.
- Encourage the use of low emission fuels, e.g. LPG, electric/hybrid vehicles, biofuels, low sulphur petrol etc.
- Minimise vehicle movements wherever possible, implemented through the Traffic Management Plan.
- No fires will be permitted on site at any time.
- Office and kitchen waste to be stored in bins with lids and regularly collected.
- Implement operational restrictions for noisy operations.
- Ensure plant is fitted with noise reduction devices or mufflers etc.
- Regularly check dust/noise levels within the site, measuring and monitoring if required.

5.9.3 Mitigation of Light Pollution

- Plan locations of lighting to reduce risk of pollution to receptors.
- Light baffles and project luminaries used to control spread of light.

- Times and daylight sensors used to control non-essential lighting.

5.10 Environmental Incidents

5.10.1 Definition of an environmental incident

An environmental incident is any event which has or could have caused damage to any environmental receptor, including air, soil, water, organisms, and habitats. Incidents could include encountering unexpected contamination, flooding, spills and leakages, destruction of habitat, and fires.

Incidents often lead to non-compliance with legal and other requirements such as planning consents, Employer Requirements, and Vital Energi policies and procedures. All types of environmental incident and near miss must be reported, no matter how small.

The following incident categories will be used when determining the severity of an environmental incident.

Table 5.3 – Description of Environmental Incident Categories	
Incident Level	Description
Category 1 Major Incident – leading to prosecution	A major environmental incident will result in likely prosecution or a restriction of work. It will generally be non-routine and large-scale. It could also be due to a persistent and significant breach of permit/licence or consent conditions.
Category 2 Significant Incident – potential for prosecution	A significant environmental incident could result in prosecution or a restriction of work. It could also be due to a persistent non-significant breach or significant non-persistent breach of consent conditions or a significant or persistent breach of a monitoring threshold.
Category 3 Moderate to Minor incident	A moderate to minor environmental incident, including receipt of a substantiated complaint associated with a specific site activity. This could also be due to non-significant and non-persistent exceedance of a monitoring threshold.
Category 4 Very Minor Incident	A very minor environmental incident which can be easily remedied and cleared
Category 5 Near Miss	A near miss is considered to have occurred where an activity has taken place, which could have resulted in an environmental incident, but the occurrence has had no effect on a receptor, either due to luck or as a result of appropriate management systems being in place.

5.10.2 Incident Reporting

All environmental incidents or near misses will be reported to the Vital Energi Site Manager. The Vital Energi Environmental Advisor will investigate incidents in accordance with our Emergency Situations Procedure (VE-SOP-0014).

Leaks and spills must be avoided. In the event of unforeseen leaks/spills of hazardous material, spill kits must be available and suitable for the nature of the spill. In the event of any spill, the immediate response is to attempt to prevent environmental impact. Any waste produced because of actions taken needs to be disposed of as hazardous waste as per COSHH and Duty of Care regulations.

Incidents that involve pollution, fish kills or the release of hazardous substances will be immediately reported to the Pollution hotline: **0800 80 70 60**

5.11 Environmental Monitoring and Reporting

Vital Energi will carry out site inspections and monitoring for environmental compliance and pollution control. Inspections will be recorded through our online platform, SHE Assure. The schedule of inspections and key responsibilities are set out in the table below.

Table 5.4 – Schedule & Responsibilities for Inspections		
Activity	Frequency	Responsibility
SHEQ Inspection	Monthly	SHEQ Advisor
Site Inspection	Weekly	Project Manager
Dust, noise, waste storage, mud on roads, general site tidiness	Daily	Project Manager
Sustainability Inspection	Quarterly	Environmental Advisor
Senior Management Inspection	Monthly	Contracts Managers/ Operations Managers
Director Safety Tour	At least one during the construction phase	Regional Manager/Director

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APPENDIX 1 – VITAL ENERGI ENVIRONMENTAL & SUSTAINABILITY POLICIES



VE-POL-0009

SUSTAINABILITY POLICY

Policy statement: As a leading provider of innovative sustainable energy solutions, Vital Energi's purpose is to protect our planet for future generations. Guided by this purpose, we will support the transition to a net zero future in a sustainable way, creating value for our customers, employees, suppliers, investors, local communities and the environment.

POLICY PURPOSE
This policy is intended to ensure that while Vital focuses on its core mission, transforming the energy system to net zero, it also considers the implications of its actions more broadly and makes ethical and sustainable decisions both in its direct operations and its value chain.

