

Construction Environmental Management Plan

PF10-PR10-43-F001

**Project: Havant Footbridge Replacement –
Planning Phase**

**Site Code:
UW25**



Hampshire
County Council



GRAHAM are committed to supporting the UN Sustainable Development Goals, a blueprint to achieve a more sustainable future for all.

Document Details:

Project Title	Havant Footbridge Replacement
Document Reference Number	TBC
Document Status	Draft For Planning

Document Preparation Details:

	Name	Role	Date
Prepared by	Jayne Walker	Environmental Sustainability manager	04/11/25
Approved By	Mark Hyland	Contracts Manager/ Director	04/11/25
*Accepted By			

*Optional acceptance by client representative

Version History:

The Environmental Manager and Project Manager will work collaboratively to conduct periodic reviews of this document to ensure that the information contained within it, is suitable and sufficient for site operations. It is anticipated that this will be carried out at least every six months.

Version	Date	Summary of details	Approved by
001	08/09/25	Draft For Planning	Jayne Walker
002	20/10/25	Updated from client comments	Jayne Walker
003	04/11/25	Updated following comments from HCCET	Jayne Walker

Contents

1.0 Organisational Arrangements

- 1.1 Introduction
- 1.2 Scope of the Project
- 1.3 Site location and Context
- 1.4 Purpose and benefits of the plan
- 1.5 GRAHAM Environmental Strategy and Climate Action Strategy
- 1.6 GRAHAM Environmental Management System
- 1.7 GRAHAM Environmental Policy Statement
- 1.8 Objectives and Targets
- 1.9 Environmental Roles and Responsibilities
- 1.10 Competence, Training and Awareness
- 1.11 Internal Communication
- 1.12 External Communication and Managing Neighbours
- 1.13 Records and Documents
- 1.14 Permissions, Consents and Licences
- 1.15 Monitoring of Construction Activities
- 1.16 Auditing of Construction Activities
- 1.17 Identification of Aspects and Impacts (Project Environmental Risk and Opportunities Register)
- 1.18 Environmental Risk Assessments

2.0 Site Compound Layout

3.0 Ecology and Biodiversity Management Plan

- 3.1 Ecological Issues
- 3.2 Existing Site Ecological Features
- 3.3 Species Management Plans
- 3.4 Habitat Management Plan

4.0 Land Management Plan

- 4.1 Geology and Contaminated Land Issues
- 4.2 Site Geology and Ground Conditions
- 4.3 Potential sources of contamination not previously identified
- 4.4 Potential Pathways
- 4.5 Potential Receptors
- 4.6 Mitigation Measures
- 4.7 Discovery of Contaminated Land Emergency Procedure

5.0 Water Management Plan

- 5.1 Water Management Issues
- 5.2 Existing Site Conditions
- 5.3 General Water Management Controls
- 5.4 Control Measures for Hazardous Substances
- 5.5 Control Measures for Plant and Equipment
- 5.6 Control Measures for Concrete, Cement and Grout
- 5.7 Control Measures for Oil Storage
- 5.8 Control Measures for Refuelling
- 5.9 Appointed Persons for Refuelling
- 5.10 Control Measures for Discharging Water
- 5.11 Control Measures for Abstracting Water from Excavations
- 5.12 Control Measures for Drainage
- 5.13 Control Measures for Flood Protection
- 5.14 Water Efficiency

Dust and Air Quality Management Plan

- 6.1 Dust and Air Quality Issues
- 6.2 Site Conditions

- 6.3 Monitoring Protocols
- 6.4 Records of details and action taken in response to exceptional incidents or dust-causing episodes
- 6.5 Dust and Air Pollution Mitigation Measures

Noise and Vibration Management Plan

- 7.1 Noise and Vibration Issues
- 7.2 Site Conditions
- 7.3 Noise Control Measures (General)
- 7.4 Operating Hours
- 7.5 Establishment of Baseline Conditions
- 7.6 Noise Monitoring Plan
- 7.7 Liaison with the Local Community during the Contract
- 7.8 Establishment of Working Relationship with the Local Authority
- 7.9 Section 61 of the Control of Pollution Act (COPA), 1974
- 7.10 Programming of Works
- 7.11 Distancing from Sensitive Receptors
- 7.12 Plant and Equipment
- 7.13 Traffic Noise during Construction
- 7.14 Noise Screening
- 7.15 Vibration

Energy and Carbon: Management and Reduction Plan

- 8.1 Energy & Carbon Issues
- 8.2 Climate Action Targets
- 8.3 Site Context
- 8.4 Decarbonising Roles and Responsibilities
- 8.5 Decarbonising Activities
- 8.6 Communication, Campaigning and Training
- 8.7 Measurement and Reporting
- 8.8 Carbon Offsetting
- 8.9 Nature Based Solutions

Site Waste and Resource Management Plan

- 9.1 Purpose and Description of the Project
- 9.2 Responsibilities and Declarations
- 9.3 Description of Waste Management Roles
- 9.4 Waste Management Policy
- 9.5 Benchmarks for Conserving Resources
- 9.6 Proposals for Waste Minimisation
- 9.7 Identification of Waste and Proposals for Waste Reuse and Recycling
- 9.8 Organisations which may be used to facilitate reuse
- 9.9 Waste Storage Arrangements
- 9.10 Office Waste Arrangements
- 9.11 Duty of Care and Waste Transfer Procedures
- 9.12 Waste Transfer Note Detail
- 9.13 UK SIC CODES - Excerpts from UK Standard Industrial Classification of Economic Activities
- 9.14 Minimisation of Hazardous Waste
- 9.15 Typical Hazardous Outputs
- 9.16 Management of Hazardous Waste
- 9.17 Hazardous Waste Consignment Note Detail
- 9.18 Training
- 9.19 Subcontractor Requirements
- 9.20 Management of Subcontractors
- 9.21 Waste Management Supplier Requirements
- 9.22 Waste Monitoring and Reporting

Invasive Species

- 10.1 Invasive Species Issues
- 10.2 Identification and Survey
- 10.3 Site Conditions

- 10.4 Invasive Species Management
- 10.3 Invasive Species Control and Eradication

Archaeology and Cultural Heritage

- 11.1 Archaeological Monitoring
- 11.2 Discovery of Unexpected Archaeological Finds

Emergency Response

- 12.1 Emergency Response Equipment and Resources
- 12.2 Environmental Incident Response Plan
- 12.3 Incident Response Reporting

Outline Materials Management Plan

- 13.1 Relevant Policy and Guidance
- 13.2 Excavated Materials Management Plan
- 13.3 Proposed Material Re-use
- 13.4 Waste Management
- 13.5 Other Regulatory Issues

NOTE: All method of works, particularly the trees removal, demolition, piling operations, necessary to undertake the Works will be fully developed and considered in the Final CEMP. A list of all method statements will be included in the Construction Phase Plan.

SECTION 1.0 Organisational Arrangements

Guidance Notes:

The information contained in this section describes the Environmental Management processes adopted on site.

1.1. Introduction

This document has been prepared by GRAHAM. In preparing this document GRAHAM is demonstrating their commitment to being an environmentally responsible company. This Construction Environmental Management Plan (CEMP) forms part of an overall environmental management system and is to be read in conjunction with the Construction Phase Plan and the Quality Plan for the Project.

This CEMP is intended to satisfy the requirements of the principles set down in the International Environmental Management System Standard ISO 14001:2015. Our policies and procedures described within this document are in compliance with relevant legislation and best practice guidance including PPG6: Pollution Prevention Guidelines, Working at construction and demolition sites.

In preparing this document GRAHAM have drawn on information contained in the following documents:

- Havant Footbridge Replacement, Stage One Scope, Hampshire County Council, Ref: C.J009595.01
- Ecological Appraisal including Preliminary Biodiversity Net Gain Assessment, Hampshire County Council Ecology Team, March 2025 Ref: 24.1072
- Arboricultural Impact Assessment, Hampshire Highways Arboriculture, April 2025, Ref: P-HBC-HvntStnFtbrdg-SS24762-AIA-1.2
- Ground Investigation Report, Terra Firma, November 2024, Ref: TF-24-356
- Noise Survey – 2025 data

1.2. Scope of the Project

Havant footbridge was built in 1947 and provides the main public route over the railway. It connects the Civic Centre Campus, Havant College, and nearby large housing area of Leigh Park in the north to Havant Town Centre, Bus Station and Havant Park in the south.

Deterioration of the footbridge has accelerated over recent years, and it is no longer deemed cost effective or practical to continue repairing it. In addition, the footbridge no longer meets uses needs. Therefore, the footbridge is to be removed, and a new one provided which meets current standards and provides access for all.

ECI Phase:

- Provision of pre-construction information to facilitate planning and work alongside HCC to enable demolition of the existing footbridge and design, fabrication and installation of the new footbridge.
- Contractor design for footbridge, ramps and stairs.

Construction Phase:

Details to be developed following Planning approval.

1.3. Site Location and Context

Havant Railway Footbridge is located in an urban setting within the centre of the town of Havant, in southeast Hampshire.

It provides pedestrian access between Elmleigh Road (northwest of the station) and North Street and the entrance (to the south). A covered ramp from the bridge also provides pedestrian access to the rear of Leigh Road (to the northeast) where a multi-level car park is located (this access route is currently closed to the public).



Existing Footbridge



Proposed Structure



1.4. Purpose and benefits of the plan

- The plan defines the Environmental Management procedures, work practices and management responsibilities relating to the construction of the project.
- The plan demonstrates how GRAHAM intends to satisfy the requirements of the client
- The plan demonstrates how GRAHAM intends to produce environmental performance indicators
- The Plan defines the scope of environmental issues, together with the requirements for action by GRAHAM that shall be set out to avoid, minimise and mitigate construction effects on the environment, existing surrounding communities and new residents of the local area
- The plan sets out the individual responsibilities of Directors, Managers, Supervisors and Operatives, with their respective roles defined in a clear system of managerial control.

- The plan establishes the structure and content for the procedures to monitor compliance, including specific auditing by GRAHAM.
- The plan establishes a regular procedure for reporting environmental information and ensures that environmental issues are firmly on the agenda of progress review meetings.
- The plan ensures that complete documented records are kept for easy, accessible reference.
- The plan provides a statement of Intent to statutory, regulatory and local authorities to take effective action to work in compliance with all statutory provisions and protect the environment.

The CEMP is a live document which must be updated and developed throughout the course of the project. An update to the CEMP will be carried out every six months as a minimum.

1.5. GRAHAM Environmental Strategy and Climate Action Strategy

As part of the GRAHAM Environmental Sustainability Strategy, this project will seek to adopt solutions and opportunities which will positively impact upon our four key areas of Environmental Sustainability focus (as follows):

- **Protecting the Environment**
- **Environmental Management and Improvement**
- **Conserving Resources**
- **Climate Action**

The GRAHAM overarching commitment to working in support of the UN Sustainable Development goals will also underpin the Project ethos toward “Sustainable Development” and opportunities will be sought to positively influence the SDG’s.



Figure 1: Key Focus Areas

1.6. GRAHAM Environmental Management System

GRAHAM operate an ISO 14001:2015 accredited Environmental Management System. We use this in conjunction with all relevant legal and other requirements for the environmental management of this project.

The environmental performance of the site will be regularly checked by site inspections carried out by our SHE Managers and Advisors and Environmental Audits carried out by the Environmental Sustainability Managers and Advisors. The implementation of our EMS will be audited both internally by our Systems Audit Manager and externally by NQA Ltd.

1.7. GRAHAM Environmental Policy Statements

The work carried out on the Project will be in compliance with:

- **GRAHAM Environmental Policy Statement**
- **GRAHAM Biodiversity Policy Statement**
- **GRAHAM Climate Action Policy Statement**
- **GRAHAM Green Travel Policy Statement**
- **GRAHAM Waste Management Policy Statement**

1.8. Objectives and Targets

GRAHAM SBTi Net Zero Verified Targets

We're committed to minimising our impact on the environment, and key to this is our plan to reduce our greenhouse gas (GHG) emissions to net-zero. To ensure that this is meaningful and our progress against this target stands up against scrutiny, we have set near-term and long-term targets which have been approved by the Science Based Targets initiative (SBTi).

