



Portavadie Ferry Terminal: Septic Tank Outfall Construction Environmental Management Document

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Portavadie Ferry Terminal: Septic Tank Outfall

Construction Environmental Management Document

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1 INTRODUCTION

1.1 Remit & Responsibilities

This document represents the Construction Environmental Management Plan (CEMP) which will form the main document outlining construction environmental protocols relating to the construction of a Septic Tank Outfall at Portavadie Ferry Terminal.

The CEMP will remain a live document and updated as required during the construction phase. It has been developed as a practical tool to facilitate the management of environmental mitigation measures and provide a clear road map of the key roles and responsibilities.

Although this document has been produced by EnviroCentre, EnviroCentre do not accept any responsibility for the contents of assessments, plans or construction procedures that are carried out or added by other parties. This document is considered to be 'Live' and will be populated by the CEMP Manager/deputy and/or the Principal Contractor as the works progress.

The development is to be constructed safely and in accordance with relevant health and safety legislation and guidance minimising the risk to both the workforce and the public throughout the construction phase.

It must be noted that this document is not a Health and Safety Protocol.

1.2 Scope of Report

The scope of this document is to compile, synthesise and present construction mitigation relating to the environment, in order that Construction Contractors are aware of their obligations under relevant policy, guidance and legislation.

The development shall be carried out in accordance with the Construction Environmental Management Plan.

2 PROJECT DETAILS

2.1 General

This section sets out the general operational control procedures associated with this CEMP, and which should be followed by site operatives during the construction period. This section is supplemented by Construction method statements in Appendix A (to be inserted when complete).

2.2 Environmental Setting

Portavadie Ferry Terminal is on the shores of Loch Fyne on the west coast of the Cowal peninsula in Argyll and Bute and has a grid reference centre point of NR 92685 69768. Portavadie Ferry Terminal falls within the administrative boundary of Argyll and Bute Council.

2.3 Site Description

The site lies on the eastern shores of Loch Fyne in Argyll & Bute, and within close proximity to Portavadie marina and holiday accommodation, restaurants, bars, shopping and event spaces.

2.4 Project Aim

The application relates to the terminal building that is located at Portavadie which serves the vehicular ferry operated by CalMac across Loch Fyne to Tarbert. The existing terminal building measures some 9m x 6.5m across a single storey. It currently comprises a waiting area, toilets, office and tea preparation area. The proposal is to:

- Erect an extension on the north east elevation
- Form a canopy to the north east elevation
- Install external timber cladding
- Replace existing concrete roof tiles with lightweight decra roof tiles
- Install an air source heat pump on the north west elevation
- Erect a new bin store
- Install a sewage treatment tank and sea outfall

This CEMP deals with construction of the Portavadie Ferry Terminal sewage outfall

2.5 Duration of the Works

One week.

2.6 Access Routes / Points

The site should always be accessed from the established access point. The site is located off the main access road to Portavadie Marina.

2.7 Working Hours

- Mon-Fri: 8.00 – 16.30
- Due to tides some works will be carried out between 5.00am – 8.00am

2.8 Loading and Unloading of Plant and Materials

The loading and unloading of plant and materials will be confined to designated areas to minimise the impact of noise, dust and debris.

2.9 General Site Housekeeping

2.9.1 Fire Safety

- Open fires shall be prohibited at all times.
- Specific areas within the site shall be designated as smoking areas and shall be equipped with sealed containers for smoking waste.
- All necessary measures shall be taken to minimise the risk of fire.

2.9.2 General Maintenance

- Waste shall be removed at frequent intervals and the site kept clean and tidy.
- Adequate toilet facilities shall be provided for all site staff.
- Food waste shall be stored in closed containers and removed frequently to avoid attracting vermin.

2.10 Construction Activities

The CEMP relates specifically to the installation of septic tank outfall. Works to be undertaken will comprise the following:

- a) From sample chamber excavate a 650mm deep track down to MHWS mark and lay 50mm gravel bed. Using threaded lifting loops connected to blocks and straps connected to lift hook on Hitachi 8t excavator carefully lift 600mm x 600mm x 600mm concrete blocks in to position within track. Copy of test certificates for both lifting loops and straps to be kept on site.
- b) Install 100mm HDPE pipe through centre of concrete blocks, secure two sections of block together using stainless steel threaded rod, nuts and washers before grouting around HDPE pipe.
- c) Lay gravel surround around pipe and backfill with suitable excavated material. Surplus excavated material to be graded over area of work.
- d) For any works from MHWS mark to MLWS mark being undertaken out of hour's portable site lighting should be available if required.
- e) Site Manager to monitor all works being carried out on shore and ensure no lone working and that no operatives or plant undertake works in sea. Operatives to maintain a safe working distance of 2m away from sea.
- f) From MHWS mark to MLWS mark install Tufftrak soft ground protection mats to provide safe working platform for Hitachi 8t excavator on shore. Site Manager and competent machine operator to ensure excavator not tracked on any areas out with protection mats.

- g) Excavate a 650mm deep track down to MHWS mark and lay 50mm gravel bed. Using threaded lifting loops connected to blocks and straps connected to lift hook on Hitachi 8t excavator carefully lift 600mm x 600mm x 600mm concrete blocks in to position within track. Copy of test certificates for both lifting loops and straps to be kept on site.
- h) Install 100mm HDPE pipe through centre of concrete blocks, secure two sections of block together using stainless steel threaded rod, nuts and washers before grouting around HDPE pipe. Lay gravel surround around pipe and backfill with suitable excavated material. At the end of the pipe run at low water mark install concrete plinth 1000 x 1500 x 200mm thick below the end of the 100mm HDPE outfall pipe. Surplus excavated material to be graded over area of work.
- i) Install gabion mattress 1500 x 1000 x 300mm to prevent tide from lifting last section of HDPE pipe.
- j) Remove Tufftrak matting and ensure foreshore is left clear of any debris or construction materials.

2.11 Risk Assessments and Method Statements

All known Safety Health and Environmental (SHE) hazards and risks will be reviewed. Risk assessments, method statements and safe working practices are to be prepared in advance of commencement of the operation on site. All risk assessments are to include reference to known environmental issues. Risk assessments and method statements will be recorded and retained on site. Where information is insufficient the contractor shall be contacted and a joint review carried out to establish a suitable safe system of work.

2.11.1 Risk Assessments

All activities undertaken on site would be subject to risk assessment. Risk assessments would be undertaken by trained staff which would:

- Identify the significant environmental impacts that can be anticipated;
- Assess the risks from these impacts.
- Identify the control measures to be taken and re-calculate the risk.
- Report where an inappropriate level of residual risk is identified so that action can be taken through re-scheduling of work or alternative work methods in order to reduce the risk to an acceptable level

The results of the risk assessments, and their residual risks, are only considered acceptable if:

- The severity of outcome is reduced to the lowest practical level;
- The number of risk exposures are minimised;
- All reasonably practical mitigating measures have been taken and the residual risk rating is reduced to an acceptable minimum. The findings of the risk assessment and in particular the necessary controls would be explained to site staff before the commencement of the relevant tasks using an agreed instruction format (e.g. Toolbox Talks).

2.11.2 Health & Safety Method Statement

John Brown (Strone) Ltd has prepared a Health & Safety Method Statement (H&SMS) for the proposed development. The Method Statement includes controls measures during the construction process (Appendix A).

The H&SMS comprises the following:

- Location of the activity and access/egress arrangements;
- Work to be undertaken and methods of construction;
- Plant and materials to be used;

- ### 2.11.3 Management and Communication



CMAL
Caledonian Maritime Assets Ltd
Sìoras Mara Còigeannach Eòrpa

Environmental Policy
January 2019

The Site Manager will be responsible for implementation and day to day management of the CEMP during construction.

In addition, the Site Manager will be responsible for ensuring that all staff and operatives receive site specific health, safety and environmental induction prior to starting work on-site and are provided with relevant information concerning environmental sensitivities and protection measures.

The Contractor will be responsible for reviewing environmental risk assessment method statements and ensuring an appropriate programme of tool box talks are developed and effectively communicated.

Duties will include:

- Review and approve amendments to the CEMP and specialist procedures and identify any areas for improvement;
- Consider the environmental competence of all subcontractors working on the project;
- Notifying CMAL, Marine Scotland and SEPA of any notable incidents;
- Review method statements for environmental aspects and advise of any suggested improvements prior to work starting;
- Monitor construction activities to ensure that identified and appropriate control measures are effective and in compliance with the CEMP; and
- Act as a main point of contact between the Contractor and the Client's project team on environmental issues.

3 GENERAL SITE HOUSEKEEPING

3.1 Introduction

This CEMP identifies the project management structure roles and responsibilities with regard to managing and reporting on the environmental impact of the construction phase.

The overall environmental objectives that will be applied to the project are:

- All practicable steps shall be taken to minimise the environmental effects of construction works.
- All activities shall be conducted in accordance with the CEMP, relevant legislation,
- Codes of Practices, Guidelines, and any local environmental procedures.
- Environmental licenses, permits and consents and other statutory requirements are to be obtained prior to works commencing, and fully complied with.
- All staff shall be aware of the environmental issues relevant to the Project through the provision of site specific information on the environmental impacts of construction and the mitigation measures to be applied during inductions, briefings and tool box talks.
- Regular reviewing of the environmental requirements of the project and ensuring that environmental controls remain adequate throughout the duration of the project.