ROLES AND RESPONSIBILITIES
This policy applies to all Vital employees and those working on our behalf; everyone is responsible for ensuring the policy is adhered to. It is one of a suite of policies intended to communicate our values and standards to all stakeholders, fostering confidence that Vital is a responsible company to work for, buy from, invest in and partner with. This policy is owned by the Head of Environment, Social and Governance (ESG) with ultimate oversight resting with the Vital Group Board, including the approval of any changes to the policy.

ACTION AREAS
Vital Energi has committed to reducing Scope 1 and 2 carbon emissions by 50% by 2030 from a 2023 baseline (without offsets) and achieving net zero by 2035. Through our ESG Strategy, we will set sustainability targets for other material ESG areas to be delivered by 2030, contributing to achieving the UN Sustainable Development Goals. Our focus areas will be:

- Science-based climate action
- Green energy in harmony with nature
- A just and fair green transition
- Governance that enables the right decisions

We will ensure that adequate resources are allocated to achieving our targets and that the necessary investment

is made in technology, partnerships, knowledge sharing, cross-skills training, and personnel.

PRINCIPLES OF CONDUCT
Sustainability is central to Vital's purpose, mission and vision. We are committed to a fair and just transition to a net zero future where we create and share value with our stakeholders and wider society. To ensure that sustainability is embedded throughout our business, we have adopted the following principles which apply to all our activities and are fully integrated into both our internal decision-making processes and our external interactions:

1. Embed a stakeholder-focused mindset in our business, balancing people, planet and profit over the short-, medium- and long-term.
2. Regularly engage with key stakeholders to identify our most material sustainability impacts and set measurable, ambitious goals and targets to manage those impacts.
3. Be transparent in how stakeholder perspectives feed into our actions and decision-making by making our Stakeholder Engagement Strategy and Sustainable Procurement Policy available to all.
4. Align our business strategy with the UN Sustainable Development Goals (the Goals) and be explicit in our Annual Sustainability Statement about our contributions, both positive and negative, to the Goals.
5. Employ internationally recognised ESG disclosure frameworks, such as the Global Reporting Initiative (GRI) Standards, to disclose our sustainability impacts.
6. Publicly publish detailed information on our sustainability policies, practices and performance annually in both our Strategic Report and Annual Sustainability Statement to allow stakeholders to assess our performance.

CONTINUAL IMPROVEMENT
Vital Energi believes that holding ourselves accountable to our stakeholders for our sustainability impact will drive improvement in our performance. We commit to setting and reviewing ESG objectives and targets for annual continuous improvement in line with our vision, scope and ambition to maintain our social licence to operate. As part of our commitment, we will communicate this policy to all employees and organisations working on our behalf and ensure the latest version is available on our website for interested parties to view it openly as appropriate. This policy will be reviewed at least annually.



Gary Fielding
Chairman
Date: January 2025



Ian Whitelock
CEO
Date: January 2025

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VE-POL-0003

ENVIRONMENTAL POLICY

Policy statement: The Company is committed to achieving net zero emissions by 2035, protecting the environment, complying with all applicable environmental legislation and maintaining an externally accredited Environmental Management System to the ISO 14001:2015 standard.

BACKGROUND

Vital Holdings Ltd and its subsidiaries (the Company) delivers innovative sustainable energy solutions for energy generation, distribution and energy demand reduction that cut energy bills, consider the environment and provide security of supply. We focus on three main areas: creating sustainable and viable means of generating and distributing energy; the management, measurement and reduction of consumption; and the long-term operation and maintenance of low or zero carbon energy infrastructure.

POLICY PURPOSE

The purpose of this policy is to identify and mitigate material impacts, manage environmental risks, inform our carbon reporting and engage positively with the Company's key stakeholders to deliver continual improvement in lowering the environmental impacts of our business decisions.

ROLES AND RESPONSIBILITIES

This policy applies to all Vital employees and those working on our behalf; everyone is responsible for ensuring the policy is adhered to. It is one of a suite of policies intended to communicate our values and standards to all stakeholders, fostering confidence that Vital is a responsible company to work for, buy from, invest in and partner with. This policy is owned by the Director of Safety, Health, Environment and Quality (SHEQ) with ultimate oversight resting with the Vital Group Board, including the approval of any changes to the policy.