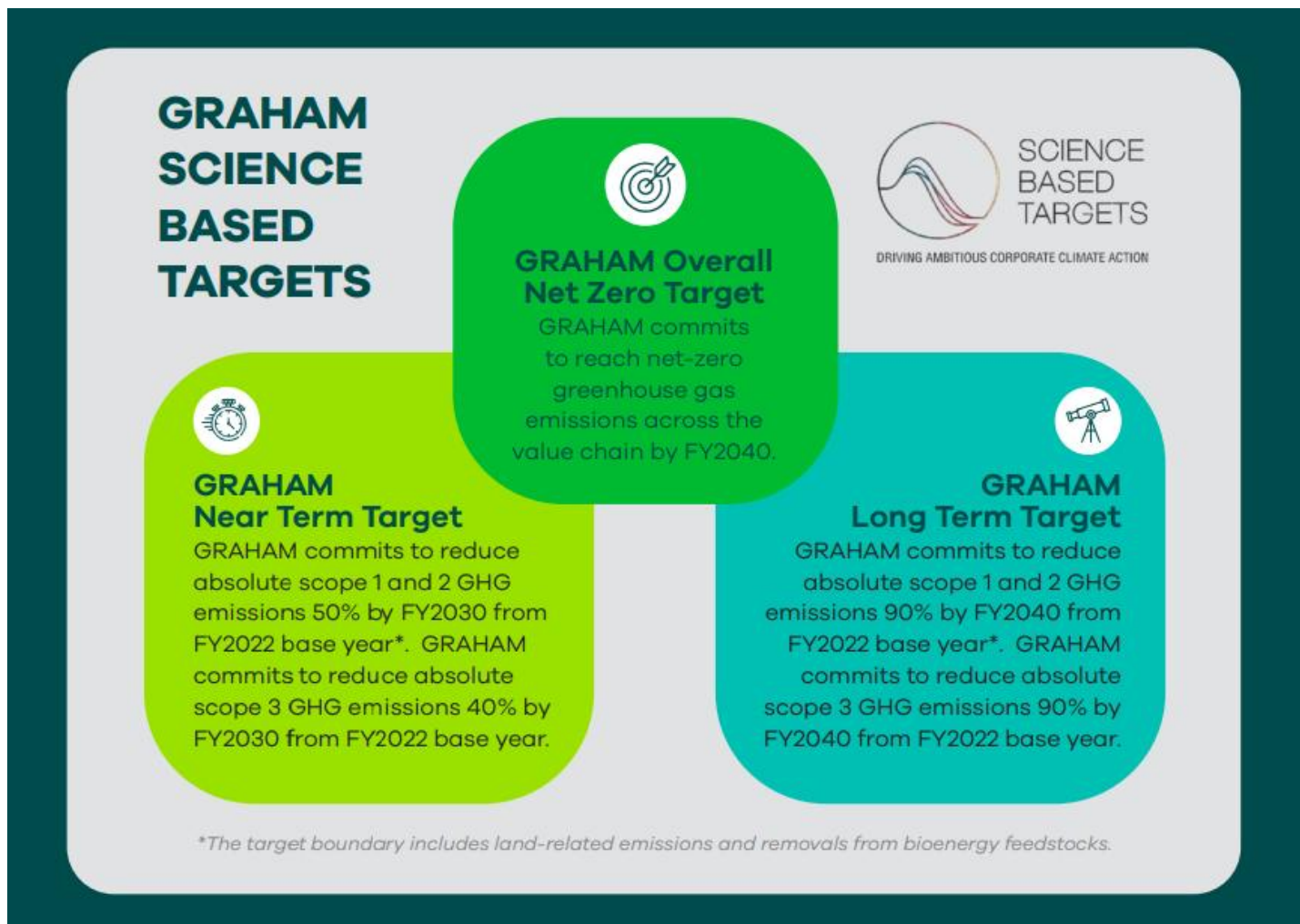


Figure 2: GRAHAM SBTi Targets

What is the Science Based Targets initiative (SBTi)?

The Science Based Targets initiative (SBTi) is a corporate climate action organisation that enables companies and financial institutions worldwide to play their part in combating the climate crisis, limiting global temperature rise to 1.5°C in line with the Paris Agreement. The SBTi is widely recognised as the 'gold standard' for greenhouse gas reduction target validation programmes and develop standards, tools and guidance which allow companies to set targets in line with what is needed to keep global heating below catastrophic levels.

Details of our all our corporate ambitions and targets relating to Environmental Sustainability are detailed below

FOCUS AREA	AMBITION	ORGANISATIONAL TARGET
CLIMATE ACTION	To eliminate carbon from our business and to measure and manage our progress towards a decarbonised economy	Net-zero carbon emissions by 2040
ENVIRONMENTAL MANAGEMENT AND IMPROVEMENT	To manage our business in such a way as to aid improvement in environmental performance in the workplace	Ensure that the GRAHAM Environmental Frequency Rate is maintained at less than 0.02.
CONSERVING RESOURCES	To have a net positive impact on resources and ensure the implementation of the principles of the circular economy by keeping products and materials at their highest utilisation throughout their lifecycle	To: a) Achieve zero avoidable construction waste by 2040 b) Maintain zero construction waste to landfill c) Reduce mains water consumption by 50% by 2030
PROTECTING THE ENVIRONMENT	To proactively manage ecological issues and contribute towards the protection and enhancement of natural assets in order to support wellbeing and help climate proof our communities	Increase the number of biodiversity actions by 50% (against a 2019/20 normalised baseline) by 2030

As part of our corporate ambitions, specific targets and objectives relating to the Project have been set. These include:

- Site carbon emissions to remain within the targeted boundary (See Onos KPIs for more information on specific requirements for each financial year)
- Site waste to remain within the targeted boundary (See Onos KPIs for more information on specific requirements for each financial year)
- Site mains water consumption to remain within the targeted boundary (See Onos KPIs for more information on specific requirements for each financial year)
- Undertake biodiversity actions on or off site. (See KPIs for more information on specific requirements for each financial year)
- Submit at least two environmental observations per month

1.9. Environmental Roles and Responsibilities

- An organisational chart is shown within the Construction Phase Plan.
- The table below details the environmental duties and responsibilities for positions identified in the organisation chart.
- The environmental qualifications for positions identified are detailed within the relevant CV's included within the Construction Phase Plan.

Name	Responsibilities
Contracts Director	<ul style="list-style-type: none">• Assign specific environmental duties to competent members of the Project Team• Identify the environmental training needs of personnel under their control and arrange appropriate training programmes and ensure records are being maintained• Ensure that significant environmental aspects identified for the project are managed• Promote the continual improvement of environmental performance
Contracts Manager	<ul style="list-style-type: none">• Ensure that the CEMP is produced, maintained and implemented on the project and distributed to all relevant parties• Ensure that all personnel for whom they are responsible are aware of the CEMP and implement the relevant requirements• Identify the competence of all subcontractors and suppliers and ensure that they are made aware of, and comply with, the Project Plans and any documentation requirements• Establish a consultation and communication system with all relevant interested parties associated with the project, including employees, partners, contractors, clients, designers and third parties, etc., where relevant
Project Manager	<ul style="list-style-type: none">• Ensure that all personnel undergo suitable and sufficient environmental induction before starting work on the project• Ensure that staff are attending the appropriate environmental courses that are organised by the Environmental Manager. Ensure the Environmental Manager is maintaining records• Monitor the performance of personnel and activities under their control and ensure that arrangements are in place so that all personnel can work in a manner which minimises risks to themselves and to the environment• Undertake a programme of regular project environmental inspections in accordance with procedures• Implement the environmental performance measurement, review and reporting requirements• Assist and support the Environmental Manager when pollution investigations are required• Co-operate with auditors during environmental audits and action any non-conformances

Name	Responsibilities
Site Engineers	<ul style="list-style-type: none"> • Ensure all environmental issues within their designated work area are identified and noted in the method statements if applicable • Liaise with Environmental Manager to ensure any environmental issues are dealt with swiftly and correctly • Issue daily task talks when environmental best practice is not utilised • Liaise with Environmental Manager when approaching subcontractors regarding environmental issues • Ensure environmental mitigation drawings are reviewed prior to works commencing • Ensure any environmental incidents are recorded and the associated procedure is followed • Read the CEMP prior to works commencing
Procurement Manager	<ul style="list-style-type: none"> • Ensure that materials are ordered so that the quantity delivered, the timing of the delivery and the storage does not create unnecessary waste
Environmental Manager	<ul style="list-style-type: none"> • Implementation of the CEMP Procedures • Liaise with the Engineering Manager to ensure all environmental aspects and requirements are included in the design • Draw up the CEMP to ensure all aspects, impacts, statutory requirements and Client commitments are reflected in the plan • Maintain and audit the CEMP and the documents which underpin it • Undertake a programme of regular project environmental inspections, monitoring, recording and reporting in accordance with procedures • Liaise with the Project Manager to ensure that the works are constructed in line with the CEMP • Liaise with the employer's environmental advisors, statutory bodies and the local community as required • Attend regular construction meeting to ensure environmental issues are discussed with the appropriate management • Comply with GRAHAM environmental incident investigation and reporting procedures • Chair Review Meetings involving relevant stakeholders and the Project Team • Support and provide training to the workforce with regard to understanding environmental aspects, impacts, regulatory requirements, best practice, constraints and methods of working
Engineering Manager	<ul style="list-style-type: none"> • Be fully aware of the project environmental aspects in general and of their specialty in particular • Ensure the works are carried out to agreed working methods and procedures and to the required standard of quality • Train and educate the workforce with regard to best practice, constraints and methods of working • Liaise with Environmental Manager to ensure any environmental issues are dealt with swiftly and correctly

Name	Responsibilities
Project Ecological Consultant TBC	<ul style="list-style-type: none"> Monitoring site works Provision of status reports and updates Provision of advice to and liaison with workers on site Identify environmental risks and develop environmental controls Delivery of environmental training for site personnel and sub-contractors Liaison with the Site Team
Arboricultural Officer TBC	<ul style="list-style-type: none"> Identify risks and develop control for felling works on site. Identify trees requiring protections and liaising with site personnel to implement these protections. Supervision of felling operations.
Subcontractors	<ul style="list-style-type: none"> Provide evidence during procurement process to demonstrate commitment to the environment Ensure all staff read the CEMP Provide environmental mitigation required during their works Appoint a member of staff responsible for coordinating environmental impacts and aspects Ensure risk assessments address environmental issues associated with their works

***Note** - GRAHAM will notify the Employers Representative of any intended changes in personnel with core environmental responsibilities.*

1.10. Competence, Training and Awareness

- The table below details the Environmental Competency and Training Plan for those personnel that will be employed on the Project
- Records of competency requirements and training will be maintained by the GRAHAM SHE Training department using an advanced training software tool which prompts in advance of refresher training requirements.
- A description of the training that will be delivered is outlined below

Description of training

Environmental Training	Description	Delivered by
Company SHE Induction	All members of staff receive a company induction which includes an introduction to the key aspects of the Environmental Management Systems within GRAHAM	HR Team
Site Specific SHE Induction	All site operatives are given site specific environmental information through the induction process	Designated member of the site team
Initial Environmental advisory/ communication training	Appropriate members of the site team receive an initial environmental advisory briefing. Key environmental aspects of the project are communicated at this stage	Environmental Team
SHE Briefing	Members of the site team attend an annual briefing which highlights areas of good practice, legislation changes and any new company initiatives	SHE Team
Spill Kit Training	Site teams are given practical training on the legal requirements regarding fuel storage, potential damage caused by such a spill, GRAHAM's spill procedure, measures to prevent spills occurring and practical training in the use of spill kits	Designated member of the site team / Environmental team

Environmental Training	Description	Delivered by
Carbon Literacy Training	Provision of training to staff on climate science and carbon in construction. The training outlines the necessity for both individuals and business to take action to reduce GHG emissions.	External body + Designated members of SHE Team
Environmental Champion Training	Specific member(s) of the site team are assigned the environmental champion role. Training is provided to highlight their roles and responsibilities in managing environmental aspects onsite	Environmental Team
Environmental TBTs / Advice Notes	Environmental tool box talks and advice notes are given on a regular basis to reinforce and further emphasize site environmental issues	Designated member of the site team
CIRIA / NEBOSH Award / SEATS - one day environmental awareness training	Environmental Champions attend a one day externally delivered environmental awareness course. This course provides an introduction to environmental issues and outlines mechanisms to improve site environmental performance.	External body
NEBOSH Certificate in Environmental Management (or equivalent)	Relevant SHE team members attain environmental management qualifications which are professionally certified in order to deliver a high level of environmental expertise	External body
Leading with Environmental Sustainability	Senior Management attend training which challenges leaders to formulate a strategic understanding of the risks and opportunities presented by a changing environment on their ability to do business	External body
Graduate Environmental Management Training Session	Graduates attend classroom based training to provide them with an overview of the GRAHAM Environmental Management System	Environmental Team
Supply Chain Briefing	Key suppliers attend a briefing delivered in order to communicate environmental information relevant to their operations	SHE Team
Fuel Efficient Driver Training	High mileage drivers attend a practical driver training course in order to improve fuel efficiency through driving style	External body

Additional E-Learning Training courses

Environmental Training	Description	Delivered by
Introduction to Biodiversity	This training explains the principles and benefits of Biodiversity, and explains the opportunities of enhancing wildlife in the built environment	SCSS e-learning
The Circular Economy	This training introduces the concept of circular rather than linear economies	SCSS e-learning
Introduction to Environmental Management	This training provides an overview of Environmental Management	SCSS e-learning
Introduction to Sustainable Construction	This training introduces the principles of sustainability, sustainable development and sustainable construction	SCSS e-learning
Introduction to Climate Change and Carbon	This training provides an overview of Climate and Carbon	SCSS e-learning

1.11. Internal Communication

All staff and contractors will be informed of the content and location of this CEMP and associated controls. The induction of all new employees and contractors will include the contents of this plan and the Environmental Incident Response Procedure. Method Statements will be used to communicate specific environmental requirements as appropriate.

The Environmental Manager will have responsibility for communicating any changes in policy, procedure or legislation.

The Site Manager will have responsibility for maintaining internal communication, including changes to material on display.

The GRAHAM Environmental Policy and other appropriate environmental information will be displayed on all notice boards.

1.12. External Communication and Managing Neighbours

GRAHAM will organise regular progress meetings with the Employer's Representative at agreed frequencies. The meetings will include an update on risk mitigation, progress against targets and a review of any audit/assurance monitoring findings.

GRAHAM will maintain a record of discussions held with statutory authorities.

The GRAHAM Site Team will agree with the Employer's Representative how those affected by the works will be consulted, informed and mitigated of the consequences of the work. This is likely to include informing local residents and stakeholders (both verbally and in writing) of activities that may cause an impact or nuisance.

1.13. Records and Documents

- Copies of all licences, consents, permits or permissions granted to GRAHAM (as shown in section 1.14) will be retained on site.
- Upon completion of the contract, final versions of the CEMP, operational controls and all other documents that record the environmental risks, best practice examples, mitigation measures, commitments, incidents and other relevant information for inclusion in the Health and Safety File/ O&M manuals will be provided to the Employers Representative.