3.1.1 Training & Raising Awareness

The Site Manager will ensure that all personnel attend a site induction prior to starting work on site. Key environmental considerations will be incorporated into this induction.

3.1.2 Toolbox talks

The Site Manager will deliver Toolbox Talks (TBT) specific to construction i.e. in the event of an environmental incident or complaint. They will also offer site personnel with the opportunity to provide feedback.

Toolbox talks shall include, but will not be limited to, instances where:

- Work is being undertaken in environmentally sensitive areas;
- There are significant changes in environmental conditions, e.g. Heavy rainfall; and
- Site inspections have identified corrective actions which require rolling out.

3.1.3 Training / Toolbox Talk Records

Training / Toolbox Talk records will be kept in the form of attendance sheets.

3.1.4 Lines of Communication

The CEMP identifies the environmental hazards and mitigation measures for the project, which will be communicated to all site personnel during the site induction and filtered down to task specific Method Statement and Risk Assessments.

The Site Manager will have regular meetings with the contractor to discuss site activities including Environmental matters.

3.1.5 COSHH Assessments

Where harmful substances are to be used and cannot be substituted with less harmful substances, there will be a requirement to maintain a register containing all harmful substances intended to be used on this project.

For each hazardous substance or process identified, a task specific COSHH Assessment shall be produced. These will be located within the site manager's office.

Evidence that the findings of each COSHH Assessment has been communicated to operatives and those affected by the use shall be provided. Records will be maintained within the site manager's office.

3.1.6 Fire

Health and Safety procedures and processes shall be established to minimise the risk of, and the appropriate management of a fire emergency. Consideration shall be given to the appropriate management of any subsequent fire water (the run-off generated from firefighting activities), such as temporary storage on-site.

This water should be considered contaminated and it has the potential to cause pollution. In developing strategies for dealing with a fire emergency, consideration shall be given to minimising the risk to the environment associated with fire water.

3.1.7 General Maintenance

- Adequate toilet facilities shall be provided for all site staff.
- Waste shall be removed at frequent intervals and the site kept clean and tidy.
- Food waste shall be removed frequently to avoid attracting vermin.

3.1.8 Site Noise

The Control of Pollution Act 1974 contains specific provisions for dealing with noise from construction sites.

Radios (other than two-way radios used for the purposes of communication related to the works) and other forms of audio equipment shall not be operated on any work site where members of the public may be disturbed.

3.1.9 Complaints & Enquiries

The formal procedure for handling project complaints/concerns will be agreed between John Brown (Strone) Ltd and Caledonian Maritime Assets Limited prior to works commencing.

Contact details will be posted on the site notice board for any complaints. All complaints/compliments will be delivered to the Site Manager.

3.1.10 Monitoring, Continual Improvement & Review

John Brown (Strone) Ltd shall review the CEMP regularly to ensure that:

- The objectives and requirements of the CEMP remain valid and are being met;
- Identify potential negative impacts from construction activities;
- Assess the effectiveness of control measures;
- Identify if further controls/corrective action is required; and

- Forthcoming activities are reviewed and any necessary amendments to the CEMP are put in place before the relevant work begins.

3.1.11 Site Inspection

The Site Manager will be responsible for conducting daily site inspections to confirm that processes are being carried out effectively.

Inspections carried out on the project by the Site Manager will be recorded and any resulting actions will be disseminated to the relevant project personnel.

3.1.12 Non-conformance & Corrective Action

If criteria within the CEMP are not fulfilled and appropriate and corrective action is not taken, a non-conformance may be raised by the Site Manager. Examples of circumstances where this may arise include:

- Receipt of a complaint regarding pollution or nuisance caused by the project;
- Departure from approved or agreed procedures; and
- Non-conformance identified as a consequence of any self-assessment, formal audit or other environmental survey or inspection.

The non-compliance will be notified to the Client as soon as practicably possible. Should it be identified that there is potential for mitigation measures or legislation to be breached the work or activity will stop immediately. Work will only recommence once measures are implemented to ensure the situation is remedied.

Following notification, a non-conformance report will be issued by the Site Manager. It is the responsibility of the Site Manager to immediately initiate corrective actions (if not already done so) and, once completed, provide details of the actions undertaken on the non-conformance/corrective action report and return it signed to the Client within an agreed timeframe. If the non-conformance is considered to breach legislative requirements, the breach should be reported to the appropriate Regulator.

Corrective action may include changes to work instructions, alterations to the Construction Method Statement (CMS), further staff training etc. Non-conformances should be reviewed by the Site Manager and appropriate Client representative and if necessary, a specific site meeting arranged.

3.1.13 Significant Incident Reporting Procedures

In the event of a potential harmful or polluting incident, spillage or discharge, the actions listed below will be followed to notify the appropriate organisations of the occurrence:

- Should an incident occur, the Site Manager shall inform the Client of the occurrence of an incident at the site as soon as practicably possible following awareness of the incident.
- The Site Manager shall notify the Client in writing the next working day after the incident, detailing the time and nature of the incident; and
- The Site Manager shall investigate the incident and notify the Client of the outcome as soon as practicably possible.

3.1.14 Control of Records

Environmental records, including waste management records, will be maintained in accordance with legal requirements. The records are to be maintained, in either hard copy or electronic format as required by the individual procedure that the records relate to, in such a way that they are readily identifiable, retrievable and protected against damage, deterioration or loss. The procedure that the records relate to also specifies the retention time for the records and who has the authority to dispose of them.

3.1.15 Change Control Processes

Where any amendments and variations to the CEMP are required, either as a result of changes to construction methods, design or mitigation the method of recording the change will be agreed between the Site Manager and the Client prior to works commencing.

3.1.16 Security On-Site

- Adequate security will be exercised to prevent unauthorised entry to or exit from the work site;
- Appropriate H&S Signage will be placed around the construction site guiding traffic routes, giving warnings of hazards and potential dangers (such as “Danger: Keep Out” etc.) and instructing conduct within the site boundaries (such as “Do not remove security fencing” / “Appropriate PPE must be worn...” etc.); and
- The use of artificial lighting during construction will be minimised to reduce the impact on either local residents, wildlife corridors or open countryside.

3.2 Roles and Responsibilities

This section describes the environmental roles and responsibilities of key members of the project team and provides contact details for the relevant personnel.

3.2.1 CEMP Manager/ Deputy

CEMP Manager will be main contractor (site manager) name (To Be Confirmed).

The CEMP Manager (Site Manager) / deputy will be responsible for implementation and day to day management of the CEMP during construction.

In addition, the CEMP Manager/ deputy will be responsible for ensuring that staff receive site specific health, safety and environmental induction prior to starting work on-site and are provided with relevant information concerning environmental sensitivities and protection measures.

The CEMP Manager / deputy will be responsible for reviewing environmental risk assessment method statements and ensuring an appropriate programme of tool box talks are developed and effectively communicated.

Duties will include:

- Review and approve specialist procedures and identify any areas for improvement;
- Consider the environmental competence of staff working on the project;
- Ensure that appropriate resources are in place to effectively implement the CEMP and deliver all legal requirements;

- Review the CEMP throughout the construction process to ensure it remains relevant and effective in identifying and managing environmental risks;
- Implement the use of an accurate Site Waste Management Plan (SWMP) and ensure its applicability to the site operations;
- Ensure that the site is safe and that hazards are identified and secured;
- Undertake (or nominate others to undertake) inspections;
- Manage all necessary documentation to demonstrate compliance with appropriate legislation for the required period;
- Identify necessary levels of environmental competence in staff and ensure necessary training is delivered to personal;
- Manage investigation and resolution of complaints in accordance with the Complaints Handling Protocol;
- Ensure correct procedures are followed in case of an environmental incident
- Notifying Marine Scotland/SEPA of any notable incidents;
- Review method statements for environmental aspects and advise of any suggested improvements prior to work starting; and
- Monitor construction activities to ensure that identified and appropriate control measures are effective and in compliance with the CEMP.

The CEMP Manager and Deputy roles will be undertaken by **NAME:**.....
Contact details are contained within

3.2.2 The Contractor

The Contractor will report on environmental activities to the CEMP Manager and will be responsible for the following:

- Implementing and maintaining environmental controls on site;
- Attend to any spills or environmental incident that may occur on site;
- Report any activity that has resulted, or has the potential to result, in an environmental incident immediately to the Client;
- Complete a daily environmental log; and
- Ensure correct waste management procedures are being implemented.

3.2.3 Site Staff

Staff have the responsibility to:

- Work to agreed plans, methods and procedures to eliminate and minimise environmental impacts;
- Understand the importance of avoiding pollution on-site, including for example, noise and dust and how to respond in the event of an incident to avoid or limit environmental impact;
- Report all incidents immediately to the Contractor/CEMP Manager;
- Monitor the work place for potential environmental risks and alert the immediate line manager if any are observed; and
- Co-operate as required, with site inspections.

3.2.4 Contact Details

Table 3-1 details the contact details for the responsible person, and emergency contact details in the event there is an incident on site.