PRINCIPLES OF CONDUCT

To ensure that our commitment to the environment is embedded throughout

our business, we have identified a set of principles of conduct. These principles apply to all our activities and are fully integrated into our internal decision-making processes:

1. Understand the full scope of the environmental impacts of our operations.
2. Reduce our environmental impact through design, installation and asset management; using less energy, water and materials and minimising waste
3. Apply the principle of mitigation (avoid, minimise, restore and compensate as a last resort) to ecosystems, air quality and biodiversity impacted by our operations.
4. Assess the environmental risks of our activities on a regular basis, improving and updating systems to prevent, mitigate or where possible and practical eradicate risks.
5. Empower employees and non-employees working on our behalf alike to make contributions that improve our performance and reduce our environmental impact through training, education and creating an environment where concerns can be raised without fear of reprisal.
6. Improve the circularity of our business activities and those of our suppliers and clients through the sustainable use of natural resources, the implementation of lifecycle analysis, the application of the waste hierarchy, maximising reuse and increasing the percentage of recycled or recovered materials in products.
7. Drive progress toward environmental sustainability through public engagement.
8. Industry collaboration and investment in/development of new technologies.



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ENVIRONMENTAL POLICY

VE-POL-0003

Based on the nature of our business, we have identified the following **priority action areas**:

- | | |
|---|--|
| <p>1 Climate action - we aim to measure our greenhouse gas emissions as fully as possible and reduce them in line with a 1.5°C pathway.</p> <p>2 Energy use - manage and monitor energy efficiency on site, deploy energy-efficient site accommodation, and conduct resource and equipment management in line with our Energy Policy.</p> <p>3 Procurement - as a responsible business we aim to source sustainable products and services, where practicable, by applying our Sustainable Procurement Policy and Supplier Code of Conduct.</p> <p>4 Transport - we aim to encourage employees and our supply chain to consider using more sustainable transport options by providing awareness, training and guidance within our business travel and expenditure policy and Supplier Code of Conduct.</p> <p>5 Competency and awareness - we will provide training and support to both employees and non-employee workers and, where necessary and appropriate, to our supply chain to ensure that we are able to fulfil our commitments.</p> | <p>6 Waste and natural resources - collaborating with our partner Go Green we aim to reduce pressure on natural resources and reduce total waste produced by our activities by implementing our waste hierarchy of prevention, reuse, recycling, recovery and disposal for all possible materials and reducing total waste produced by our activities.</p> <p>7 Pollution - we aim to prevent pollution through identifying potential environmental risks, implementing management plans and ensuring employees and suppliers know how to handle an environmental incident should it occur.</p> <p>8 Conservation and Protection of the Natural Environment - ensure sustainable construction throughout our works by employing minimisation or mitigation strategies for any risk to disruption to the environment and habitats and take opportunities to recover ecosystems by minimising biodiversity loss, protecting existing biodiversity and conducting biodiversity enhancement.</p> |
|---|--|

ACTION AREAS

CONTINUAL IMPROVEMENT

The Company understands the importance of strong environmental awareness and effective environmental management. We are fully committed to preventing pollution and meeting statutory requirements. Further, we commit to setting and reviewing environmental objectives and targets for annual continuous improvement in line with our vision, scope and ambition to remain a market leader in sustainable energy solutions.

As part of our commitment, we will communicate this policy to all employees and organisations working on our behalf and ensure the latest version is available on our website for interested parties to view it openly as appropriate. This policy will be reviewed at least annually.

BOARD APPROVAL

This statement has been approved by the Chairman and Chief Executive Officer



Gary Fielding
Chairman
Date: January 2025



Ian Whitelock
CEO
Date: January 2025

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APPENDIX 2 – ASPECTS AND IMPACTS REGISTER