1.14. Permissions, Consents and Licences

Consents have been sought from the following agencies in relation to the works:

Type of Consent	Governing Body	Consent Required	Responsibility and Timescale For Obtaining	Details of Conditions	Responsibility for Discharging Requirements
Environmental Permit: Discharge to surface water or groundwater	Environment Agency	TBC during ECI Stage	Site Manager – Prior to commencement on site	N/A	Site Management Team
Environmental Permit: For flood risk activities (<i>including work in, on or over a river or within a flood plain</i>)	Environment Agency	TBC during ECI Stage	Site Manager – Prior to commencement on site	N/A	Site Management Team
Environmental Permit: For mobile plant (MPP) for treatment of waste and land improvement	Environment Agency	Not required	N/A	N/A	N/A
Environmental Permit or Waste Exemption: For using, treating, disposing or storing waste	Environment Agency	TBC during ECI Stage	Site Manager – Prior to commencement on site	N/A	Site Management Team
WI Act temporary discharge consent	Local water company	TBC during ECI Stage	Site Manager – Prior to commencement on site	N/A	Site Management Team
Hedgerow removal notice	LPA (local planning authority)	TBC during ECI Stage	Site Manager – Prior to commencement on site	To be agreed with appointed Ecologist/Arborist	Site Management Team
European Protected Species Licence e.g. bats/ badgers/ great crested newts	Natural England	Not required	N/A	N/A	N/A
Scheduled Monument Consent	Environment Agency	Not required	N/A	N/A	N/A
Consent to work in SSI, SAC, SPA, RAMSAR	Environment Agency	Not required	N/A	N/A	N/A

Type of Consent	Governing Body	Consent Required	Responsibility and Timescale For Obtaining	Details of Conditions	Responsibility for Discharging Requirements
Tree Preservation Order Consent	LPA (Local Planning Authority)	Not required	N/A	N/A	N/A
Listed Building consent	LPA (Local Planning Authority)	Not required	N/A	N/A	N/A
Planning permission for "relevant demolition" in conservation areas	LPA (Local Planning Authority)	Not required	N/A	N/A	N/A
Section 61 of the Control of Pollution Act (Noise and Vibration from Construction)	LPA (Local Planning Authority)	Yes	Site Manager – Prior to commencement on site	N/A	Site Management Team

Note: Specific controls as a result of these consents will be implemented by detailing the requirements in the associated Method Statements, together with any specific records to be generated as necessary to show compliance. Regular toolbox talks will be held on these specific controls throughout the execution of the works

1.15. Monitoring of Construction Activities

Environmental performance is monitored through the following activities:

1. Completion of the Weekly Site Supervisors Environmental Report - (IMS Ref: PF10-PR10-43-F016)
2. Inspections carried out by the SHE Team
3. Environmental Audits carried out by the Environmental Manager – (IMS Refs: PF10-PR10-40-F002 Environmental Audit/ PF10-PR10-40-F020 Environmental Advisory Audit Report/ PF10-PR10-44-F013 Waste and Resources Audit Report/ PF10-PR10-43-F034 Nuisance Audit Report/ PF10-PR10-43-F033 Energy Audit Report)
4. Review of Site Waste data, Carbon Impacts, Water Consumption and Biodiversity Actions (on Onos)
5. Noise and vibration monitoring (as necessary) – (IMS Refs: PF10-PR10-43-F026 Noise Monitoring Plan/ PF10-PR10-43-F027 Site Noise Forecasting Calculator/ PF10-PR10-43-F030 Noise Monitoring Report Form)
6. Water Quality Monitoring (as necessary) (IMS Refs: PF10-PR10-43-F028 – Water Quality - Sampling Record/ PF10-PR10-43-F019 Water Quality – Visual Inspection Record)
7. Dust and Air Quality Monitoring (as necessary) (PF10-PR10-43-F021 NRMM Inventory)

Environmental performance will also be a regular item included on the agenda for Progress meetings

1.16. Auditing of Construction Activities

The methodology for auditing of construction activities includes but is not limited to:

- ❖ A review of documentation including the CEMP, environmental risk assessments, method statements, permits and licences
- ❖ A review of site progress and results toward achieving GRAHAM SBTi targets and aspirations toward achieving diesel free construction sites
- ❖ A site visit which includes inspection of on-site waste skips, stockpiles, fuel storage arrangements and any nearby watercourses
- ❖ Discussions with the site team
- ❖ A report which includes findings and prioritised recommendations is then drafted by the auditor for actioning by the Site Manager

Details of the nominated personnel to conduct audits, report back and action mechanisms are detailed below

- ❖ Andrew Cooke – SHE Director
- ❖ Jayne Walker – Environmental Sustainability Manager (Civils)
- ❖ Matthew Hunter – Environmental Sustainability Manager (Civils)
- ❖ Hannah Catterson – Environmental Sustainability Advisor (Civils)

The nominated auditors will ensure any areas of improvement are identified to the Site Manager and will undertake a follow up to ensure that this improvement has taken place. Results of the audits will be made available to the Contracts Manager for information.

1.17. Identification of Aspects and Impacts (Project Environmental Risk and Opportunities Register)

Prior to actual commencement on site, the Environmental Manager in consultation with the Project Manager will complete a site-specific Project Environmental Risk and Opportunities Register in order to identify the relevant environmental aspects and impacts associated with the works. This risk register will outline the controls that must be put in place to manage any significant adverse environmental impacts to acceptable levels. (IMS Ref: PF10-PR10-43-F003)

1.18. Environmental Risk Assessment

As well as including Health, Safety, Welfare and Quality requirements, Work Package Plans shall include environmental risk assessments (IMS Ref: PF10-PR10-01-F003) and give consideration of the following environmental requirements:

- List of significant impacts relevant to the activity
- Identification of receptors/ resources likely to be affected by the works
- On-site monitoring arrangements
- Environmental controls for statutory nuisance aspects – noise/ dust/ fumes/ lighting
- Refuelling, repair and servicing of mobile plant
- Waste management controls
- Selected mitigation methods to minimise impacts
- A list of relevant consents
- Training and briefing requirements

Work Package Plans must be completed and filed for inspection by stakeholders, regulators and other interested parties.

Environmental Risk Assessment is an ongoing process within GRAHAM to ensure that new hazards with changing consequences and likelihoods can be identified.

SECTION 2.0 Site Compound Layout

Guidance Notes:

Site compound and site layout drawings are included in this section. These drawings include information on:

- ❖ Provision and location of bunded refuelling areas
- ❖ Provision and location of fuel and COSHH storage areas
- ❖ Materials storage area
- ❖ Stockpile locations
- ❖ Tree protection areas
- ❖ Concrete washout provision and location
- ❖ Location of skip segregation area and details of waste segregation strategy
- ❖ Surface water and foul drainage locations
- ❖ Wheel wash measures and location
- ❖ Locations of monitoring for nuisance noise (sensitive receptors)
- ❖ Location, configuration and direction of temporary site lighting
- ❖ Details of enclosure of working areas (hoarding provision)
- ❖ Construction traffic management proposals
 - Parking
 - Delivery routes
 - Plant movements
 - Site access



Figure 3 - Provisional Main Compound Location: The Star Car park, North St, South of Havant station.

<Site compound layout drawing to be inserted prior to construction commencing>

SECTION 3.0 Ecology and Biodiversity Management Plan

Guidance Notes:

This section contains details of ecological considerations (such as nesting seasons, protected species etc.) and steps required to safeguard ecology during construction.

- 3.1 Ecological Issues**
- 3.2 Existing Site Ecological Features**
- 3.3 Species Management Plans**
- 3.4 Habitat Management Plan**

3.1 Ecological issues

This section prescribes the mitigation measures which are necessary to be implemented in order to prevent or reduce adverse impacts upon ecological receptors. It also considers the legal requirements associated with statutory protected species and sites. Details of our aspirations and methodologies for the achievement of biodiversity net gain are also included.

3.2 Existing Site Ecological Features

Existing Site Ecological Features, designations and potential impacts

DESIGNATIONS

St. Faith's Churchyard SINC, 600m south of the site, is the only designated site within 1km of the site. The site would be unlikely to support any species associated St. Faith's Churchyard SINC and there are no impact pathways, nor direct ecological connectivity between the two locations.

It is considered that the development will have negligible impacts on designated sites.

PROTECTED SPECIES

Great Crested Newt and other amphibians, Otter, Water Vole, and notable invertebrates were considered likely absent from the site for the reasons noted below and were therefore scoped out of further investigation:

- Suitable habitats with the potential to support these species / species groups were absent within or adjacent to the site.
- Ecological connectivity between the site and areas of habitat suitable to support these species / species groups within the wider vicinity is of poor quality and/or is interrupted by barriers to dispersal such as the mainline railway and local road network.
- No records were returned within the site or wider search radius for these species / species groups, or, where records were returned, they were distant enough that, without species specific habitat connectivity, presence within the site would be unlikely.

Field surveys undertaken by Hampshire County Council Ecology Team in October 2024 returned the following results:

Badger

Badgers are considered likely absent from the site.

Bats

Roosting

Bats and bat roosts are considered likely absent from the site. During pre-construction surveys no trees likely to be impacted by the works had any identified Potential Roost features (PRF). The Oak to the north of the station / south of Elmleigh Rd car park is considered PRF-I (recognising that dense ivy cover could be obscuring visibility of PRFs but considering that the surrounding urban environment, surrounding sub-optimal bat habitat, and station / street lighting, would likely deter the presence of roosting bats).

Foraging & Commuting

Foraging and commuting bats are considered to be occasionally present within the site.

Breeding Birds

Breeding birds are considered to be present within trees and scrub vegetation within and adjacent to the site and may potentially be impacted by the proposed development if works were to take place during the bird nesting season (March to August). Impacts may include:

- Disturbance and/or harm (including injury or death) to any breeding / nesting birds and/or eggs / chicks / fledgelings.
- Disturbance to, or damage / destruction of, active bird nests.
- Outside of the nesting season, there would also be the risk of disturbance to birds generally present in the vicinity of the site while works are in progress.
- Reduction in habitats suitable to support birds.

Hazel Dormouse

Hazel dormice are considered likely absent from the site

Reptiles

Reptiles are considered to be potentially present within scrub vegetation to the north of the station. Potential impacts to reptiles as a result of the proposed works may include:

- Disturbance and/or harm (including injury or death) to either active or hibernating individuals.
- Reduction in habitats suitable to support active or hibernating reptiles and an associated loss or interruption of habitat connectivity for reptiles.

3.3 Species Management Plans

BATS

LEGISLATION

Bats and their roosts are protected under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981, as amended. Taken together, this legislation makes it an offence to:

- Deliberately capture, injure or kill a bat
- Deliberately disturb a bat in such a way as to be likely:
 - To impair its ability to survive, to breed or reproduce, or to rear or nurture its young; or
 - To impair its ability to hibernate or migrate; or
 - To affect significantly the local distribution or abundance of the species to which they belong.
- Damage or destroy a breeding site or resting place of a bat
- Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead bat or any part of, or anything derived from a bat.

In addition, bats are also a priority species in England as required under Section 41 of the Natural Environment and Rural Communities Act 2006. Consultation with the relevant authority is therefore required before any work is undertaken that might affect bats.

MITIGATION

General

- Demolition of buildings, built structures and trees with Potential Roost Features will only proceed once a suitably qualified bat specialist has confirmed that bats are not resident in such buildings, structures or trees.
- All site operatives will be made aware of the possibility of finding bats during demolition of buildings, during works at built structures and during tree felling. If bats are found in properties or trees, operatives will stop work immediately and contact the Site Management Team

For confirmed direct impacts

- Confirmed bat roost sites will not be disturbed or obstructed until a European Protected Species licence has been obtained from Natural England. Once obtained, the licence conditions for mitigation and compensation will be fully followed

For confirmed impacts to commuting routes

Noise and Vibration

- Best Practicable Means will be adopted to ensure that noise emissions and vibration is reduced whenever practicable.

Programming

- Most of the works are scheduled to occur during bat hibernation season (between November and March), when it's unlikely that bats will be commuting across the site

Lighting

- All lighting will be task orientated and be kept to the minimum amount required for security/health and safety.
- Lights will be switched off when not in use, where practicable and safe to do so.
- Light spill will be minimised using adjustable column heights and/or cowls/hoods.

BIRDS

LEGISLATION

Wild Birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 such that it is an offence to:

- Deliberately capture, injure or kill any wild bird
- Take damage or destroy the nest of any wild bird while that nest is in use or being built
- Obstruct or prevent any wild bird from using its nest
- Take or destroy an egg or any wild bird

MITIGATION

- Any necessary clearance of trees, scrub and tall herbaceous vegetation will occur outside the bird-breeding/nesting season (i.e. vegetation clearance works to be carried out between September and the following February).
- For reference, the breeding bird season is generally taken as the 1st March until 31st August inclusive. However, it is also noted that birds can nest at any time of the year and are therefore protected when they do.
- If it is not possible to avoid such works during this period, a suitably experienced ecologist will conduct a nesting bird check of areas to be cleared not more than 24-hours ahead of this working beginning. If active nests are found, all works will stop immediately, and a buffer zone will be put in place around such nests until such time that they have become naturally empty. Works will only be able to recommence once a suitably experienced person has confirmed that this is the case.
- Prior to any vegetation clearance taking place a Permit to Clear (*PF10-PR10-43-F032*) will be issued by the site management team.