Table 3-1: Emergency Telephone Numbers

NAME	LOCATION	TEL NO
Responsible person: TBC Job Title: Email:		Mobile: Phone:
Hospital	Cowal Community Hospital 360 Argyll Street Dunoon PA23 7RL	01369 704341
Police Scotland	Emergency Call Centre	999 101
Scottish Fire & Rescue Service	Emergency Call Centre	999
Ambulance Service	Emergency Call Centre	999
SSE Power Distribution (Electric)	Emergency Call Centre	0800 300 999
Scottish Power Energy Networks (Electricity)	Emergency Call Centre	0800 092 9290
National Gas Helpline – SGN / SSE (Gas)	Emergency Call Centre	0800 111 999
BT	Emergency Call Centre	0800 023 2023
Scottish Water (Water)	Emergency Call Centre	0845 600 8855
Health & Safety Executive	Incident Contact Centre	0345 300 9923
Marine Scotland	Licensing Operations Team	0300 244 5046
SEPA	24 Hour Emergency	0800 80 70 60

4 LEGAL & OTHER REQUIREMENTS

A list of key relevant legislation is provided below. Please note this list is not exhaustive and should be reviewed on a regular basis.

- Marine (Scotland) Act 2010;
- Water Environment and Water Services (Scotland) Act 2003;
- Flood Risk Management (Scotland) Act 2009;
- Water Environment (Controlled Activities) (Scotland) Regulations 2011;
- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna (The Habitats Directive);
- The Conservation (Natural Habitats etc.) Regulations 1994 (as amended in Scotland) (The Habitats Regulations);
- Environmental Protection, duty of care, Scotland Regulations 2014;
- The Wildlife and Countryside Act 1981 (as amended) (WCA);
- The Nature Conservation (Scotland) Act 2004 (NCA);
- The Wildlife and Natural Environment (Scotland) Act 2011 (WANE);
- Scottish Planning Policy (SPP);
- The Nature Conservation (Scotland) Act 2004 (as amended);
- The Control of Pollution Act 1974 (CoPA) and Amendment 1989; and
- The Control of Noise (Codes of Practice for Construction and Open Sites) (Scotland) Order 2002.

The principal contractor will undertake the works with regard to the following guidelines:

- SEPA. Pollution Prevention Guidelines 1: General guide to the prevention of pollution (PPG 1);
- SEPA. Guidance for Pollution Prevention 2 : Above ground oil storage tanks (GPP 2);
- SEPA. Pollution Prevention Guidelines 3: For identifying where an oil separator is required and, if so, what size and type of separator is appropriate (PPG 3).
- SEPA. Guidance for Pollution Prevention 4: Treatment and disposal of sewage where no foul sewer is available (GPP 4);
- SEPA. Guidance for Pollution Prevention 5: Works and maintenance in or near water (GPP 5);
- SEPA. Pollution Prevention Guidelines 6: Working at construction and demolition sites (PPG 6);
- SEPA. Pollution Prevention Guidelines 8: Safe storage and disposal of used oils (PPG 8);
- SEPA. Pollution Prevention Guidelines 18: Managing fire water and major spillages for identifying equipment and techniques available to prevent damage to the water environment caused by fires and major spillages. (PPG 18); and,
- SEPA. Guidance for Pollution Prevention 21: Pollution incident response planning (GPP 21).

This list is not exhaustive, but the CEMP Manager or deputy will be responsible throughout the course of the project for identifying any further legislation that may be relevant and for ensuring compliance with it.

Table 4-1: Relevant Licenses and Consents

Consent/Licence Type	Relevant Phase	Comments
Marine Scotland Construction License	Construction Phase Only	
Controlled Activity Regulations (CAR) Licence	Ref Number: CAR/R/1178358	Approved by SEPA
Town and Country Planning (Scotland)	Ref Number: 18/02016/PP	Granted 17 December 2018
Building Warrant	Ref Number: 17/00987/NDOM7	Approved 19 Apr 2019

5 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN: WATER MANAGEMENT

This Water Management Plan sets out good practice for safeguarding water resources and quality on the Project Site. Guidance relevant to this plan includes:

- SEPA Engineering in the Water Environment: Good Practice Guide Intakes and outfalls.
- BS 6349-1-3:2012 Maritime works. General. Code of practice for geotechnical design.

Working in a marine environment requires a high level of control during the construction phase where there is a risk of accidental pollution from the following sources:

- Spillage or leakage from oils and fuels stored on site
- Spillage or leakage from oils and fuels from construction machinery or site vehicles;
- Spillage of oil or fuels when re-fuelling
- Suspended soils from construction works

To minimise impacts to Loch Fyne from construction activities the following mitigation measures have been identified:

- No fuel to be stored within 10m of the water's edge;
- Fuel/oil, of 200 litres or more, must be stored in secondary containment (bund) which contains at least 110% of the maximum capacity. If more than one container the bund must be capable of storing 110% of the biggest container's capacity or 25% of the total capacity, whichever is greatest;
- Re-fuelling to be carried out on hardstanding and not within 10m of the water's edge. Re-fuelling to be carried out by designated re-fuellers;
- Fuel should only be transported in suitable Jerry cans;
- Control of substances hazardous to health (COSHH) items to be stored in a suitable COSHH store, at least 10m from the water's edge. All items should be labelled;
- Daily checks to be carried out on plant. All equipment to be modern, anything which is defective to be removed from site;
- Spill kits will be available in compound, works areas and large items of plant;
- Drip trays/plant nappies will be placed under static plant.

Re-fuelling of Vehicles and Plant

All fuel storage will comply with The Water Environment (Miscellaneous) (Scotland) Regulations 2017

Vehicles and plant will comply with the following:

- All construction plant and vehicles will be checked daily for oil and fuel leaks and record of such checks kept;
- Mobile plant will be in good working order, kept clean and fitted with drip trays where appropriate;
- Refuelling of construction plant and vehicles will be undertaken on an impermeable surface at a temporary construction compound;
- All refuelling activities will be supervised by site personnel with spill kit / emergency response training.

Pollution Prevention

Section 12 of the CEMP "*Pollution Prevention and Emergency Response*" provides measures for potential environmental emergencies that could arise during the construction of the Project.

This Emergency Response Plan will be reviewed by the contractor and finalised in the approved CEMP. The contractor will also supply emergency contact details for nominated site personnel, relevant regulatory bodies and emergency services. These details will be available on site notice boards and will be displayed along with a plan of the Project Site that displays safe storage areas and the location of response equipment, such as spill kits. Emergency Spill Response is set out within Section 12.1.7 to 12.1.9.

5.1.1 Water Management Action Table

Refer to the following Water Management Action Table for mitigation measures

Table 13-3 Construction: Water Management

6 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN: ECOLOGY

Construction activities will be carried out in such a way as to ensure that disturbance to any nearby ecologically sensitive areas is minimised and that appropriate measures are adopted to avoid impacts on protected species in accordance with relevant good practice and statutory requirements.

Appropriate regard for the protection of local habitats and protected species during construction will include the following measures:

- All reasonably practicable measures will be employed to minimise harm to, and disturbance of, wildlife caused by noise, dust, waste and pollution;
- Ensure no activities outside the works zone through clear delineation of the works area, and communication in site inductions;
- Ensure traffic is restricted to established tracks and roads, and speed limits observed;
- Where excavations are created which may entrap fauna, suitable escape measures are put in place; and excavation are checked for fauna before backfilling;
- Regular inspections will be undertaken to check that detrimental impacts on ecological features are being minimised; and
- Ensure appropriate waste management (lidded bins), including food scraps, to reduce potential for feral species to become established on-site.

Monitoring

Daily inspection of work site to occur

6.1.1 Ecology Action Table

Refer to the following Ecology Action Table for mitigation measures

Table 13-4 Construction: Ecology

7 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN: NOISE

This section considers nuisance noise including vibration from construction activities and good practice measures to comply with any maximum boundary noise limits imposed on the Project and to minimise potential effects on any nearby sensitive noise receptors.

The aim is as far as reasonably practicable, to control and limit noise levels so that affected properties and other sensitive receptors are protected from excessive noise and vibration levels associated with construction activities.

As per Condition 2. of Argyll & Bute Council Planning Application, Reference 18/02016/PP, aims to avoid noise nuisance in the interest of residential and business amenity in the local vicinity, the noise level from the operation of the air source heat pump hereby approved must not exceed 42dB LAeq (5 minutes) at 1 metre from the window of a habitable room on the façade of any neighbouring residential property. If, in the opinion of the planning authority, noise from the air source heat pump results in any noise nuisance to the occupant of any neighbouring dwelling, the applicant shall install noise mitigation measures in agreement with the planning authority.

To minimise the risk of noise complaints, the contractor will advise potentially affected residents and businesses of any construction activities to be undertaken outside of working hours. Those potentially affected will also be provided with the environmental complaints telephone number and the point of contact for any queries.

A 'Register of Plant & Equipment and Statutory Certification' will be prepared and reviewed prior to works commencing. There will also be requirement to assess plant and machinery to be utilised on site. The assessment will include noise level predictions and assessments of plant and machinery in respect to ensuring that excessive noise levels are identified and suitable control measures implemented to minimise those noise levels.

The contractor shall aim to be a proactive and considerate neighbour; any potentially affected residents and businesses shall be approached in advance of any potential disturbance and kept informed of works progress. A noise complaint handling procedure will be established and responded to quickly. Where work is required outside of standard hours, the contractor should provide information such as total construction time, what works are expected to be noisy, their duration, what is being done to minimise noise and when respite periods will occur, to affected residents, reasonably ahead of time.

Careful consideration will be given to the appropriate selection of plant, construction methods and programming.