APPENDIX 3 – FRIDAY PACK RETURNS SHEET

Friday Pack Return Sheet

VE-FRM-0618-v2.0



Company Name		Name of Person Completing Return				
Project		Date of Return				
Number of New Starters in week		Number of Apprentices/trainees on site				
Date of last PAT test		Confirm PPE is in good order for all Operatives				
Number of Spill Kits On-Site?		Near Miss/Good Practice Reports Received/Shared				
Names of SMSTS or SSSTS Supervisors	Names of Trained First Aiders	Names of PASMA/IPAF Trained Operatives	Names of Trained Fire Marshalls	Names of Abrasive Wheels Trained Operatives		
	Documentation to be provided (<i>attached</i>)	Provided? Tick			Comments	Check By VE
		Yes	No	N/A		
1	Weekly Labour returns					
2	Safe Systems of Work - include any new, reviewed or updated Risk Assessments, Method Statements, COSHH Assessments/MSDS etc.					
3	Method Statement Briefings					
4	Daily Point of Work Risk Assessment					
5	Daily User Pre-work Plant Checklists					
6	Daily Mobile Tower Inspections & Register					
7	Daily Podium/Delta Deck/Steps Pre-use Inspection & register					
8	Daily Harness/Fall equipment inspections & register					
9	Daily Excavation/TWS Inspections & Register					
	Temporary Works drawings and material supplied to site.					
10	Weekly Scaffold inspection records and thorough examination certificates					
11	Weekly Toolbox Talk attached - register & briefing notes					
12	Weekly Site Managers SHEQ Inspection					
13	Fortnightly External SHEQ Inspection					
14	COSHH Register if updated in period					

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Friday Pack Return Sheet

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	Documentation to be provided (<i>attached</i>)	Provided? Tick			Comments	Check By VE
		Yes	No	N/A		
15	Plant Register <i>if updated in period</i>					
16	Plant Pre-Use Inspections <i>if updated in period</i>					
17	Plant Thorough Examination Certs. <i>if updated in period</i>					
18	Lifting accessories register <i>if updated in period</i>					
19	Insurance Documents <i>if updated in period</i>					
20	PAT Testing register <i>if updated in period</i>					
21	Calibration Certificates <i>if updated in period</i>					
22	Inspection Test Plan <i>if updated in period</i>					
23	Abrasive Wheel Register <i>if updated in period</i>					
24	Training Certificates					
25	HAVS monitoring					
26	Daily Storage Area Inspections					
27	Sustainability Toolbox Talks Completed? Register & briefing notes					
28	Waste Transfer Notes - all waste removed, inc. toilet/haz waste					
29	Waste Carrier License & End Use Permits					
30	Fuel Usage: diesel/petrol/gas/oil					
31	Deliveries of materials - quantity, type, vehicle type, distance					
33	Plant delivery – plant type, transport distances, fuel type					
34						
35						

Total Distance Travelled To Site By Team In Week (in Miles): estimated if not metered	Form Of Travel			
	Diesel Vehicle		Petrol Vehicle	Electric Vehicle
	Number of Passengers		Vehicle Type	

Feedback received from operatives Please consult with your operatives and provide any feedback for us on how we can make the site safer.

**APPENDIX 4 – NVC NOISE IMPACT ASSESSMENT SECTION 6 : CONSTRUCTION
NOISE AND VIBRATION****CONSTRUCTION NOISE & VIBRATION****Construction Noise**

In general, the level of noise in the local environs arising from the construction of a development site will depend on a number of factors. The most significant of which are as follows:

- The sound power levels (SWL's) or sound pressure levels (SPL's) of the plant or equipment used on site;
- The periods of operation of the plant on site;
- The distance between the source noise and the receiving position;
- The presence or absence of screening effects due to barriers, or ground absorption; and,
- Any reflection effects due to the facades of buildings etc.

Calculation Methodology

The calculation method used in this study for construction noise is based upon theoretical noise propagation theory, which takes into account source position, distance, direction, screening and frequency content in relation to the nearest residential property boundary positions. British Standard BS5228 methodology has been used to estimate construction noise levels at the nearest existing dwellings including source noise levels for construction plant.

Noise levels emanating from the Site due to construction works associated with the proposed development will vary from day to day. In order to give an indication of the probable noise levels generated by the works, a worst-case scenario has been considered for several construction activities, namely soil movement, piling and building construction. See Appendix 5 for further information.

Predicted Noise Levels: Construction

The highest likely noise levels for the proposed development in terms of construction noise are provided below. This is based on calculations for soil movement work and general site activities at the closest approach to existing dwellings.

It is difficult to estimate how long this type of activity would last but typically in areas close to the site boundary (i.e. noisiest construction period assessed) this is normally completed in weeks rather than months.

The results of calculations for piling, soil movement, general site activities and building construction are summarised below in Table 6.1.