ENHANCEMENT

The following provisions, although not exhaustive will be considered for implementation (either on or off site) where practicable:

- Provision of additional bird boxes
- Creation of new habitat for birds via tree planting to ensure suitable connectivity for breeding and wintering birds

BADGERS

LEGISLATION

Badgers and their setts are protected under the Protection of Badgers Act 1992, this legislation makes it an offence to:

- Intentionally or recklessly, capture, injure or kill a badger
- Intentionally or recklessly, damage or destroy, obstruct access to, any structure or place (normally a sett) that badgers use for shelter or protection
- Intentionally or recklessly, damage or destroy anything which conceals or protects any structure
- Intentionally or recklessly, disturb a badger while it is occupying a structure or place which it uses for shelter or protection

MITIGATION

General

- An ecological toolbox talk pack will be delivered to the site team containing information on individual species, including badgers. The TBT will include photographs of them, their habitat and any evidence that would indicate their presence.
- If the presence of badgers is suspected, then appropriate surveys will be undertaken.
- Construction work and associated activities will be carried out at agreed minimum distances from sensitive habitats. If works are necessary in this area further consultation will be carried out and the need for a licence assessed.
- Deep excavations will be covered overnight during works.
- Shallow excavations will have a scaffold board or similar placed in them overnight to allow any badgers to escape should they fall in.

REPTILES

LEGISLATION

The Adder, Common Lizard, Grass Snake and Slow Worm are protected from Killing and injuring under the Wildlife and Countryside Act 1981, as amended.

The sand lizard and smooth snake are protected under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981, as amended. Taken together, this legislation makes it an offence to Kill, injure, capture, handle or disturb them, and the places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed. It is also illegal to obstruct these reptiles from using such areas.

In addition, the sand lizard, slow worm, smooth snake, grass snake, adder and common lizard are also priority species in England as required under Section 41 of the Natural Environment and Rural Communities Act 2006. Consultation with the relevant authority is therefore required before any work is undertaken that might affect sand lizards.

MITIGATION

- The removal/clearance of scrub vegetation within the site will be timed to avoid the reptile peak activity period (April to October). Scrub clearance work during the hibernation period (November to February) will be carried out under ecological supervision following a suitable Risk Avoidance Method Statement which will be provided by HCC Ecology team.

DORMICE

LEGISLATION

Hazel Dormice are fully protected under UK legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CROW) Act 2000 and the Conservation of Habitats and Species Regulations 2017 (as amended). Together, this legislation makes it illegal to:

- Deliberately capture, injure or kill a dormouse.
- Damage or destroy any structure or place used for shelter or protection by a dormouse; or intentionally or recklessly obstruct access to such a place.
- Deliberately, intentionally or recklessly disturb a dormouse whilst it is occupying a structure or place which it uses for shelter or protection.

MITIGATION

- An ecological toolbox talk pack will be delivered to the site team containing information on individual species, including dormice. The TBT will include photographs of them, their habitat and any evidence that would indicate their presence.
- If the presence of dormice is suspected, then appropriate surveys will be undertaken.
- If the presence of dormice is confirmed and works are necessary in this area further consultation will be carried out and the need for a licence assessed.

HABITAT MANAGEMENT PLAN

EXISTING FEATURES

HABITATS

Trees

The development will require the felling of seven trees which lie within or in very close proximity of the footprint of the proposed bridge structure. Included in this total is the Dawn Redwood within Havant Park, which has been identified by HCC Arboriculture as a Category A specimen, i.e., of high quality and value capable of making a significant contribution to the area for 40 or more years. One B category oak tree with a long future potential lifespan and 5 lower value holly and sycamore.

Impacts to other trees within or adjacent to the development footprint are likely to include damage to roots where works are required within Root Protection Areas, heavy pruning and/or crown-lifting.

Unfortunately, impacts to trees are unavoidable as the proposed development is limited to the area available, has third-party restrictions, and must meet current standards for bridge design and Inclusive Mobility which include a bridge main span of 4.4m width, ramp widths of 3.9m, and longer length ramps to ensure compliance with gradient requirements. Other options for the location of the new bridge were explored but these were unable to accommodate these constraints.

Any loss of trees within the site will result in the associated loss of habitats / micro-habitats and resources likely to support birds and common and widespread invertebrates (as opposed to notable invertebrates which are considered absent from the site). Such resources may include egg-laying / nesting and shelter sites, food sources / foraging opportunities, local habitat networks and ecological connectivity.

It is considered that the development will have a significant impact on trees, as well as upon biodiversity, within the site.

Other habitats / vegetation

Other habitats and vegetation within the site which will be impacted by the proposed development are some small areas of **modified grassland** and some small extents of **scrub vegetation**. The flora species noted within these areas (and across the wider site) are common and widespread and are considered to be of low ecological value.

The footprint of the grass verge to the east of Elmleigh Road car park will be altered (extended on its west side but reduced on its east) to allow for the installation of steps to the new bridge and the extension of the existing footway. This will result in the temporary loss of modified grassland while the newly planted / turfed area to the west of the verge becomes established. Overall, there will be a negligible permanent loss of modified grassland here.

There will be a small loss of a scrub vegetation to the north of the site boundary to allow for the installation of the foundations and support columns for the bridge ramp here. This loss will be temporary as such species will quickly regrow. Overall, there will be a negligible permanent loss of scrub vegetation.

The areas of grass and scrub habitat that will be permanently lost as a result of the development proposals are small enough that impacts are considered to be negligible.

BIODIVERSITY NET GAIN ASSESSMENT

The site currently provides an initial baseline total of 1.89 biodiversity units. However, 1.48 units of this total are from the existing on-site trees, with only 0.41 units from other habitats.

Of the initial 1.89 baseline units, 1.16 units would be lost, 0.65 would be retained, and 0.09 units would be enhanced; following enhancement of the habitat areas representing these 0.09 units, their biodiversity value would increase by 0.06 units, i.e., post-enhancement, these habitat areas would deliver 0.15 biodiversity units.

In the absence of any additional measures, the on-site post-development value of 0.79 biodiversity units represents a 58% reduction in the site's biodiversity value.

To meet the BNG requirement for a minimum 10% net gain, the development will need to deliver a final total of 2.08 biodiversity units.

POTENTIAL IMPACTS

- **Reduction of biodiversity and habitat loss** – any loss of trees, scrub vegetation and grassland flora, will result in an overall reduction of biodiversity within the site. Impacts associated with habitat loss, such as the reduced availability of egg-laying / nesting and shelter sites, diminished food sources and foraging opportunities, and the interruption of local habitat networks / ecological connectivity, will likely lead to a decline in species population sizes within the site as well as a smaller species assemblage overall.

MITIGATION

- On completion of construction works any areas that were unavoidably impacted will where practicable be replaced and or improved.
- Planting works will be undertaken on completion of works to ensure native species are replaced. All vegetation planting will be in accordance with the agreed Landscape Plan.
- Care will be taken to minimise the impact to existing vegetation and heavy plant will be confined to the site and working areas to avoid damaging soils outside the area. The removal of trees will be avoided where possible.
- The root protection areas (RPAs) of retained trees will be protected as outlined in the Tree Protection Plan.
- Further protection measures outlined in the Tree Protection Plan and Arboricultural Method Statement will be implemented.

ENHANCEMENTS

HABITATS

Trees

- Offsite planting of trees as agreed by HBC and NR tree officers.

Modified Grassland

- The condition of areas of retained grassland within Elmleigh Road car park verge and the northeast corner of Havant Park, will be improved via the introduction of a more diverse species assemblage. The existing structure already creates shady conditions within these areas and the northeast corner of the park is additionally shaded by mature trees along its north and east boundaries; the new bridge structure will likely continue to create shady growing conditions.

- Species diversity in these retained grassland will be increased via the introduction of shade tolerant species such as those associated with woodland edge and hedge base grasslands, e.g., Common Agrimony, Common Knapweed, Teasel and Common Bent. A suitable seed mix for this purpose would be Emorsgate Seeds' EH1 Hedgerow Mixture or Boston Seed's Woodland & Heavy Shade Wildflower Seed BS8P 100% Mix.

Biodiversity Net Gain

- As there is little scope on-site for habitat creation and/or enhancement, off-site mitigation will be required in order to reach the statutory requirement for a minimum 10% net gain in biodiversity value.
- Net gain will primarily be achieved via the off-site planting of trees, although the enhancement of on-site modified grassland and sparsely vegetated areas to develop structurally diverse and species-rich pockets of meadow type grassland within the site, will make a small contribution to the eventual total net gain.
- The recommended on-site habitat enhancements will also encourage the presence of pollinator and other invertebrates within the site. This will in turn benefit birds and small mammals for which invertebrates are a valuable food source.

SECTION 4.0 Land Management Plan

Guidance Notes:

This section contains details of the steps required to safeguard the site from negative impacts in respect of Geology/ Ground Conditions/ contaminated land

- 4.1 Geology and Contaminated Land Issues**
- 4.2 Site Geology and Ground Conditions**
- 4.3 Potential sources of contamination not previously identified**
- 4.4 Potential Pathways**
- 4.5 Potential Receptors**
- 4.6 Mitigation Measures**
- 4.7 Discovery of Contaminated Land Emergency Procedure**

4.1 Geology and Contaminated Land Issues

Ground contamination may be present on-site as a result of the current and historical land use(s) that have occurred. In order for ground contamination to present a risk to human health or the environment there must be pollution pathway present comprising a source, pathway and receptor.

The CLR-11 document defines the three essential elements to any risk as:

- A contaminant (or hazard) that is in, on or under the land and has the potential to cause harm
- A receptor which in general terms is something that could be adversely affected by a contaminant or hazard, for example human health
- A pathway which is a means by which a receptor can be exposed to, or affected by a contaminant or hazard



Figure 4: Pollution Pathway

4.2 Site Geology and Ground Conditions

GEOLOGY

The Geological Map of the area shows the site to be underlain by the London Clay Formation to the north and south of the site, and the Bognor Sand Member along the central areas from east to west.

The London Clay Formation comprises blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay. While the Bognor Sand Member comprises glauconitic fine- and medium-grained sands.

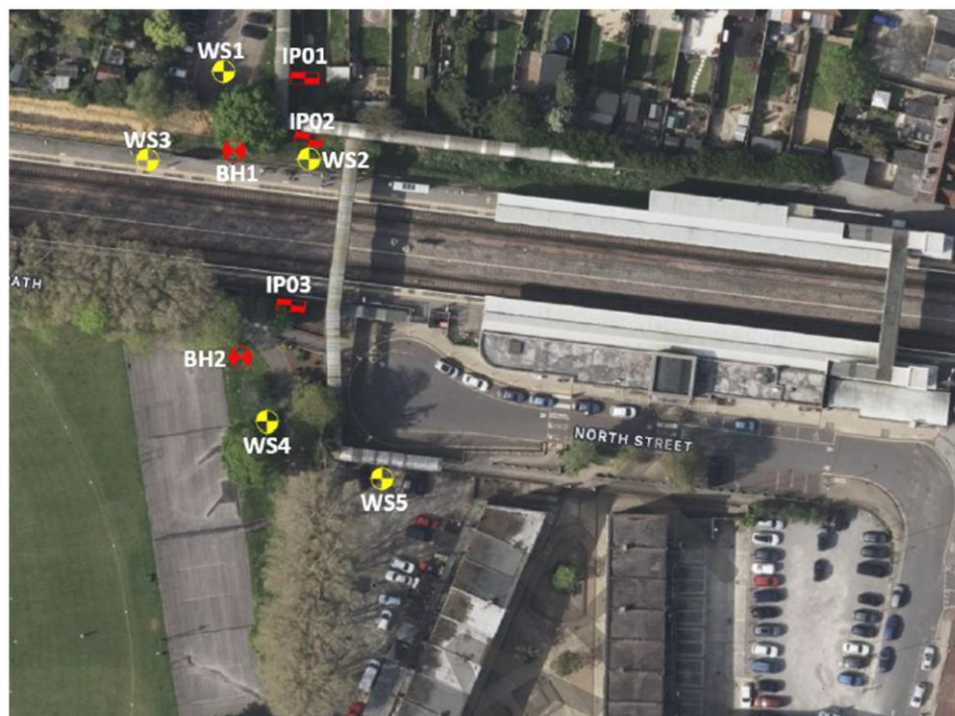
Superficial deposits in the form of River Terrace Deposits and Head Deposits are shown to overlie the bedrock geology to the west and east of the site respectively.

HYDROGEOLOGY

The Environment Agency (EA) ground water vulnerability map of West Sussex and Surrey (Sheet 45) shows the site to be underlain by a Minor- Aquifer attributable to the Superficial deposits and Bogner Sand Member. Soils have been classified with an undifferentiated leaching potential attributable to the sites urban status.

GROUND CONDITIONS

Ground investigations undertaken in September and October 2024 and January 2025 at the locations shown below:



The ground conditions encountered by the exploratory holes were variable across the site and but can in general be summarised as shown in the following table:

Depth (mbgl)		Thickness (m)		Stratum		
From	To	Min	Max			
0.00	0.30 / 0.80	0.30	0.80	Concrete over/or Dark brown slightly gravelly sandy CLAY And/or Light brown slightly gravelly SAND And/or Light grey/dark brown slightly sandy (clayey) GRAVEL	Made Ground (encountered to depths of 1.33/1.70m within service inspection pits)	
0.30 / 0.50	2.00 / 2.30	1.50	2.00	Medium dense light brown slightly silty / clayey GRAVEL	Head (Present within WS04 and WS05)	Superficial Deposits
0.30 / 0.80	3.00 / 4.00	2.20	3.70	Very stiff light/dark brown slightly silty / sandy gravelly CLAY with occasional cobbles and/or Light brown slightly gravelly clayey SAND and/or Dark brown clayey GRAVEL	River Terrace Deposits (Present within BH01, BH02, WS01, WS02 and WS03)	
3.50	>10.00	Unproven		Very dense orangish brown becoming dark grey, slightly clayey to slightly silty SAND	Bognor Sand Member (Present along the northern section of the site as recorded in BH01)	
2.00 / 4.00	>10.00	Unproven		Stiff / very stiff light grey silty (sandy) CLAY	London Clay Formation (Present along the southern section of the site as recorded in BH02, WS04 and WS05)	Bedrock Geology

CONTAMINATION

None of the contaminants tested were above the SGV for their respective zone screening criteria, and therefore no contaminants of concern have been identified.