7.1.1 Selection and Use of Equipment

With regards to general construction activities, the contractor will follow best practicable means to reduce the noise effect on the local community, including some (or all of the following):

Plant and equipment

- Modern, silenced and well maintained plant will be used at all times, conforming to standards set out in the EU Directives;
- Equipment and vehicles to be shut down when not in use or throttled down to a minimum;
- All major compressors will be 'sound-reduced' models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use.

Construction

- The manufacturer's written recommendations will be regarded or other appropriate operation and maintenance programmes which reduce noise and vibration emissions will be used;
- Monitoring will undertake when justified nuisance complaints have been identified at properties and when method statements indicates adverse (noise) effects due to construction work being undertaken within close proximity at occupied residential properties such as those at Portavadie Marina;
- Drop heights of materials from lorries and other plant will be kept to a minimum;
- Plant used on site, paying particular attention to the integrity of silencers and acoustic enclosures will be maintained in good and efficient working order and operated such that noise emissions are minimised as far as reasonably practicable;
- As far as reasonably practicable, any plant, equipment or items fitted with noise control equipment found to be defective will not be operated until repaired; and
- Machines in intermittent use will be shut down or throttled down to a minimum during periods between work.

Management of works programme

- Wherever practicable, noisy works, which are audible at the site boundary, should be undertaken during normal daytime hours, e.g. between 07.30 and 16.30 Monday to Friday. Due to tides some works will need to be carried out between 5.00am – 8.00am.
- Personnel will be instructed on measures to reduce noise and vibration as part of their site induction training; and
- Use of radios is to be prohibited except where two-way radios are required for reasons of safety and communication.

7.1.2 Noise Action Table

Refer to the following Noise Action Table for mitigation measures

Table 13-5 Construction: Noise

8 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN: DUST MANAGEMENT

Control procedures will be implemented to avoid as far as is reasonably practicable the emission of dust and other particulates that would adversely affect air quality to ensure there is no significant deterioration of current air quality as a result of the works.

The types of activities with the potential to generate dust on site include:

- a) General Site Works;
- b) Haul routes, construction plant and vehicle movement;
- c) Enabling works prior to use;
- d) Cutting, grinding and sawing;
- e) Transportation, storage and handling of materials.

Construction dust has the potential to migrate from the site and cause a nuisance to surrounding areas. During dry and windy weather conditions, the potential for construction dust to migrate from the site increases.

8.1.1 Overall Risk

The prevailing weather conditions of the local area, including high rainfall, will assist in reducing the likelihood of construction dust nuisance. However, there is potential for construction dust nuisance to be a significant problem on dry and windy days.

8.1.2 Control Measures

Construction dust levels on the site will be monitored on a regular basis by the principal contractor taking into account the guidance provided below:

- Appoint a person responsible for monitoring construction dust levels throughout the duration of the works;
- The name and contact details of person(s) accountable for dust issues will be displayed on the site boundary in advance of any works commencing;
- The appointed person will be contactable throughout the duration of the works;
- During normal site working hours, dust monitoring will consist of regular visual checks by the appointed person(s). Details of such checks will be documented in a monitoring schedule with details such as date, time, location, weather conditions and observations recorded;
- All plant utilised on site should be regularly inspected. Monitoring of plant will include:
 - Ensuring no black smoke is emitted other than during ignition;
 - Ensuring exhaust emissions are maintained to comply with the appropriate limits;
- Record any exceptional incidents that cause dust emissions, either on or offsite, and the action taken to resolve the situation;
- The access road into and out of the site will be monitored for excessive dust build up. Should surface dust build up the road will be swept;
- The appointed person(s) will be supported by employees throughout the site who will report any problems with construction dust levels in their area to the appointed person(s);
- Bonfires and burning of waste materials is not permissible; and

- If it is deemed that construction dust is likely to arise from any particular construction works when combined with actual/forecast weather conditions, the affected area will be controlled with a suitable measure to prevent construction dust becoming airborne.

8.1.3 Dust Complaints

Any dust complaints that are received or issues relating to construction dust resulting from operations will be directed to the Site Manager.

Monitoring will be undertake when justified nuisance complaints have been identified at residential properties and when method statements indicates adverse (dust) effects due to construction work.

The CEMP Manager will investigate the source of the complaint / abnormal activity and implement mitigation measures (if required) as soon as practicably possible.

The source and nature of the complaint including the mitigation measures implemented (if undertaken) will be documented in an incident register.

8.1.4 Dust Action Table

Refer to the following Dust Action Table for mitigation measures

Table 13-6 Construction: Dust

9 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN: WASTE MANAGEMENT

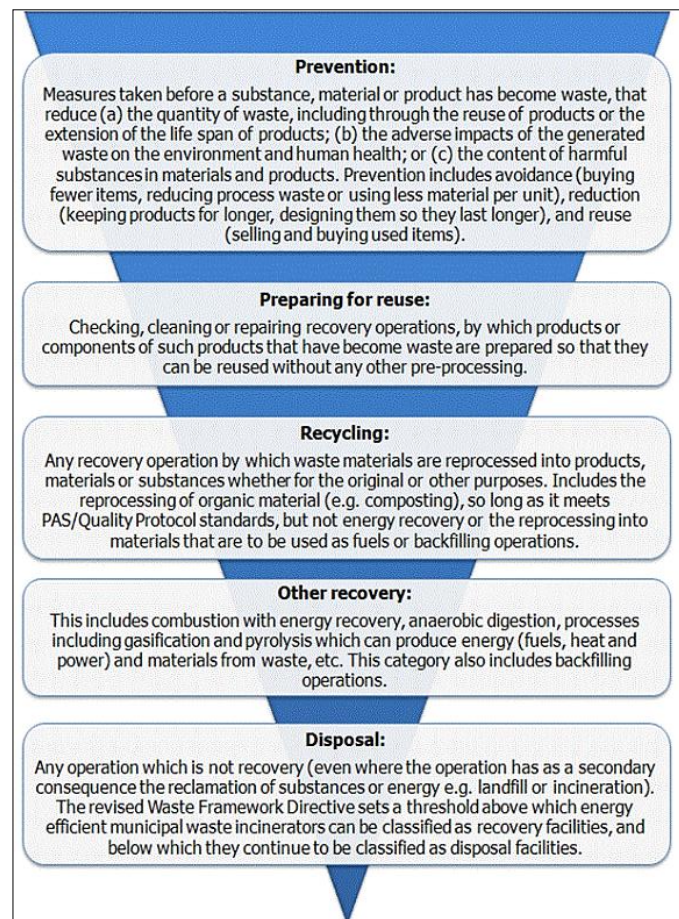
To ensure compliance with waste legislation, this sections sets out good practice waste and material management measures.

Waste is defined in Article 3 (1) of the Waste Framework Directive (2008/98/EC) and means.... " any substance or object which the holder discards or intends or is required to discard.

Waste Hierarchy

The project will adhere to the principles of sustainable waste management – where waste generation is avoided (where possible), and waste is viewed and used as a resource. The priority order may be deviated from if a better overall environmental outcome is recognised for a particular resource or waste.

This resource-centred approach is summarised in the 5-step waste hierarchy illustrated below.



The waste hierarchy ranks waste management options according to the best environmental outcome taking into consideration the lifecycle of the material from-cradle-to-grave. In its simplest form, the waste hierarchy gives top priority to preventing waste.

John Brown (Strone) Ltd. will adopt an integrated approach to waste management and minimisation by implementing the waste hierarchy.

Duty of Care

Section 34 of the Environmental Protection Act 1990 (as amended) places a legal duty of care on all those who produce, keep or manage controlled waste, including waste carrier and brokers. The act introduces a system of monitoring, control and recording of the management of waste en-route and at its destination. This duty has no limit and extends until the waste has either been finally disposed of or fully recovered.

To comply with the Duty of Care, the following shall be undertaken:

- Apply the waste hierarchy to the management of waste and promote 'high quality' recycling.
- Present glass, metal, plastic, paper and card (including cardboard) for separate collection.
- Take steps to maintain the quality of dry recyclables presented for separate collection.
- Take care of the waste to prevent escape.
- Ensure waste is transferred to someone who is authorised to receive it, for example, a registered waste carrier or waste manager with the relevant authorisation.
- Complete a waste transfer note for any transfer of waste, including a full description of the waste, and retain a copy of this note for two years.
- Describe the waste accurately and provide information for the safe handling, transport, treatment, recovery or disposal by subsequent holders.
- Take reasonable measures to ensure that the waste does not cause pollution or harm to human health.

Waste Transfer

Waste shall only be transferred to licensed waste disposal contractors.

A Waste Transfer Note (WTN) must be completed and signed by both the person handing over the waste and the person receiving it. The WTN must contain enough information about the waste for it to be handled safely and either recovered or disposed of legally. The WTN must include:

- A 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 parties:
- Details of the permit, licence or exemption of the person receiving the waste:
- The appropriate European Waste Catalogue (EWC) code:
- The Standard Industry Code (SIC) of the business.

All movements of special (hazardous) waste must be accompanied by a Special Waste Consignment Note (SWCN).

Inert & Non-Hazardous Materials – Storage & Segregation

Inert construction materials and waste (polyethylene piping, pathway materials, etc.) will be stored within the construction compound with the provision for small temporary storage of materials across the wider development site dependent on working needs.

The materials storage area within the main construction compound will be split into two main designated areas; for the delivery and storage of new materials; and for the storage and collection of waste materials. Further segregation of materials within both designated areas will be carried out to prevent cross-contamination.