Table 6.1: Noise Predictions for Highest Likely Construction Noise at Nearest Receptors

Receptor Position	Distance to receptor (m)	Activity	Noise Level, dB L _{Aeq} 1hr	Typical Residual Noise L _{Aeq} dB	BS5228 Threshold Value L _{Aeq} 1hr dB (daytime)
NSR(A): Old Road/ Crawford Road	1200	Piling Soil Movement General site activities Infrastructure Building Construction	36-38 31 31 31-33 36-38	60-64 60-64 60-64 60-64 60-64	65
NSR(B): Handel Avenue	1450	Piling Soil Movement General site activities Infrastructure Building Construction	41-42 37 37 37-38 41-42	56 56 56 56 56	65
NSR(C): Fenbroke Close	1640	Piling Soil Movement General site activities Infrastructure Building Construction	39 36 36 37 41	58-63 58-63 58-63 58-63 58-63	65
NSR(E) Travellers Caravan Park	1000	Piling Soil Movement General site activities Infrastructure Building construction	39 32 32 32 39	58-63 58-63 58-63 58-63 58-63	65
NSR(G) Medical Centre	350	Piling Soil Movement General site activities Infrastructure Building Construction	46 39 39 40 44	58-63 58-63 58-63 58-63 58-63	65
Ecological Receptor Baglan Bay SINC	20-1200	Piling Soil Movement General site activities Infrastructure Building Construction	40-56 37-52 36-52 37-53 40-57	46-56 46-56 46-56 46-56 46-56	65

Note: Construction noise prediction levels given above allows for the site screening from the existing Intertissue buildings and highest level predicted assumes that the plant equipment is operating 100% of the time.

The highest construction noise levels are likely to be created during the piling and the construction of buildings. This would, however, be well within the level of noise normally found to be acceptable for an activity of this type and duration. The results show that for the construction period the noise level from construction activities at the existing residential properties will not exceed reasonable daytime absolute noise levels and existing residual noise levels would not change.

For the construction period noise generated by site activities will be below reasonable absolute noise criteria (i.e. below 65dB LAeq). The results show that the threshold proposed by BS5228 would not be exceeded and therefore a negligible impact magnitude and neutral impact significance.

The results at the nearest commercial receptors show no exceedance of residual levels and well below guidance thresholds for noise for this type of receptor.

The results of construction noise at the ecological receptor (i.e. bird species) show noise levels would be at or below the existing residual levels (recorded during a Sunday period). The only marginal increase above existing levels was at 20m from the Intertissue south-western boundary where noise levels during the building construction works is shown to exceed the Sunday measured ambient levels by only +1dB(A). This is therefore not a significant increase and according to the Ecological Assessment report (K24-003) where increases below +3dB above existing ambient are considered to be inconsequential.

In terms of L_{Amax} levels, based on empirical data at construction sites these are circa +2dB to +8dB higher than the L_{Aeq} levels i.e. At the ecological receptor locations the predicted L_{Amax} at 20m from the site western boundary location would range between 42dB and 65dB. The measured L_{Amax} at this location over a 10-minute period was shown to be 67dB to 69dB. We therefore do not consider this to be significant based on daytime levels for any bird and the advice provided by the Ecological Assessment (i.e. Lapwing sudden noise up to 72dB may be disturbing as advised by the ecology report).

Construction Vibration.

Typical Vibration Levels

The highest levels of vibration generated by plant are likely to arise from the following:

Piling Rigs

- Vibratory rollers and compactors
- Material offloading onto hard surfaces
- Concrete vibratory plant

Typical field measurements taken at sites in the UK where piling or vibratory rollers have been used (on clay-based ground, which is likely to be the highest generated vibration) would indicate that at a distance of around 20 metres the peak particle velocity is around 14-17 mm/s reducing to 1.5 to 2 mm/s at 30 metres distance and <1mm/s at 50 metres. For vibro piling measured levels of vibration are shown to be between 1mm/s and 3mm/s at a distance of between 20 to 30 metres (ref. BS52282: 2009 Table D4).

BS 5228: 2009 Part 2: Vibration

Part 2 of the Standard deals with vibration from construction and open sites and provides information on the effects of the levels of vibration, human and structural response, response limits of structures and practical measures to reduce vibration.

The distance from nearest residential receptors to any likely use of piling rigs (i.e. building foundation construction) and vibratory compaction (i.e. during road construction) is likely to exceed a distance of 1km based on the nearest existing residential receptors. The distance to any existing commercial or industrial buildings would also be in excess of 500 metres.

Conclusion.

Based upon the above information, it is clear that even at the closest approach to existing residential properties (i.e. 1km), the levels of ground-borne vibration would be zero. Similarly, the levels of vibration at the closest approach to existing commercial buildings would be greater than 500 metres with no potential ground vibration being detectable.

Construction vibration would be approached on a 'best practice' basis in accordance with BS5228: 2009 Part 2.