4.3 Potential sources of contamination not previously identified

Primary Sources of contaminants include tanks, site processes/operations (including combustion processes), site spillages/leaks, waste storage areas, and drainage lines.

Secondary Sources of contaminants result from the release of substances or deposition of materials from the Primary Sources, including atmospheric deposition and waste disposal.

Made ground/fill deposits and soils containing naturally occurring substances are also considered as a potential source of contaminants.

Site activities have the potential to mobilise any contaminants that exist in the ground by creating pathways or simply by providing environmental conditions that assist their development to a more toxic form.

Contaminants of concern may include a range of organic and/or inorganic substances namely heavy metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, volatile and semi-volatile organic compounds, polychlorinated biphenyls (PCB's), asbestos and other harmful or toxic materials not mentioned above.

4.4 Potential Pathways

- Soils leaching to groundwater
- Groundwater advection
- Surface water run-off
- Migration via services and service ducts
- Migration through strata of a permeable nature
- Dermal, inhalation or ingestion
- Increased dusting levels as a result of weather conditions or construction activities

4.5 Potential Receptors

- Ecological Receptors namely; flora, fauna and the water ecosystem
- Groundwater including Minor and Major Aquifers underlying the site
- Surface Waters (controlled water)
- Buildings, building materials and services (BBMS)
- Human receptors including demolition and construction workers.

4.6 Mitigation Measures

- Works will be completed in line with planning and site investigation mitigation measures
- Measures for storage of chemicals, fuels and hazardous materials will be implemented on site (as per section 5 of this CEMP)
- A watching brief will be provided to identify and segregate potential contaminated soil
- Where any unexpected contamination is discovered, we will liaise with the local authority and experienced consultants and agree a remediation strategy for dealing with contamination

4.7 Discovery of Contaminated Land Emergency Procedure

All site personnel will be vigilant during excavating for signs of unexpected contamination. Where contamination is suspected during the works the following action will be taken:

- All work must be stopped immediately.
- The Site Manager must notify the discovery to the Environmental Manager
- The area must be sealed off in order to contain the spread of contaminants.

- The site must be cleared to ensure there is nothing that could cause fire or explosion.
- The Site team must seek expert advice to identify, if appropriate and possible, the extent and cause of contamination (e.g. prior land use, spillage on site).
- If asbestos is uncovered, it should be re-covered temporarily to prevent release to atmosphere.
- A specialist contaminated land survey should be undertaken in order to determine the level of contamination and whether disposal or remediation methods are required.
- The Site Manager must complete an Environmental Incident Report on ONOS.
- Good practice must be followed to remediate the land.

SECTION 5.0 Water Management Plan

Guidance Notes:

This section contains details of the steps required in order to ensure best practice with regard to the protection of water quality and water efficiency

- 5.1 Water Management Issues**
- 5.2 Existing Site Conditions**
- 5.3 General Water Management Controls**
- 5.4 Control Measures for Hazardous Substances**
- 5.5 Control Measures for Plant and Equipment**
- 5.6 Control Measures for Concrete, Cement and Grout**
- 5.7 Control Measures for Oil Storage**
- 5.8 Control Measures for Refuelling**
- 5.9 Appointed Persons for Refuelling**
- 5.10 Control Measures for Discharging Water**
- 5.11 Control Measures for Abstracting Water from Excavations**
- 5.12 Control Measures for Drainage**
- 5.13 Control Measures for Flood Protection**
- 5.14 Water Efficiency**

5.1. Water Management Issues

The construction industry presents a major pollution threat to the water environment. Where harm has occurred or deemed likely to occur the regulator can either carry out works to clean up the pollution and recover costs from the Contractor, or can serve a works notice requiring the polluter to clean up the discharge at their own expense. If watercourses are polluted, or unacceptable wastes are disposed of to the sewer system, the regulatory authorities have the powers to prosecute.

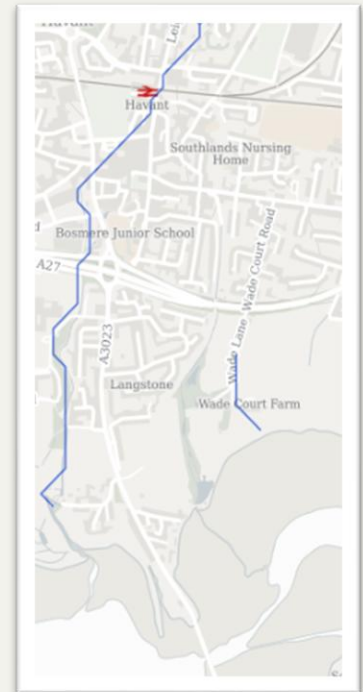
GRAHAM will at all times implement working methods to protect the water environment from pollution and other adverse impacts. Our objective is to protect water quality and the ecosystems the water resources support.

5.2. Existing Site Conditions

Surface Water

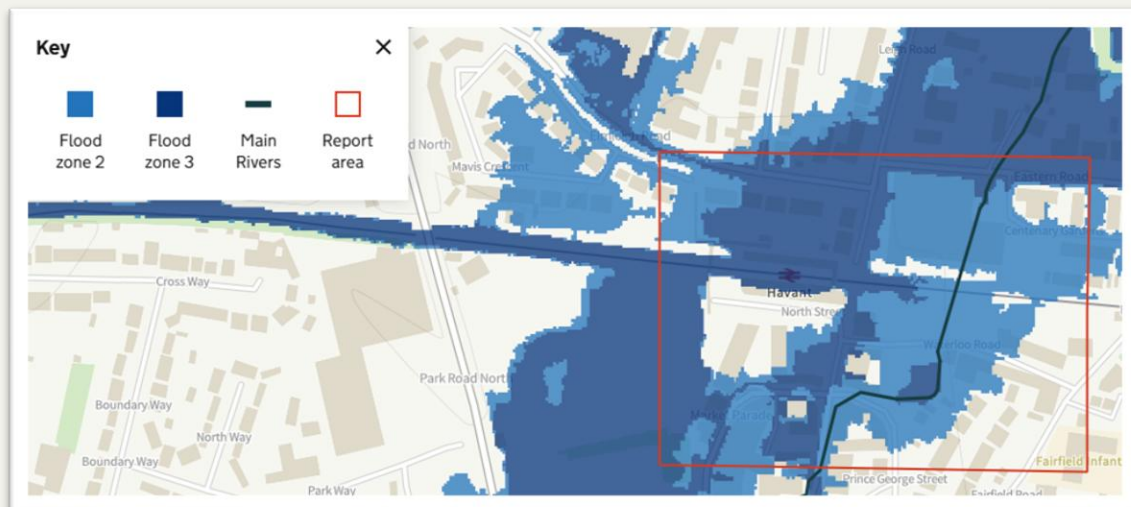
The main surface water features surrounding the site is the Lavant Stream, a Main Watercourse which flows in culvert in a southerly direction approximately 100m to the east of the scheme of the site discharging into South Lake approximately 2km downstream.

Surface water runoff from the proposed development site currently drains to the existing surface water drainage network.



Flooding

Flood zone maps show that the site is located in flood zone 3 and therefore there is a risk of flooding from pluvial and fluvial flooding.



The HBC car park area is subject to flooding during periods of heavy rain. This will be taken into consideration when planning the works sequence and siting of the works area and plant locations.

5.3. General Water Management Controls

All work will be carried out in line with GPP5* "Works and Maintenance in or near water" in order to ensure best practice with regard to the protection of water quality.

The handling, use and storage of hazardous materials will be undertaken in line with Guidance for Pollution Prevention (e.g., GPP2* Above Ground Oil Storage Tanks).

*Applicable to Scotland/ Wales/ NI

5.4. Control Measures for Hazardous Substances

Hazardous substances are common pollutants of waterbodies and groundwater supplies which can be used for drinking water. The following control measures will be put in place on site in order to avoid the potential for contaminants from hazardous substances migrating to surface and groundwater.

All containers for hazardous substances (solid and liquid) will be leak-proof. Storage of such substances will be within impermeable, bunded, secure areas, with impervious walls and floor to remove the risk of migration to groundwater or a nearby watercourse. Such storage areas will be located away from sensitive areas of the site and will be covered to prevent ingress of water. Hazardous substance stores will be clearly marked with appropriate warning signs.

Storage areas for hazardous substances will be kept tidy and we will plan deliveries to keep the amount of hazardous materials on site to a minimum

We will ensure that any water that has come into contact with hazardous materials, or is believed to be contaminated, will be stored, tested, classified and appropriately disposed of in accordance with relevant legislation.

The quantity and type of all environmentally hazardous materials will be recorded and updated weekly on the Materials Storage Inventory Form (IMS Ref: PF10-PR10-43-F006)



Figure 5: Examples of bunded and covered COSHH areas and containers

5.5. Control Measures for Plant and Equipment

Daily plant checks will be completed for all mobile plant and equipment. Particular attention will be made to checking engine fluids and hydraulic hoses. Any leaks or damage to the plant will be recorded and notified to the plant department/ hire company immediately so that the appropriate servicing can be arranged. Any items of plant/ equipment found to have any leaks will be removed from service until the fault is rectified.

Mobile Work Equipment - Pre-Use and Daily Inspection Checklist

PF10-PR10-38-F001

PROJECT & CODE:

MACHINE OPERATORS NAME:

Hours Run / Mileage End Week

Hours Run / Mileage Start Week

Total Hours Run For Week

WEEK COMMENCING:

VEHICLE TYPE & FLEET NUMBER:

ALL FAULTS AND DEFECTS MUST BE REPORTED IMMEDIATELY TO YOUR SUPERVISOR DO NOT USE IF UNSAFE

All checks should be conducted in accordance with the manufacturer's manual

✓ - If in order X - If requires attention NA - If not applicable

Safety Checks

1. Horn

2. Tracks/ wheels and nuts

3. Running gear (where applicable)

4. Steps and handholds

5. Lights Head/ stop/ side/ indicators

6. Windows

7. Reversing aids (mirrors, cameras, radar)

8. Reversing alarm

9. Flashing beacons

10. Brakes - foot

11. Brakes - hand brake parking

12. Emergency stops (if applicable)

13. Cab interior

14. Roll over protection/ securing pins

15. Seat belts

16. Seat weight adjustment

17. Ground

18. Slew restrictors

19. Passive warning systems

20. Safe load indicator/ anemometer

21. Water levels

Working

Free from splits, cracks, nails

Working

Free from defects

Working

Clean and free from cracks

Operating / clean & free from cracks

Working

Working

Working

Working

Working

Floor and controls free from objects

Working/ free from defects

Working/ clean, free from cuts

Adjustable/ good condition

Suitable for carrying loads during lift

Working

Working

Within limits

Mon

Tue

Wed

Thurs

Fri

Sat

Sun

Figure 6 - GRAHAM Mobile Plant Daily Inspection Sheet

Figure 7 - Example of GRAHAM Enviropad in use

- Enviropads will be used under diesel pumps and standing plant.
- Effluent from wheels washers and plant washing facilities will be contained for proper treatment and disposal.

Version No: 8.0
Date Published: 03/03/2025

Page | 45

GRAHAM

5.6. Control Measures for Concrete, Cement and Grout

Concrete, cement and grouts are highly alkaline and corrosive and can have a detrimental impact on watercourses. To minimise any impact:

CONCRETE WASHOUT FROM CONCRETE LORRIES

- Concrete wash water control measures will be planned and implemented before starting the project. A concrete washout risk assessment will be completed to assess the risk to receptors based upon site location and volume of concrete washout generated.
- The amount of wash water produced will be minimised and where possible and practicable, it will be returned to the batching plant
- For washwaters that cannot be returned to the batching plant, the concrete washout system utilised will (as a minimum) securely capture, contain and store the concrete solids and wash water in an impervious container/ bund.
- Washout arrangements will be located 10m away from drainage gullies, surface water drains and watercourses
- The washout area will be conveniently located for washing out equipment and adequately signposted.
- To minimise the amount of washout water generated, excess concrete will be scraped off the equipment before it is washed. These excess solids will be placed in a designated storage container.
- A high pressure, low volume water spray nozzle will be used to reduce water use
- The area will be monitored and maintained to ensure proper use and have adequate storage capacity
- Temporary concrete washouts will be designed with enough volume to contain all liquid and concrete waste.
- Plastic lining material will be a minimum of 10 mm polyethylene sheeting and will be free of holes, tears, or other defects that compromise the integrity of the material

CONCRETE WASHOUT SYSTEMS (EXAMPLES IN ORDER OF PREFERENCE)

- A. Wash into geotextile bag, collect the filtered wash out water in separate tank and arrange with concrete supplier to extract tank contents following the last pour of the day. Concrete washout water can be reused at the batching plant making more concrete. **Note: Requires submersible pump, geotextile bags and agreement with concrete supplier**
- B. Use integrated pump and waterhose to clean chute into the specific geotextile bag. This segregates the solids, and the collected high pH wash out water is stored for re-use to rinse out the next wagon's chute. **Note: Requires power connection to pump the water, geotextile bags and has capacity for 50 wagons**
- C. Combined Concrete Washout and pH adjustment System - separates and dewateres the waste concrete solids and then its on-board automatic carbon dioxide pH adjustment system neutralises the high pH washwater down to (circa pH 6 to 9) limits set by the Environment Agency for discharge. **Requires: Power, consent to discharge, CO₂ gas, and water quality testing**
- D. Washout into a holding tank / skip lined with an impermeable sheet to prevent ground contamination. Mixture is allowed to cure / water evaporate **Requires: dry weather / potentially a sacrificial bag of cement**



Figure 8 - Examples of Concrete Washout systems that may be utilised on site

ON-SITE BATCHING

- Batching and mixing activities will be located well away from watercourses and drains
- Material storage areas for all cementitious materials will be protected and covered.
- Surface drainage in the area around the batching plant will be controlled as we are aware that it may be polluted.
- Spills of concrete, cement, grout and similar materials will be contained and ensured that they cannot reach surface water or drains.
- Concrete washout from mixing plant will be carried out in a designated contained impermeable area.