Hazardous Materials & Special Waste – Oil Storage

All oil, fuel and chemical storage, chemical mixing, fuel deliveries, re-fuelling operations and machinery maintenance tasks will be confined to the main construction compound.

Any diesel, petrol and lubricating oils required during this phase shall be stored in double bunded tanks (bunded to 110% capacity) within the construction compound. Waste oils and oily rags will be stored in appropriate sealed containers in a secure bunded area and will be collected by an authorised contractor for recovery and/or disposal.

Hazardous Materials & Special Waste – Liquid Waste

Any run-off from the bunded storage area within the construction compound, and wastewater from machinery wash down will drain to foul sewer or to an appropriate water treatment and recycling system, either a combination of an oil/water separate and a dedicated reed bed or a mechanised cleansing unit.

Sewage waste from the construction compound will be either discharged to foul sewer where practical, or stored in sealed tanks and collected for appropriate disposal by a registered contractor.

Potential Waste Streams & Management

Each waste type will be classified as inert waste, non-hazardous waste or hazardous waste according to listings from the European Waste Catalogue.

Each waste stream will be managed safely and legally, through a combination of re-use (on site or off-site), recycling or disposal. Note that more than one management option may apply to waste stream, depending on the quantities and quality of the waste produced.

The waste management options available to contractors are:

Solid Waste –

- 1 Return unused waste materials (including packaging where possible) to the supplier for re-use;
- 2 Re-use on site during construction;
- 3 Stockpile for future use;
- 4 Recycling off-site;
- 5 Incineration (with or without energy recovery); and
- 6 Disposal to landfill (as the final option)

Liquid Waste –

- Discharge to foul sewer; and
- Collection by a licensed contractor for disposal off-site.

Responsibilities

The Site Manager will address the following:

- 1 Management of service provider contracts
- 2 Compilation of waste data for regulator/corporate reporting
- 3 Training
- 4 Completion of waste transfer notes
- 5 Waste segregation
- 6 Waste packaging and labelling
- 7 Record keeping

8 Auditing and performance review

GL expects all staff and Contractors/ Subcontractors to participate fully in waste minimisation and waste management initiatives implemented by the site including any segregation and recycling activities.

Waste containers (bins and skips) are impermeable and will prevent liquid wastes leaching. Sufficient space on site has been allocated for waste storage and segregation. Waste containers are clearly labelled for different waste types to aid in segregation, and are checked regularly. Separate facilities are provided for hazardous or special waste.

Waste Performance Monitoring & Reporting

A Waste Log will be maintained by the Site Manager.

9.1.1 Waste Management Action Table

Refer to the following Waste Management Action Table for mitigation measures

Table 13-7 Construction: Waste Management

10 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN: TRAFFIC MANAGEMENT

Access to site shall be from agreed points only. All accesses to permanent construction compounds shall be gated, signed and locked outside working hours to prevent unauthorised access. Appropriate signing shall be used to indicate roads barred for construction traffic and approaches to the access points. The contractor shall work with the relevant local authority officer to agree suitable procedures where necessary for temporary closure or diversion of any publically accessible route and any associated measures to ensure the safety of the general public.

Two types of construction traffic will be associated with the site: HGVs delivering materials to and from the site and workforce vehicle (Table 10-1).

Table 10-1: Schedule of Plant/Equipment/Personnel

Plant	On Site Works	Access and Egress
Hitachi 8t 360degree Excavator	✓	✓
Employee cars and vehicles	✓	✓
Skip(s) & Skip Truck	✓	✓
Delivery Vehicles	✓	✓
Pedestrians	✓	✓

All lorries carrying material into or out of the site will be securely sheeted where necessary. The wheels, chassis and under-bodies of departing vehicles will be inspected for any entrained mud by the driver. It is unlikely that any significant mud will be lost from the site on tyres since all surfaces are maintained.

The site entrance will be inspected throughout the day to ensure that track-out is not carried out onto the local road network. If daily observations show any mud deposits on the road, a road sweeper will remedy the situation.

10.1.1 Monitoring Arrangements

A review of site SHE performance will be undertaken by the CEMP Manager/ deputy daily and recorded in the site diary. The site management team will also carry out formal recorded inspection of the project every week. The Contracts/Project Manager will formally review the project at least once per month.

An independent SHE review of the development will be undertaken at least monthly by one of the Group's SHE Managers. Copies of the review report are forwarded to the Construction Director and site performance reported to the Divisional Board. The Contracts/Project Manager is responsible for ensuring that all items identified by the SHE Manager are actioned by the Site Manager.

10.1.2 Control of Vehicles

The amount and types of vehicles used on the construction site shall be varied comprising of delivery vehicles, and those remaining on site for fixed periods such as 360° excavator etc. The vehicles will require co-ordinating both by John Brown (Strone) Ltd and the contractors to whom the vehicles belong.

Contractors must identify the type and number of vehicle they anticipate to use during their works.

Vehicles requiring to park on site will do so in a designated parking area.

Delivery vehicles and other site traffic will proceed around the site via the access road to the designated storage areas.

Where conditions dictate that provision of turning point is not practical then a banksman must be used to assist vehicle/plant when reversing.

10.1.3 Pedestrian Access

Upon entering the John Brown (Strone) Ltd compound all staff, operatives and visitors will be signed in and out. The pedestrian route to the site will be via a dedicated walkway and crossing point to the site compound.

A single fenced route will lead from the site compound/welfare facility to the site. This route will be signed with safety/instruction signs.

The pedestrian site access will be signed to warn pedestrians they are crossing the access / haul road and conversely signage will be erected on the access road to warn drivers of the crossing point.

It is a site requirement that all operatives and visitors accessing the site wear high visibility clothing at all times.

Appropriate P.P.E signage will be displayed at site entrances.

10.1.4 Parking

Parking is strictly prohibited to the area allocated on site. There will be no parking for construction personnel and or visitors on the roads adjacent to the site or in the public car park. All site parking for contractors will be restricted to the dedicated parking area on site.

No parking will be allowed on the operational area of the construction site.

10.1.5 Site Storage

Site storage will be located as close as possible to the area of work where they are required whilst maintaining all access routes.

10.1.6 Material Deliveries

All plant and materials will where possible be delivered in suitable sized loads to ensure vehicles have sufficient turning areas within the confines of the site. A banks man may assist any delivery vehicles in turning / entering / exiting the site. Where possible all materials / plant will be loaded and unloaded within the site perimeters.

No loading and / or unloading of materials is permitted outside of the confines of the site without management supervision. John Brown (Strone) Ltd shall check daily that the rules are adhered to. Designated vehicle unloading areas will be provided to facilitate efficient distribution of materials. Sufficient area shall be maintained by John Brown (Strone) Ltd for these purposes at all times.

10.1.7 Re-Fuelling Points

Individual double bunded fuel storage tanks will be used by contractors who will be operating plant on site. The distribution of fuel will be the responsibility of each individual Contractor. All areas for fuel and or filling will have spill kits available and maintained for use in the unlikely event of a spillage.

10.1.8 Traffic Management Action Table

Refer to the following Traffic Management Action Table for mitigation measures

Table 13-8 Construction: Traffic Management

11 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN: PROTOCOL FOR ARCHAEOLOGICAL DISCOVERIES

The following will be adopted to ensure any unexpected archaeological discoveries are reported and investigated. This approach follows guidance detailed within The Crown Estate's Protocol for Archaeological Discoveries (PAD) published by Wessex Archaeology¹.

PADs are systems of monitoring for unexpected or incidental finds relating to the historic environment. PADs are intended to apply to development, construction and installation activities where an archaeologist is not present on site and therefore not immediately available, i.e. in those instances where a traditional archaeological scheme of works is not in place (such as a watching brief, evaluation, etc.). PADs address both archaeological 'finds' and 'anomalies'. Finds are defined as an object or site with archaeological potential or significance, where as an anomaly is a signature that could be visual or digital (e.g. geophysical) that indicates a possible find or site which will require further investigation.

Consistent with the Crown Estate's guidance, the following will be implemented:

- a) All site personnel will be briefed on the significance of archaeological finds and anomalies;
- b) All finds will be immediately reported to the Site Agent; and
- c) In the event of a find, all works will halt and the Site Agent shall process the find in accordance with the Crown Estate's guidance and supporting materials.

¹ https://www.wessexarch.co.uk/sites/default/files/field_file/2_Protocol%20For%20Archaeological%20Discoveries.pdf

12 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN: POLLUTION PREVENTION AND EMERGENCY RESPONSE

12.1.1 General Arrangements

In order to minimise the risk of a pollution incident, contractors must ensure all operatives understand the environmental risks associated with their work activity and what control measures are in place to eliminate or reduce negative environmental impact. Investigation and reporting of environmental incidents must be undertaken.

The main priority is to avoid spillages and emergency situations. This will be achieved through minimising the risk of spillage at source through avoiding the use of polluting materials where possible. Where the use of polluting materials is unavoidable, then suitable containment in a sensible location is essential.

12.1.2 Responsibilities

All persons working for or on behalf of John Brown (Strone) Ltd have responsibilities to ensure they are aware of the processes and equipment in place to deal with emergency incidents.

12.1.3 General Incidents: Emergency Procedures

Emergency procedures in the event of fire, accident, contact with live services, dangerous occurrence or a significant environmental incident will be displayed throughout the site facilities.