CONCRETE PLACEMENT

- We will discuss arrangements for deliveries to site with suppliers before work starts, agreeing routes, designated washout areas and emergency procedures.
- Bulk and bagged cement and concrete additives will be stored at least 10m away from watercourses, gullies and drains.
- A contingency plan will be put in place for uncontrolled releases.

Arrangements for Concrete Washout provision will be detailed in 'Concrete Washout Environmental Risk Assessment PF10-PR10-01-F008' prior to construction commencing and summarised here.

-

5.7. Control Measures for Oil Storage

Oil is one of the most common pollutants in the UK and spilt oil can pollute waterbodies and groundwater supplies which can be used for drinking water.

TYPES OF OIL EXPECTED TO BE FOUND ON SITE

- Petrol
- Diesel
- Heating oils
- Biofuels
- Lubricating and hydraulic oils
- Synthetic and mineral oils
- Biodegradable
- Shuttering and cutting
- Waste oils

OIL STORAGE LOCATIONS

In all cases we will avoid storing oil in high risk locations such as:

- Where there is risk of damage by impact or collision e.g. from site traffic
- Within 50M of a spring, well or borehole
- Within 10M of a watercourse, ditch or drainage channel
- Where spilt oil could enter open drains or soak into unmade ground where it could pollute groundwater

OIL STORAGE TANKS AND CONTAINMENT SYSTEMS

When storing more than 200litres of oil, a secondary containment system will be provided. The capacity of the secondary containment system will be either 110% of the largest drum or 25% of the total volume stored (whichever is greater). Additionally all ancillary equipment will be kept contained within the bund.



Figure 9 - Illustration of oil storage with a secondary containment system

INSPECTION AND MAINTENANCE

All oil storage areas, containers and secondary containers will be frequently inspected and checked for signs of damage, corrosion, bulging, leaks or unauthorised use and interference. Any required maintenance, defects or faults will be repaired immediately.

5.8. Control Measures for Refuelling

A **designated refuelling** area will be established for the project. This area will consist of an impermeable surface, situated well away from watercourses. Signage (such as that illustrated below) will be erected to indicate the location of the refuelling area and an oil spillage kit will also be at hand at this area. All fuel deliveries to site will be supervised by a designated individual.



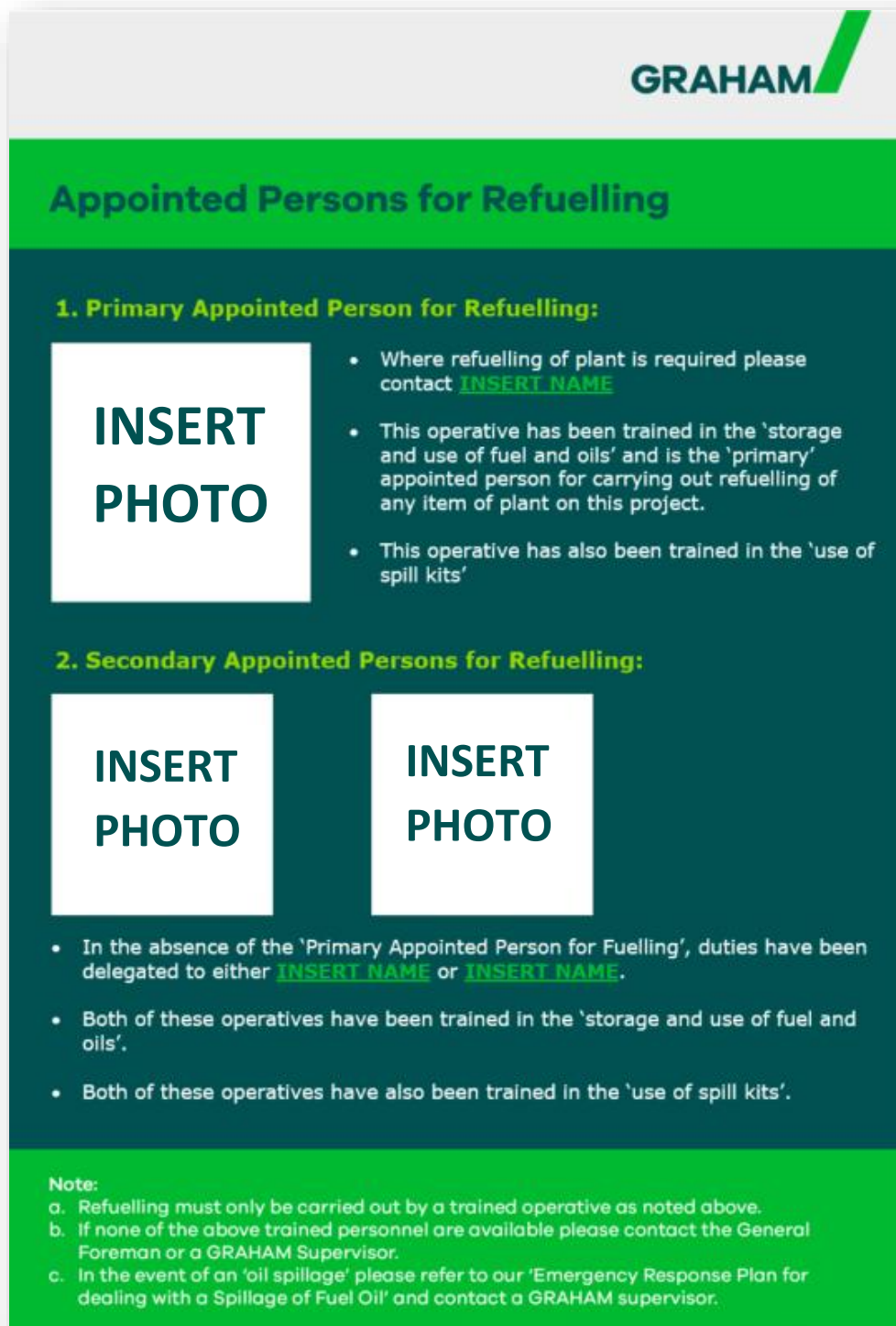
Figure 10 - Example of a protected refuelling area on handstand with spill kit

When refuelling has to be carried out away from the designated area, it will be carried out by using a drip tray or other secondary containment solution to prevent oil from spilling onto the ground. Where mobile refuelling is necessary, all bowzers will carry an emergency spill kit. All oil containers (including mobile bowzers) will be returned to the designated storage area after use.

5.9. Appointed Persons for Refuelling

A dedicated person(s) will be appointed and trained for the purpose of refuelling on site.

An “appointed persons” poster such as that shown below will be completed and displayed on site.



The poster is titled "Appointed Persons for Refuelling" and features the GRAHAM logo in the top right corner. It is divided into sections for Primary and Secondary Appointed Persons, each with a placeholder for a photo and a list of responsibilities. A note at the bottom provides additional instructions.

GRAHAM

Appointed Persons for Refuelling

1. Primary Appointed Person for Refuelling:

INSERT PHOTO

- Where refuelling of plant is required please contact **INSERT NAME**
- This operative has been trained in the 'storage and use of fuel and oils' and is the 'primary' appointed person for carrying out refuelling of any item of plant on this project.
- This operative has also been trained in the 'use of spill kits'

2. Secondary Appointed Persons for Refuelling:

INSERT PHOTO **INSERT PHOTO**

- In the absence of the 'Primary Appointed Person for Fuelling', duties have been delegated to either **INSERT NAME** or **INSERT NAME**.
- Both of these operatives have been trained in the 'storage and use of fuel and oils'.
- Both of these operatives have also been trained in the 'use of spill kits'.

Note:

- a. Refuelling must only be carried out by a trained operative as noted above.
- b. If none of the above trained personnel are available please contact the General Foreman or a GRAHAM Supervisor.
- c. In the event of an 'oil spillage' please refer to our 'Emergency Response Plan for dealing with a Spillage of Fuel Oil' and contact a GRAHAM supervisor.

Figure 11 - Poster template (Appointed persons for refuelling)

5.10. Control measures for Discharging Water

- We will minimise the amount of waste water which needs to be discharged and find alternative means of disposal where possible.
- Any temporary stockpiling of materials will be prevented from eroding by rain water or surface water runoff.
- Water containing silt, or any other contaminating material will not be released directly to a watercourse of surface water drain. Treatment facilities, such as sediment traps will be used as appropriate, before water is discharged. These facilities will be regularly inspected and maintained. A full record will be kept of inspection, maintenance and measures employed to sustain performance.
- All site discharges will be of a quality, by a method and at a location acceptable to the regulator. This will be agreed (via written consent) in advance of works commencing on site.
- Prior to any discharge into a sewer, a Trade Effluent Consent will be obtained from the local Water Company
- A "permit to pump/ discharge" (See Appendix 5.1 - Ref: PF10-PR10-43-F012) will be used to ensure that personnel discharging water are fully aware of the requirements.
- Where applicable, a Water Quality Monitoring Plan will be drawn up prior to construction commencing. This will detail the requirements and frequency of water quality sampling as a result of construction activities and will specify the parameters to be achieved relevant to the water quality objectives at the receiving site.

5.11. Control measures for Abstracting Water from Excavations

- The removal of water from an excavation is a high risk activity.
- Prior to excavation below the water table, including site de-watering, we will inform the regulator and Water Company of the works to be conducted. Any de-watering, groundwater lowering and disposal measures will be agreed in advance with the regulator and if necessary an Abstraction Licence obtained.
- A "permit to pump/ discharge" (See Appendix 5.1- Ref: PF10-PR10-43-F012) will be used for any abstraction activities
- A small sump will be dug in the excavation for the head of the pump. This will be surrounding by a perforate pipe and a suitable grade of clean stone.

5.12. Control measures for Drainage

Drainage systems can act as a pathway to spread pollutants. Drains can also make pollution invisible, so it is important to know where drains are located and where they lead in order to prevent polluting materials entering drains.

- All existing drainage on site (e.g. surface water, foul sewer) will be identified and a "drainage plan" will be made available
- All drain covers and gullies will be clearly marked to identify them (Recommendation is red for foul, blue for surface water)
- If any pollution enters a drain, the site spill response team will immediately stop the pollution with a physical block, stop the activity causing the pollution, then notify the Environmental Manager.

5.13. Control measures for Flood Protection

- A member of the site team will be designated with the responsibility for monitoring weather warnings and flood warnings.
- In the event of a storm being detected (and where it is likely to impact during the construction period), the designated site team member will inform management staff and procedures will be put in place to secure the site and evacuate the area.

5.14. Water Efficiency

A practical system will be put in place to minimise use of mains water during the construction process. Mains water consumption from the site offices and operations will be measured and monitored monthly with action for reduction of consumption implemented.

Water efficiency techniques employed on site will include the following actions (where relevant and feasible):

- **Daily Visual Inspection for leaking pipes / taps / valves.**
An unfixed leak can be the most significant water use on site. Leaks can come from damaged washers in taps, worn valves and corroded or damaged pipework.
- **Fit Trigger Guns to Hoses**
Hoses left running when not in use waste a lot of water in a short time. Fit robust trigger guns to hoses so that flow can be controlled at the point of use.
- **Closed Loop Wheel Wash**
A closed loop wheel wash reuses the water for the process. Waterless systems are another innovative option that use angled steel grids to clean debris from tyres.
- **Dust Suppression**
Most suppression techniques are very water inefficient. A fan misting system is a mains fed electrically powered efficient alternative
- **Washing Out Concrete Wagon Chutes**
Mains pressure hoses with basic spray patterns are water inefficient. Use a high pressure low volume efficient spray pattern to reduce water use. Wash out water can be re-used at concrete batching plants
- **Commissioning Water Use**
High volumes of water are used during building services commissioning and testing. Plan for these activities considering water recirculating and minimisation.
- **Rainwater Harvesting**
Where possible, rainwater will be harvested from the roofs of the site accommodation, to feed boot wash; or used to fill the water bottle of power saws and other similar power tools for dust suppression.
- **Low flush toilets**
Utilising a low flush toilet uses significantly less water than a full-flush toilet. Single or dual flush models are available.
- **Taps of the aerated mixer type with flow restrictors**
Tap aerators are water saving devices that control the amount of water that flows through the tap without affecting the water pressure as they mix the water with air.

SECTION 6.0 Dust and Air Quality Management Plan

Guidance Notes:

This section contains details of the steps required in order to ensure best practice with regard to the protection of air quality and dust prevention and will be fully developed at Construction stage.

- 6.1 Dust and Air Quality Issues**
- 6.2 Site Conditions**
- 6.3 Monitoring Protocols**
- 6.4 Records of details and action taken in response to exceptional incidents or dust-causing episodes**
- 6.5 Dust and Air Pollution Mitigation Measures**

6.1. Dust and Air Quality Issues

Dust and air pollution, including odours, can cause nuisance affecting properties. In addition, there are statutory objectives in relation to nitrogen dioxide (NO₂) and fine particulate matter (PM₁₀) which have known health impacts.

Section 79 of the Environmental Protection Act 1990 defines a number of factors relating to dust and air pollution which constitute a statutory nuisance. This includes:

- Smoke emitted from premises so as to be prejudicial to health or a nuisance
- Fumes or gases emitted from premises so as to be prejudicial to health or a nuisance
- Any dust, steam, smell or other effluvia arising on industrial, trade or business premise and being prejudicial to health or a nuisance
- Any accumulation or deposit which is prejudicial to health or a nuisance

Our objective is to carry out the works in such a way that emissions of dust and other air pollutants including odour are limited and to use best practicable means to avoid the creation of nuisance.

6.2. Site Conditions

Summary of work activities that may give rise to dust and air pollution

- Construction plant and vehicles
- Transportation and storage of materials
- Demolition activities, excavations and earthworks
- Operation of the construction site or undertaking construction activities which results in odours being generated from, for example, smoke, fumes or gases

Summary of receptors relevant to the works

- The public adjacent to the construction site, in particular residents on Elmleigh Road and property / businesses at Market parade.
- Site workers
- Watercourses
- Ecological receptors

6.3. Monitoring Protocols

The inspection and monitoring procedures to be implemented to monitor the effectiveness of measures to prevent dust and air pollutant emissions and to avoid detrimental effects on the health of workers or nuisance to sensitive receptors due to exposure to dust and air pollution are as follows:

- Daily inspection of areas adjacent to the construction site to monitor any dust and air pollution which may be generated despite the use of best practicable means to prevent dust and air quality emissions.
- Daily inspection of construction vehicles, plant and machinery.
- Daily inspection of the level of trafficking, use and condition of access routes to site.

Should inspections show a nuisance arising, work will be stopped until prevention and remediation measures are implemented.

6.4. Records of details and action taken in response to exceptional incidents or dust-causing episodes

Records will be made within the site diary where action was taken in response to exceptional incidents or dust-causing episodes.

Full details of any complaints in relation to dust will be recorded by the Site Management Team on Onos.

6.5. Dust and Air Pollution Mitigation Measures

GENERAL

- The GRAHAM Site Management Team will use best practicable means to prevent nuisance as a result of dust through design and different work methods
- Site operatives will receive training as part of site induction, toolbox talks and through communication of relevant environmental risk assessments and method statements
- The site will be laid out such that machinery and dust-causing activities will be located away from sensitive receptors, where reasonably practicable
- Hoardings and other barriers will be erected along the site boundary, to mitigate the spread of dust to any sensitive buildings or other environmental receptors

CONSTRUCTION PLANT AND VEHICLES

- Construction plant will be operated in accordance with the manufacturer's written recommendations
- All vehicles and plant will be switched off when not in use – NO IDLING
- Vehicle and construction plant exhausts will be directed away from the ground where possible and be positioned at a height to facilitate appropriate dispersal of exhaust emissions
- Enclosing, shielding or provision of filters on plant likely to generate excessive quantities of dust beyond the site boundaries will be employed
- The movement of construction traffic around the site will be kept to the minimum reasonable for the effective and efficient operation of the site and construction of the Project
- Construction plant will be located away from site boundaries which are close to sensitive receptors where reasonable and practicable
- We will avoid use of diesel or petrol powered generators by using mains electricity or battery powered equipment where reasonable and practicable
- We will keep vehicle, plant and equipment maintenance records on site and these will be made available to the Employer's Representative upon request

TRAFFIC/ ACCESS ROUTES

- There will be limited on-site parking. Staff and visitors encouraged to use nearby public car parks where practicable.
- Inspection of vehicle movement area site conditions will be undertaken by the Site Manager
- Delivery drivers will be made aware of site restrictions
- Vehicle speeds will be restricted to 10m/h to prevent high levels of dust being released
- Vehicles either delivering or removing material from Site, which have a dust potential, will be covered with tarpaulin or the like to minimise the release of dust

TRAFFIC IMPACTS ON PUBLIC ROADS

- Vehicle wheel washing facilities will be provided and there will be a road sweeper on hand at the site to clear up any material deposited on the public highway by vehicles accessing/egressing the site and site compounds.
- Public roads outside of the site will be regularly inspected for cleanliness and cleaned as necessary
- Site Management will liaise with relevant authorities regarding any road or lane closures
- Delivery drivers to adhere to public road restrictions.
- Neighbours will be advised of unusual traffic movements (e.g., concrete wagons for continuous large concrete pours/ abnormal loads etc.)

SECTION 7.0 Noise and Vibration Management Plan

Guidance Notes:

Details of control measures in respect of noise and vibration are contained within this section.

- 7.1 Noise and Vibration Issues**
- 7.2 Site Conditions**
- 7.3 Noise Control Measures (General)**
- 7.4 Operating Hours**
- 7.5 Establishment of Baseline Conditions**
- 7.6 Noise Monitoring Plan**
- 7.7 Liaison with the Local Community during the Contract**
- 7.8 Establishment of Working Relationship with the Local Authority**
- 7.9 Section 61 of the Control of Pollution Act (COPA), 1974**
- 7.10 Programming of Works**
- 7.11 Distancing from Sensitive Receptors**
- 7.12 Plant and Equipment**
- 7.13 Traffic Noise during Construction**
- 7.14 Noise Screening**
- 7.15 Vibration**

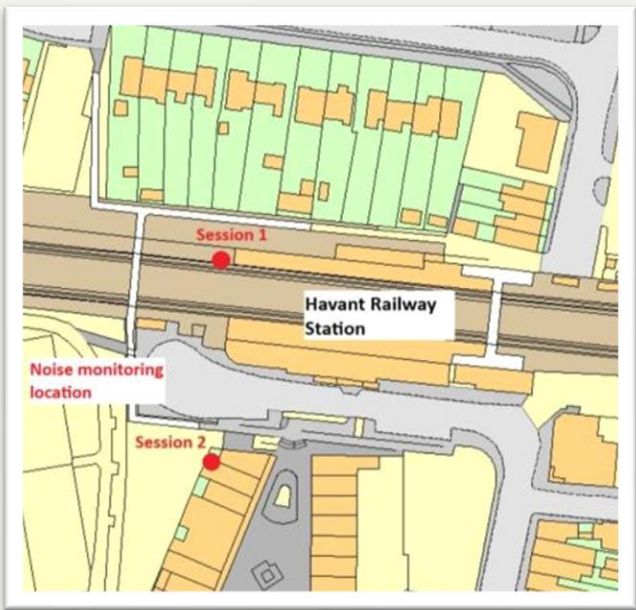
7.1. Noise and Vibration Issues

Excessive noise and vibration on site not only represents a major hazard to site workers but it can also annoy neighbours and in some cases disturb adjacent wildlife. Best practice will therefore be implemented in order to minimise noise and vibration and comply with the contents and recommendations of the "Code of Practice for Noise Control on Construction and Open sites" (BS5228-1: 2009+A1:2014).

7.2. Site Conditions

Baseline Survey

- Baseline noise surveys were undertaken between 03/02/2025 – 10/02/2025 at the North side (Session 1) and between 06/02/20025 – 05/03/2025 at the south side (Session 2)
- The noise monitoring locations are presented below:



- The results of the baseline noise measurements are presented below

	Ambient Noise Level (dB LAeq (1hr))	
	North Side	South Side
Daytime (7am -7pm)	58.1	55.0
Evening (7pm – 11pm)	57.9	52.0
Nighttime (11pm – 7am)	53.4	48.3

Noise and Vibration Receptors

The location of the key noise and vibration sensitive residential receptors are:

- Residential properties on Elmleigh Road
- Residential properties on Leigh Road
- Residential properties on Market Place

Construction Noise Impact Criteria

TBC prior to commencement of construction

Possible Noise and Vibration Impacts and Assessment

TBC prior to commencement of construction

7.3. Noise Control Measures (General)

No part of the works will be carried out in such a manner as to cause unnecessary noise except in cases of an emergency when the work is absolutely necessary for the saving of life or property or the safety of the works.

All operatives will receive training and advice on noise minimisation and general good site practice through site-specific training and briefings.

7.4. Operating Hours

The working hours on this project are restricted to:

07:30 -18.00 Mon- Fri and

08.00-13.00 Saturday

These hours will be set out within planning requirements and will be strictly adhered to.

Prior agreement will be sought from both the Local Authority and the client if occasions arise where it is necessary to work beyond these times.

Note: Network Rail possession restrictions dictate that some works will be carried out at night and at the weekend.

All relevant parties will be notified ahead of the works and risk assessments for additional environmental protections undertaken for the specific tasks.

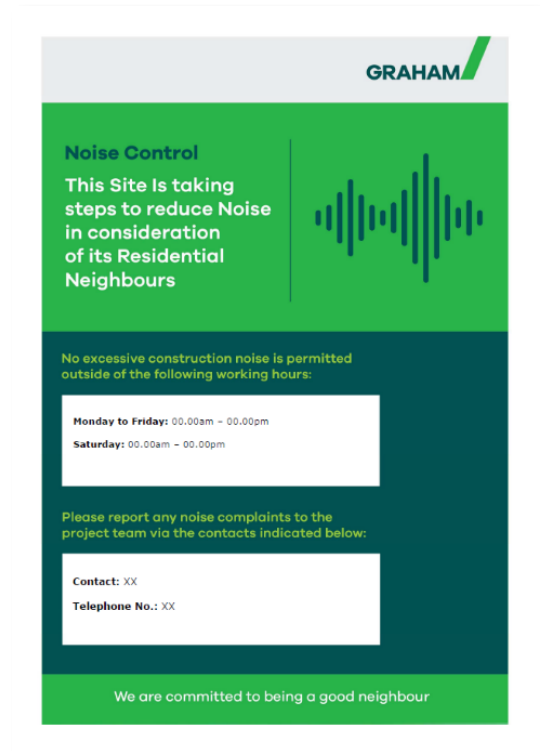


Figure 12 - Noise Control Poster

Working hours and contact details will be displayed on external site hoarding using the environmental noise information poster.

7.5. Establishment of Baseline Conditions

Prior to work commencing the site team will ensure that baseline noise measurements have been taken in order to understand the dominant noise sources and extent in the vicinity of the site area. The location of key noise and vibration sensitive residential receptors will also be identified.

7.6. Noise Monitoring Plan

A Noise Monitoring Plan will be drawn up prior to construction commencing. This will detail the predicted noise levels as a result of construction activities and will specify the typical noise levels of construction plant intended for use. This will be set against appropriate construction noise impact criteria. Anticipated noise monitoring positions will also be set out.

Mitigation measures will be undertaken if the results of noise monitoring indicate that excessive noise impacts are arising from the activities associated with the works.

7.7. Liaison with the Local Community during the Contract

The effect of noise and vibration on nearby sensitive receptors will be minimised through a good communication strategy. Prior to works being undertaken, consultation with occupiers of sensitive receptors that may be adversely affected by construction noise and vibration will be undertaken. We will provide information of construction works and notice of when high noise and/or vibration generating activities are taking place. It is intended that this will increase the tolerance of receptors and thus minimising adverse effects. All communications will contain contact details to direct any questions or complaints to.

7.8. Establishment of working relationship with the Local Authority

The site team will make contact with the local authority at the earliest opportunity. Agreement with the local authority will be sought on appropriate controls for undertaking significantly noisy works close to receptors.

7.9. Section 61 of the Control of Pollution Act (COPA), 1974

Consideration will be given to the merit in applying to the local authority for a section 61 prior consent. Section 61 is in effect an agreement between the developer and the local authority which allows a reasonable level of noise to occur. This offers protection from any subsequent action by the local authority under section 60 or 66 of COPA or under the Environmental Protection Act to impose further controls on noise from the site. It also allows the local authority to (a) Attach any conditions (b) Limit or qualify a consent to allow for any change in circumstances (c) Limit the duration of a consent. Any person who knowingly carries out the works, or permits the works to be carried out, in contravention of any conditions attached to the Prior Consent will be guilty of an offence.

7.10. Programming of Works

Information will be sought from the community concerning sensitive periods so works can be planned to occur outside these times where practicable.

7.11. Distancing from Sensitive Receptors

- Noisy work activities will be planned in order to maximise the distance from the noise source to sensitive receptors
- Work compounds will be laid out so that access and loading areas are located as far away from sensitive neighbours as practicably possible
- Shouting and raised voices will be kept to a minimum. The use of tannoy and radios will be prohibited within close proximity of sensitive residential receptors.

7.12. Plant and Equipment

- Modern installation techniques will be adopted that utilise high frequency pile drivers which significantly limit noise and vibration. Pile dampers will also be utilised.
- Selection of equipment will be carried out with the objective of reducing noise and vibration wherever possible. Only equipment conforming to relevant national or international standards, directives and recommendations on noise and vibration emissions will be used
- Plant and equipment will be maintained and operated following manufacturer's instructions to run efficiently generating minimal noise
- Where possible plant producing less noise will be used
- Pneumatic tools will be fitted with silencers or mufflers
- Plant will be switched off when not in use
- Mobile compressors and generators will be fitted with appropriate silencers and/ or proprietary acoustic enclosures

- Plant and equipment supplied with acoustic enclosures will be operated with all panels closed
- Site staff will enforce a policy whereby all plant is shut down when not in use
- All stationary equipment with significant noise outfall will be sited to minimise noise nuisance to local residents
- As far as possible generation of power will be via a permanent power supply as opposed to generators
- Using electrically powered equipment run from the mains supply where available is preferred to using generators to power plant and equipment
- Care will be taken when erecting or striking scaffolds to avoid impact noise from banging steel. Scaffold deliveries will be programmed to arrive during normal working hours only.
- Crane spindles, pulley wheels, telescopic sections and moving parts of mobile working platforms will be adequately lubricated in order to prevent undue screeching.