Where an environmental incident occurs competent personnel should firstly assess and where appropriate, deal with the incident. Where the nature or scale of the environmental incident is outside the capability of the competent person(s) they shall notify without delay the CEMP Manager who will contact an appropriate environmental incident containment organisation to deal with the incident and mitigate any impact to the environment.

All persons working for or on behalf of Caledonian Maritime Assets Limited have a responsibility to report the occurrence of any environmental incident regardless of magnitude to their superior.

12.1.4 Planning & Prevention

Risk assessments are routinely conducted for all Caledonian Maritime Assets Limited activities and contain an assessment of the potential of an activity, process or substance to cause an incident.

Where the risk is considered small or insignificant actions are identified within the assessment.

Where the potential for a medium, large or significant risk is identified the appropriate operational controls may be implemented to ensure risks are minimised or eliminated and if and when an incident occurs, response actions are known and effective.

12.1.5 Routine Testing

Where practicable periodic testing of applicable emergency preparedness and response procedures will be undertaken. Where testing is conducted, the results and any improvement actions will be recorded.

12.1.6 Response Equipment

The most likely source of environmental incident is spillage of liquids and substances either accidentally or during handling or transfer.

Prior to attempting to tackle any environmental incident personal safety is paramount. The use of correct Personal Protective Equipment (PPE) may prevent an incident becoming even more serious with response personnel sustaining injury. When considering whether to tackle an environmental incident even with the use of PPE if exposure is likely to cause injury the job is best left to the experts. PPE used for this purpose should be located near to spill and containment equipment, and should be confirmed as being suitable for the hazard.

Suggested PPE includes:

- Coverall overalls or aprons
- Wellington boots or safety shoes
- Rubber or nitrile gauntlets or gloves
- Respiratory protective equipment (note that this must be face fit tested)
- Head protection (may be required if working in a restricted space)

For small liquid spillages of substance releases containment can be effective by the placement of spill or release containment equipment local to the potential sources of an incident which can effectively cleaned up preventing any environmental risk.

For larger spills or releases, containment equipment should be sufficient to prevent spills or releases contaminating the environment and provide an additional time break to conduct an effective clean-up operation, with or without the help of specialists.

The provision of spill or release containment equipment should be appropriate to the potential hazard.

12.1.7 Spill Prevention

The site induction must include a general overview of environmental issues relating to the site, as well as an overview of how these issues will be managed.

Environmental Toolbox Talks covering topics relating to site activities must be given to all site personnel.

All site personnel involved with transporting or handling fuelling equipment or maintaining construction equipment will be required to complete spill training before they commence work. Spill training will be conducted in order to:

- Inform personnel concerning the proper operation and maintenance of fuelling equipment; and
- Inform personnel of spill prevention and response requirements.

Attendance of training sessions will be documented using sign-in sheets that will become part of the permanent construction records.

12.1.8 Spill Response

The contractor is required to do everything practicable to minimise the potential for a spill. Spill kits will be kept on site and the precise contents and capacity of the kits will depend on the inventory of products that will be stored and handled on site, however they are likely to contain:

- Absorbent mats;
- Drain covers;
- Gloves;
- Floating “booms” or “sausages”;
- Knives;
- Oil-absorbent granules;
- Polythene sheeting and bags;
- Shovels; and
- String.

Spill or release containment equipment provided for emergency response purposes should:

- Not be used for routine operations. Daily equipment or materials should be provided for these purposes;
- Have its location identified on site plans;
- Be readily accessible;
- Be appropriate to the potential hazard i.e. chemical or oil specific;
- Have its inventory logged, periodically checked and any used equipment replaced;
- Be replaced if used for an emergency situation;
- Be disposed of in accordance with relevant legislation if contaminated (hazardous/special waste).

A specialist spill contractors will be identified that can be called upon should there be a requirement to control a significant spill.

12.1.9 Spill Management

In the event a spill occurs the following actions will be taken:

- When a spill occurs the CEMP manager/ deputy will be informed immediately;
- In dealing with the spillage the personal safety of the site-workers and the general public will not be compromised;
- Where required to stop or contain the spillage, work will be halted;
- The cause of the spillage will be stopped;
- The spill will be contained. Particularly pathways to any drains and water courses will be blocked as soon as possible; and
- The spilled materials will be removed and disposed of in accordance with the relevant waste regulations.

In the event of major or complicated spills, the following additional actions will be taken:

- The CEMP manager or deputy will assess the incident and if appropriate request a specialist spill contractor to attend the site.

After an incident all waste generated by clean-up activities will be disposed of in accordance with current legislative requirements and the site waste management plan and copies of all transfer notes retained

12.1.10 Fire Control

The project will ensure that operations are carried out in compliance with the “Fire Prevention on Construction Sites: The Joint Code of Practice 9th Edition”.

A fire management procedure will be produced in conjunction with the nominated Responsible Person and relevant parties as appropriate. This document will identify duty holders, define responsibilities and establish procedures on fire prevention.

In the case of a fire being attended by the Fire service, significant volumes of water, foam and burnt matter may be washed onto the ground. There is a risk that this may run off into drainage and watercourses. In this case, site management will monitor fire water runoff and ensure that contaminants are prevented from entering water systems by use of booms, bunds etc.

The guidance on the control of fire water detailed in SEPA's PPG18: Managing Fire Water and Major Spillages shall be followed as appropriate.

12.1.11 Incident Reporting

If during the course of site staff duties an Environmental / Health and Safety incident is noted, then the incident will be reported, immediately to the CEMP Manager (or deputy).

The CEMP Manager (or deputy) shall co-ordinate any actions that are required to make the area safe or limit environmental impacts resulting from the incident.

In the event of a potential harmful or polluting incident, spillage or discharge, the actions listed below will be followed to notify Marine Scotland and SEPA of the occurrence:

- Should an incident occur, the CEMP Manager (or deputy) shall inform John Brown (Strone) Ltd management and the regulator (i.e. Marine Scotland, SEPA, Argyll & Bute Council) of the occurrence of an Environmental incident at the site as soon as practicably possible following notification of the incident.
- The CEMP Manager (or deputy) will notify Marine Scotland and SEPA in writing the next working day after the incident, detailing the time nature of the incident; and
- The CEMP Manager (or deputy) will investigate the incident and notify Marine Scotland and SEPA of the outcome within 14 days of the incident.

12.1.12 Incident/Emergency Response Plans

An incident response plan will be prepared in line with the provisions of Guidance for Pollution Prevention (GPP) 21: Pollution Incident Response. This will be completed, reviewed appended to the CEMP and updated by the CEMP manager/ deputy as required.

12.1.13 Emergency Response Action Table

Refer to the following Emergency Response Action Table for mitigation measures

Table 13-9 Construction: Pollution Prevention and Emergency Response

13 CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN ACTION TABLES

The Action Tables (Table 13-1 to Table 13-9) below set out a series of actions that should be complied with to ensure the proposed construction can be carried out with minimal environmental impact.

Table 13-1: Pre-Construction Preparation - General

Ref	Action	Objective	Achievement Criteria	Responsibility	Best Practise & Guidance	Comments
1.	Appoint CEMP Management Team – Set out roles and responsibilities (Training and awareness).	Ensure staffs are compliant with environmental regulations and guidance, as well as a clear understanding of site environmental issues.	Toolbox talks and attendance records.	John Brown (Strone) Ltd	Guidance Note Construction Environmental Management Process for Large Scale Projects (Produced by The Highland Council)	Provide environmental training and inductions to all personnel accessing the project areas.
2.	Review of the final detail of construction method statement and revision of CEMP where necessary.	To account for any revisions and to ensure consistency with measures set out in the CEMP.	Retain record of review and any revisions.	CEMP Manager/ Deputy	Guidance Note Construction Environmental Management Process for Large Scale Projects (Produced by The Highland Council)	This is an important first action in the CEMP to ensure that environmental issues are fully factored into the proposed methodology.
3.	Submit CEMP for approval from Marine Scotland.	To detail the pollution prevention and control measures for all phases of the construction and operation programmes.	CEMP, and all incorporated documents shall be successfully submitted, in agreement with Marine Scotland.	CEMP Manager/ Deputy	John Brown (Strone) Ltd internal procedures	This is an important first action to make sure the CEMP is agreed.
4.	Establish Site inspection programme.	Ensure compliance with environmental requirements, including planning conditions.	Undertake environmental audits during construction and operations.	CEMP Manager/ Deputy	John Brown (Strone) Ltd approved contractors procedure documents	Provide mechanisms for continuous improvement in environmental performance.

Table 13-2: Construction - General

Ref	Action	Objective	Achievement Criteria	Responsibility	Best Practise & Guidance	Comments
1.	Provide supervisory/ management staff with an awareness and understanding of their responsibilities under this CEMP.	To ensure management staff and contractors are aware of their environmental responsibilities, and potential consequences of non-conformance(s).	Retain record of review and any revisions.	CEMP Manager/ Deputy	Toolbox Talks/Training	This is an element of the CEMP and ensures management are fully aware of all site environmental issues.
2.	All construction works will be carried out in accordance with best practice and the Health and Safety at Work Act 1974 which provides guidance to minimise risks to site operatives, adjacent land users and the environment.	Safe working		The appointed CEMP Manager will be present onsite during key construction activities.	Health & Guidance	
3.	The CEMP Manager/ Deputy will undertake a daily inspection of activities to ensure that the mitigation measures set out in the CEMP are adhered to and corrective action is taken where necessary	To minimise environmental issues on site where possible		CEMP Manager/ Deputy		

Table 13-3: Construction –Water

Ref	Action	Objective	Achievement Criteria	Responsibility	Best Practise & Guidance	Comments
1.	Appropriate storage, refuelling procedures, maintenance and emergency response mechanisms will be implemented during the construction phase	To reduce likelihood of leakage or spillage of oils and fuels, therefore reducing likelihood of oils and fuels entering into water courses.	Designated fuelling stations with appropriately bunded fuel tanks to be established before construction commences.	CEMP Manager/ Deputy Principal Contractor	SEPA Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs) 1-8, 18, 21, 26 & 27	
2.	Fuel and other potentially polluting chemicals will either be in selfbunded containers, or will be stored in a secure impermeable and bunded area (minimum capacity 110%).	To reduce likelihood of leakage or spillage of oils and fuels, therefore reducing likelihood of oils and fuels entering into water courses.		CEMP Manager/ Deputy Contractor	SEPA Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs) 1-8, 18, 21, 26 & 27	
3.	Mobile plant is to be in good working order, kept clean and fitted with plant 'nappies' where appropriate.	To reduce the risk of pollution		CEMP Manager/ Deputy	SEPA Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs) 1-8, 18, 21, 26 & 27	
4.	Construction waste / debris are to be prevented from entering any surface water drains.	To reduce the risk of pollution.	To minimise potential pollution	CEMP Manager/ Deputy		
5.	An Emergency Response Plan will be prepared. Spill kits and oil absorbent material is to be carried by mobile plant and located at high risk locations on site. Construction workers will receive spill response training.	To reduce the risk of pollution.	To respond to environmental incidents in a timely manner	CEMP Manager/ Deputy	GPP 21: Pollution incident response planning For producing emergency pollution incident response plans to deal with accidents, spillages and fires.	

Table 13-4: Construction - Ecology

Ref	Action	Objective	Achievement Criteria	Responsibility	Best Practise & Guidance	Comments
1.	Works shall be carried out in accordance with the general best practice guidelines set out in Guidance for Pollution Prevention (GPPs) / Pollution Prevention Guidelines (PPG).	To ensure construction adheres to regulations and standards.	Works are carried out in accordance with regulations and standards.	CEMP Manager/ Deputy	PPG 1 General guide to the prevention of pollution GPP 5 Works and maintenance in or near water PPG 6 Working at construction and demolition sites PPG 7 Refuelling facilities and GPP 26 Safe Storage - Drums and intermediate bulk containers	
2.	Temporary lights used during construction would be fitted with shades to prevent light spillage out with the working area.	To ensure minimal disturbance faunal species.	Lighting shall be kept to a minimum as night time working is not necessary.	CEMP Manager/ Deputy Contractor		
3.	Any excavations created during works should not be left open for mammals to become trapped. Appropriate covers should be fitted at the end of every working day. At the very least, a shallow sloping edge or some form of ramp should be placed in the excavations to allow any animals to climb out.	To ensure that animals do not become trapped in excavations.	Construction staff must ensure at end of working day no holes are left open.	CEMP Manager/ Deputy Contractor		

Table 13-5: Construction – Noise

Ref	Action	Objective	Achievement Criteria	Responsibility	Best Practise & Guidance	Comments
1.	Any compressors brought onto the Site to be silenced or sound reduced models fitted with acoustic enclosures.	To ensure construction noise does not become a nuisance.	Compressors will be silenced, or fitted with acoustic enclosures.	CEMP Manager/ Deputy Contractor	British Standards Institution. British Standard 5228: Code of practice for noise and vibration control on construction and open sites. BS 5228-1:2009+A1:2014: Noise. BS 5228-2:2009+A1:2014: Vibration	
2.	All pneumatic tools to be fitted with silencers or mufflers.	To ensure construction noise does not become a nuisance.	Pneumatic tools will be fitted with silencers or mufflers.	CEMP Manager/ Deputy Contractor	British Standards Institution. British Standard 5228: Code of practice for noise and vibration control on construction and open sites. BS 5228-1:2009+A1:2014: Noise. BS 5228-2:2009+A1:2014: Vibration	
3.	The contractor will undertake monitoring when justified nuisance complaints have been identified at residential properties and when method statements indicates adverse (noise) effects due to construction work being undertaken within close proximity at occupied residential properties	To ensure construction noise does not become a nuisance.		Contractor	British Standards Institution. British Standard 5228: Code of practice for noise and vibration control on construction and open sites. BS 5228-1:2009+A1:2014: Noise. BS 5228-2:2009+A1:2014: Vibration	

4.	Noise related mitigation will include, for example, the avoidance of the unnecessary revving of engines	To ensure construction noise does not become a nuisance.		CEMP Manager/ Deputy Contractor	British Standards Institution. British Standard 5228: Code of practice for noise and vibration control on construction and open sites. BS 5228-1:2009+A1:2014: Noise. BS 5228-2:2009+A1:2014: Vibration	
5.	Deliveries to be scheduled during normal working hours only. Care should be taken when unloading vehicles to minimise noise.	To ensure construction noise does not become a nuisance.	Working hours will be adhered to.	CEMP Manager/ Deputy Contractor	Environmental Good Practise, CIRIA (Section 3.5 and 3.6)	
6.	If vehicles are left standing at the construction site for significant periods of time, their engines will be turned off.	To ensure construction noise does not become a nuisance.		CEMP Manager/ Deputy Contractor	British Standards Institution. British Standard 5228: Code of practice for noise and vibration control on construction and open sites. BS 5228-1:2009+A1:2014: Noise. BS 5228-2:2009+A1:2014: Vibration PAN 1/2011 Planning and Noise	
7.	All construction working to be carried out within the stipulated hours of work.	To ensure construction noise does not become a nuisance.	Working hours will be adhered to.	CEMP Manager/ Deputy Contractor	British Standards Institution. British Standard 5228: Code of practice for noise and vibration control on construction and open sites. BS 5228-1:2009+A1:2014: Noise. BS 5228-2:2009+A1:2014: Vibration PAN 1/2011 Planning and Noise	
8.	Delivery vehicles are prohibited from waiting within or in the vicinity of the Site with their engines running.	To ensure construction noise does not become a nuisance.	Delivery vehicles will not idle with their engines running within the vicinity of the Site.	CEMP Manager/ Deputy	Environmental Good Practise, CIRIA (Section 3.6)	
9.	All plant items to be properly maintained and operated according to manufacturers' recommendations.	To ensure construction noise does not become a nuisance.	Plant items will be operated and undergo maintenance in accordance with manufacturer's recommendations.	CEMP Manager/ Deputy Contractor	British Standards Institution. British Standard 5228: Code of practice for noise and vibration control on construction and open sites. BS 5228-1:2009+A1:2014: Noise. BS 5228-2:2009+A1:2014: Vibration	

10.	Site plant and vehicles will be equipped with effective exhausts and conform to EU Community Machinery Directive Directives.	To ensure the air quality for local residents is not affected.	All site vehicles will have effective exhausts and maintained regularly.	CEMP Manager/ Deputy	IAQM Guidance on Monitoring in the vicinity of Demolition and Construction sites (October 2018)	Site vehicles should be regularly inspected and maintained. Plant used would conform with European Community Machinery Directive 89/392/EEC
11.	Minimise drop heights when loading lorries.	To ensure un-necessary excess noise is not produced.	Drop heights will be minimal.	CEMP Manager/ Deputy Contractor	British Standards Institution. British Standard 5228: Code of practice for noise and vibration control on construction and open sites. BS 5228-1:2009+A1:2014: Noise. BS 5228-2:2009+A1:2014: Vibration PAN 1/2011 Planning and Noise	
12.	Regular vehicle maintenance.	To reduce the chances of fuel spills and to reduce un-necessary excess noise.	Staff will inspect and maintain vehicles on a regular basis.	CEMP Manager/ Deputy Contractor	PPG1 General Guide to the Prevention of Pollution GPP13 Vehicle Washing and Cleaning PPG22 Incident Response Planning	All site staff will be instructed to minimise drop heights.

Table 13-6: Construction –Dust

Ref	Action	Objective	Achievement Criteria	Responsibility	Best Practise & Guidance	Comments
1.	The contractor will undertake monitoring when justified nuisance complaints have been identified at residential properties and when method statements indicates adverse (dust) effects due to construction work being undertaken within close proximity at occupied residential properties.	To ensure construction dust does not become a nuisance.	Minimise dust complaints	CEMP Manager/ Deputy Contractor	IAQM Guidance on Monitoring in the vicinity of Demolition and Construction sites (October 2018)	
2.	Speed limits imposed to minimise disturbance of the ground surface.	To ensure no excess dust is created.	Speed limits set and adhered to by all site staff, speed limit signs will be put in place	CEMP Manager/ Deputy	IAQM Guidance on Monitoring in the vicinity of Demolition and Construction sites (October 2018)	
3.	If it is deemed that construction dust is likely to arise from any particular construction works when combined with actual/forecast weather conditions, the affected area will be controlled with a suitable measure to prevent construction dust becoming airborne	To ensure construction dust does not become a nuisance.	Minimise dust complaints	CEMP Manager/ Deputy Contractor	IAQM Guidance on Monitoring in the vicinity of Demolition and Construction sites (October 2018)	
4.	The site manager will investigate the source of any dust complaint / abnormal activity and implement mitigation measures (if required) as soon as practicably possible. The source and nature of the complaint will be	To ensure construction dust does not become a nuisance.	Minimise dust complaints	CEMP Manager/ Deputy Contractor	IAQM Guidance on Monitoring in the vicinity of Demolition and Construction sites (October 2018)	
5.	All dust complaints will be recorded and root causes identified. Appropriate remedial action will be taken in a timely manner with a record kept of actions taken including of any additional measures put in-place to avoid reoccurrence.	To ensure construction dust does not become a nuisance.	Minimise dust complaints	CEMP Manager/ Deputy Contractor	IAQM Guidance on Monitoring in the vicinity of Demolition and Construction sites (October 2018)	

6.	Carry out regular site inspections to monitor compliance record inspection results, and make an inspection log available to the local authority when asked	To ensure construction dust does not become a nuisance.	Minimise dust complaints	CEMP Manager/ Deputy Principal Contractor	IAQM Guidance on Monitoring in the vicinity of Demolition and Construction sites (October 2018)	
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Table 13-7: Construction – Waste Management

Ref		Action	Objective	Achievement Criteria	Responsibility	Best Practise & Guidance	Comments
1.		Adhere to the Waste Hierarchy.	To minimise waste to landfill	All waste shall be separated into distinct waste streams for re-use, recycling and disposal. Suitable, secure, clearly labelled containers indicating the type of waste to be disposed of shall be provided in a designated waste compound area, to be established prior to construction	CEMP Manager/ Deputy	Site Waste Management Plan Identification of Circular Economy Opportunities in the Scottish Construction Sector – Zero Waste Scotland 2017 Construction Code of Practice for the Sustainable Use of Soils on Construction Sites – DEFRA September 2009 ² Promoting the Sustainable Reuse of Greenfield Soils in Construction – SEPA March 2010 ³	
2.		Segregation of wastes.	To reduce waste on site.	A specific area shall be laid out and labelled to facilitate the separation of materials for potential recycling, salvage, reuse and return. Recycling and waste bins are to be kept clean and clearly marked in order to avoid contamination of materials.	CEMP Manager/ Deputy Principal Contractor	Identification of Circular Economy Opportunities in the Scottish Construction Sector – Zero Waste Scotland 2017	

3.		Follow waste management procedures	To ensure proper management of site wastes.		CEMP Manager/ Deputy Principal Contractor		
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Table 13-8: Construction – Traffic Management

Ref	Action	Objective	Achievement Criteria	Responsibility	Best Practise & Guidance	Comments
1.	In order to minimise congestion, deliveries associated with the project will be pre-arranged with the site manager where appropriate.	To minimise congestion	The CEMP Manager will undertake a daily inspection of activities, to ensure that the mitigation measures set out in the CEMP are adhered to and corrective action is taken where necessary	CEMP Manager/ Deputy Principal Contractor		
2.	Loading / unloading of materials and equipment will occur within the site boundary.	To minimise potential nuisance	The CEMP Manager will undertake a daily inspection of activities, to ensure that the mitigation measures set out in the CEMP are adhered to and corrective action is taken where necessary	CEMP Manager/ Deputy Principal Contractor		
3.	All plant will remain on site during the construction phase where possible. Cleaning will be undertaken prior to these leaving site.	To minimise potential nuisance	The CEMP Manager will undertake a daily inspection of activities, to ensure that the mitigation measures set out in the CEMP are adhered to and corrective action is taken where necessary	CEMP Manager/ Deputy Principal Contractor		

Table 13-9: Construction – Pollution Prevention and Emergency Response

Ref	Action	Objective	Achievement Criteria	Responsibility	Best Practise & Guidance	Comments
1.	Emergency response and preparedness.	Demonstrate ability to deal with emergency and non-routine situations. Provide site spill response procedures, emergency contact details and equipment inventories.	Develop and implement emergency preparedness and response procedures that include: <ul style="list-style-type: none"> • Emergency response and management structure; and • Oil and chemical spill response. 	CEMP Manager/Deputy	Environmental Good Practise, CIRIA (Section 2.4) Spill Kits will be kept and maintained. PPG 1 General Guide to the Prevention of Pollution GPP21 Pollution Incident Response Planning GPP22 Incident Response – Dealing with Spills	All accidents and/or near misses will be recorded and records should be retained. Provides all staff with the same level of understanding as to how to deal with an accident.
2.	Report any major environmental incidents that may have a significant impact on the surrounding environment.	Maintain a daily logbook ensuring all environmental incidents are recorded.	Complete daily logbook for each week of the project.	CEMP Manager/Deputy	PPG6 Working at construction and demolition sites GPP 21 Incident Response Planning:	Ensure environmental incidents or issues are recorded in a logbook producing an accurate record for reference.

APPENDICES

A HEALTH & SAFETY CONSTRUCTION METHOD STATEMENT

John Brown (Strone) Ltd.**Caledonian Maritime Assests Limited - Internal and External Alterations
to Portavadie Ferry Terminal by Tighnabruaich, Argyll****Health & Safety Method Statement
for
Septic Tank Outfall****1. Description of Work**

John Brown (Strone) Ltd. has a responsibility to ensure that our works do not compromise safety through misuse or failure to maintain plant and equipment.

This Method Statement outlines the steps to be taken by John Brown (Strone) Ltd to try to ensure safe working environment for the following people.

- Employees
- Sub-Contractors
- General Public
- Ferry Staff & Passengers
- Members of the Public

2. Location and Access

The site is located off the main access road to Portavadie Marina

3. Duration of the Works

1week

4. Working Hours

Mon-Fri: 8.00 – 16.30

Due to tides some works will be carried out between 5.00am – 8.00am.

5. Method

- a) From sample chamber excavate a 650mm deep track down to MHWS mark and lay 50mm gravel bed. Using threaded lifting loops connected to blocks and straps connected to lift hook on Hitachi 8t excavator carefully lift 600mm x 600mm x 600mm concrete blocks in to position within track. Copy of test certificates for both lifting loops and straps to be kept on site.
- b) Install 100mm HDPE pipe through centre of concrete blocks, secure two sections of block together using stainless steel threaded rod, nuts and washers before grouting around HDPE pipe. Lay gravel surround around pipe and backfill with suitable excavated material. Surplus excavated material to be graded over area of work.
- c) For any works from MHWS mark to MLWS mark being undertaken out of hour's portable site lighting should be available if required.
- d) Site Manager to monitor all works being carried out on shore and ensure no lone working and that no operatives or plant undertake in works in sea. Operatives to maintain a safe working distance of 2m away from sea.
- e) From MHWS mark to MLWS mark install Tufftrak soft ground protection mats to provide safe working platform for Hitachi 8t excavator on shore. Site Manager and competent machine operator to ensure excavator not tracked on any areas out with protection mats.
- f) Excavate a 650mm deep track down to MHWS mark and lay 50mm gravel bed. Using threaded lifting loops connected to blocks and straps connected to lift hook on Hitachi 8t excavator carefully lift 600mm x 600mm x 600mm concrete blocks in to position within track. Copy of test certificates for both lifting loops and straps to be kept on site.
- g) Install 100mm HDPE pipe through centre of concrete blocks, secure two sections of block together using stainless steel threaded rod, nuts and washers before grouting around HDPE pipe. Lay gravel surround around pipe and backfill with suitable excavated material. At the end of the pipe run at low water mark install concrete plinth 1000 x 1500 x 200mm thick below the end of the 100mm HDPE outfall pipe. Surplus excavated material to be graded over area of work.
- h) Install gabion mattress 1500 x 1000 x 300mm to prevent tide from lifting last section of HDPE pipe.
- i) Remove Tufftrak matting and ensure foreshore is left clear of any debris or construction materials.

6. Supervision, Controls & Monitoring

All works will be controlled by the Site Manager who will ensure that the safe means of working as given by this Method Statement are complied with.

7. Operator Training & Plant

All operatives will be required to comply with the requirements of any site induction training given by this company.

All operatives will be given a tool box talk regarding this method statement prior to any works between MHWS and MLWS marks being undertaken.

All operatives will be experienced and trained in the work they are undertaking and further training will be provided if found to be required.

8. Safety of Third Parties

All employees and sub-contractors will be made aware during site induction of any risks their own work can impose on others in the vicinity.

The Site Manager shall ensure this method statement is adhered to.

9. Environmental Controls

Every effort will be made to keep noise and disruption to a minimum and to ensure that they do not cause a hazard or become a nuisance to others.

Tufftrak matting to prevent disturbance of foreshore area.

COSHH data sheets to be kept on site for grout material.

10. PPE, First Aid & Emergency Procedures

- 10.1 All employees will wear protective footwear and Hi-Viz vests at all times whilst on site. Other PPE such as hard hats, gloves, eye protection, hearing protection, respiratory protection and protective clothing will be issued and used as required.
- 10.2 Operatives will be made aware of first aid and emergency procedures at the site induction on their first day.

11. Plant Requirements

- 11.1 Hitachi 8t 360degree Excavator
- 11.2 Lifting Straps
- 11.3 Lifting Loops
- 11.4 Portable Site Lighting
- 11.5 Tufftrak Matting System

B SITE WASTE MANAGEMENT

[illegible]

Site Waste Data Sheet

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