7.13. Traffic Noise during Construction

- Delivery vehicles will, where reasonably practicable, be fitted with effective exhaust silencers and will be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable
- Time slots will be adopted for deliveries to ensure that convoys of vehicles do not arrive simultaneously and to avoid unnecessary idling on-site
- Strict controls will be implemented to prevent temporary parking on kerbside in the vicinity of noise sensitive receptors near the site
- Sufficient clear signage will be utilised to ensure that demolition and construction vehicles use only designated routes.
- Care will be taken when unloading vehicles to minimise noise

7.14. Noise Screening

Where appropriate, screenings will be utilised in order to reduce noise levels between the source and the receiver. Materials used for screening may include site security hoarding or temporary noise screens. Holes/ openings in the screen material will be kept to a strict minimum and the density of the material will also be given due consideration in order to be as effective as possible.

7.15. Vibration

The requirement for a vibration risk assessment will be assessed during the pre construction stage.

SECTION 8.0 Energy and Carbon: Management and Reduction Plan

Guidance Notes:

This section contains details of company policy on energy management and how energy efficiency is incorporated within site operations.

- 8.1 Energy and Carbon Issues**
- 8.2 Climate Action Targets**
- 8.3 Site Context**
- 8.4 Decarbonising Roles and Responsibilities**
- 8.5 Decarbonising Activities**
- 8.6 Communication, Campaigning and Training**
- 8.7 Measurement and Reporting**
- 8.8 Carbon Offsetting**
- 8.9 Nature Based Solutions**

8.1 Energy and Carbon Issues

GRAHAM are at the forefront of action on the climate emergency and to demonstrate our commitment we are signatories to “Contractors Declare”, the “Pledge to Net Zero” and BITC’s “Climate Action Pledge”. We are also a “Business champion” within the Construct Zero framework and have established science-based targets through the Science Based Targets Initiative. We recognise that climate change is one of the most serious environmental challenges currently threatening the global community. We understand the need to minimise greenhouse gas emissions produced as a result of fossil fuel consumption and acknowledge our role in tackling these issues.

This Energy and Carbon Management and Reduction Plan (ECMRP) outlines the GRAHAM targets and strategy for energy and carbon reduction and defines the steps that the Project will take to contribute to these outcomes by specifying key actions. The ECMRP is underpinned by the principles of the Carbon Reduction Hierarchy.

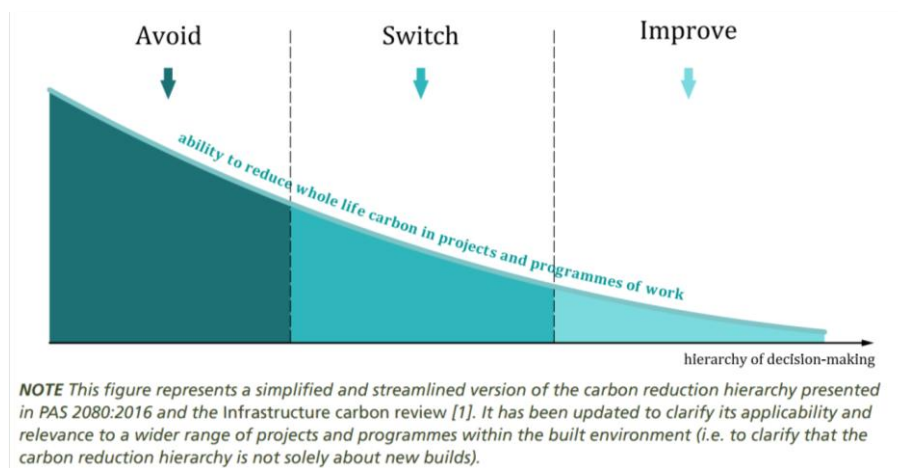


Figure 13: Carbon Reduction Hierarchy

Key actions include specific technical interventions leading directly to emissions reduction as well as management, policy and enabling actions. The ECMRP is intended to provide a practical and formal basis for implementing carbon emission reduction throughout project delivery.

The objectives of the ECMRP on a site-specific basis are to:

- Implement practices so that, over the short to medium-term, carbon emissions become one of the issues that are automatically considered in regular decision making across the full scope of site works.
- To undertake a series of interventions that will lead directly to measurable emissions reductions.

Implementing low-carbon initiatives on site is expected to achieve social, economic and environmental benefits.

8.2 Climate Action Targets

The key Climate Action target that GRAHAM have set is as follows:

**Achieve Net Zero by 2030 (direct emissions) &
Achieve Net zero by 2040 (full value chain)**

- The GRAHAM Project Specific carbon reduction target (A5) is measured on Onos in tCO₂e/£1M

****DELETE FOR NON PAS 2080 PROJECTS**** The GRAHAM whole life or embodied carbon target is agreed following an initial whole life carbon workshop and detailed within the project Carbon Data Tracker

Through implementing the ECMRP on the Project we intend to:

- Reduce carbon emissions
- Improve energy efficiency in work practices
- Reduce water consumption
- Reduce waste, increase recycling and reduce the volume of waste sent to landfill
- Promote and enable environmentally sound transport and travel practices
- Maximise fuel efficiency and minimise as far as practicable carbon emissions from all plant and equipment
- Run an energy efficiency programme through our Anti Idling initiative, "Don't be Fuelish"
- Identify opportunities for using energy derived from renewable resources where practicable
- Promote energy awareness amongst staff, encouraging and enabling good environmental practice

8.3 Site Context

<Insert details of any project specific carbon targets, key energy intensive activities, and site-specific carbon reduction actions, and delete where appropriate for non-PAS 2080 projects>

- There are no client carbon reduction targets specified and as the project meets the PAS 2080 criteria (PF10-PR10-47) for GRAHAM projects, the GRAHAM internal whole life carbon target of XX will be implemented (based on 2025 RIBA New Build Offices / average of Civils project targets).
- Key energy intensive activities include xxx
- Carbon reduction actions will be explored within the Environmental Sustainability Action Plan (PF10-PR10-43-F037).

8.4 Decarbonising Roles and Responsibilities

Key roles within the GRAHAM central team to support decarbonisation activities are detailed below:

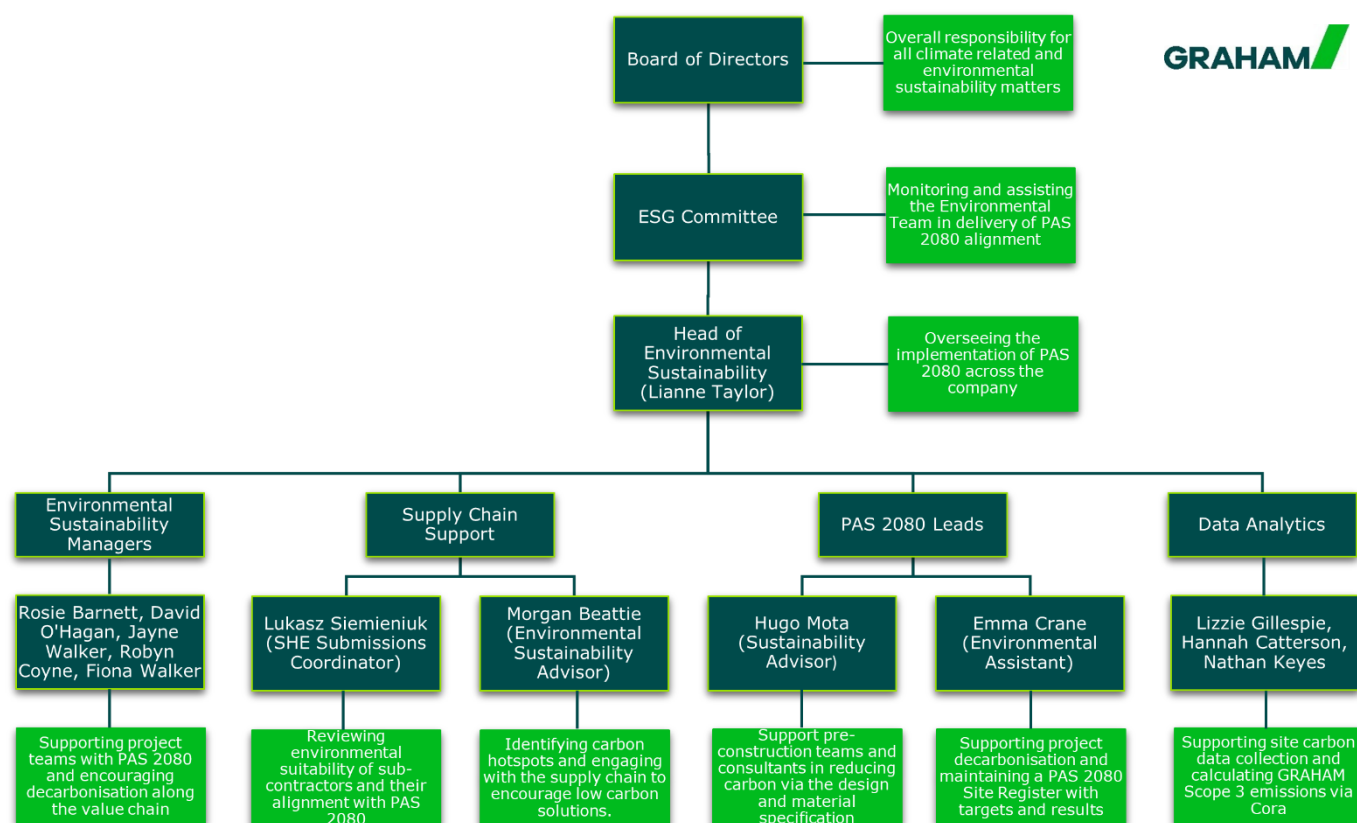


Figure 4: Strategic roles to support decarbonisation

Specific project-based roles and responsibilities are outlined below.

Stakeholder	Responsibility
GRAHAM Bid Team	Initiate discussion with Client representative to determine if alternative solutions can be provided.
GRAHAM Design Team	Responsible for coordinating the development of designs that minimise carbon emissions and ensure that all potential carbon reduction opportunities are identified, captured and optimised, where possible within the parameters of the project..
GRAHAM Environmental Sustainability Team	Collaborate with project team, design team, supply chain and other stakeholders to identify, and prioritise low carbon solutions. Communicate lessons learned, experience and best practice with regards to low carbon materials and energy used on site. The Environmental Sustainability team are also responsible for co-ordinating carbon assessments, setting targets and advising site teams of the carbon data capture requirements.
GRAHAM Commercial & Estimation	Ensure that appropriate allowances are made for carbon mitigation measures within pricing and contract management. Support the production of the carbon assessment by providing relevant data to inform low carbon opportunities. Collaborate with GRAHAM project team, supply chain & designers to ensure proposed solutions are costed correctly and communicated to client.

Stakeholder	Responsibility
GRAHAM Building Service Engineering	Collaborate with GRAHAM internal team and external (Supply chain & designers) to review energy strategies and propose alternatives which offer operational energy savings.
GRAHAM Site Management Team	Responsible for supporting on-site carbon reduction solutions and collaborating with the Environmental Champion and Environmental Team to capture and provide carbon data.
Site Environmental Champion	<p>The Site Environmental Champion will ensure that information regarding the ECMRP, its aims and successes are regularly communicated to all personnel involved in the project.</p> <p>The Site Environmental Champion will gather relevant data for measuring and monitoring the carbon impacts of the project. This may include:</p> <p>Embodied Carbon:</p> <p>Material delivery information (as per specification), details of material quantities and photographic evidence of installation on site.</p> <p>A4-A5 Site Carbon:</p> <p>GRAHAM fuel delivery notes and Subcontractor fuel delivery notes to be captured and data uploaded to Onos. GRAHAM waste and Subcontractor waste data to be uploaded to Onos. Transport Mileage data will be obtained either digitally via biometric systems or via manual recording of data.</p> <p>The Site Environmental Champion will record and display monthly measurements of site energy usage and display graphical analysis of carbon emissions on site noticeboards of how consumption over the project duration compares to the targets.</p>
External Design Teams & Consultants	Collaborate with GRAHAM internal team providing technical advice on proposed solutions.
Supply Chain	Collaborate with GRAHAM internal team providing technical advice, costings, availability and experience. Provide low-carbon solutions throughout the project timeline as discussed via workshops.

8.5 Decarbonising Activities

In order to achieve our internal target of Net Zero by 2030, collaboration across the value chain is required. GRAHAM carbon mitigation strategies are outlined in the table below:

Project Opportunities	Carbon Reduction Strategies
Design	<ul style="list-style-type: none"> We will apply the principals of the Carbon Reduction Hierarchy in all decision-making We will prioritise the specification of low carbon or net zero products for use where viable
Procurement	<ul style="list-style-type: none"> We acknowledge that supporting our supply chain plays a key role in achieving our carbon targets. We recognise that we must promote, challenge and support supply chain partners in adopting low-carbon solutions We will undertake a periodic review of our supply chain partners to identify and prioritise those with highest material carbon impact Information including Climate Action Strategy, Organisational Emissions and Targets will be collected via a Supply Chain Evaluation Questionnaire (SEQ)

**Low Carbon
Plant and
Equipment**

- We will assess the selection of suppliers on their ability to deliver low-carbon solutions and encourage the integration of low-carbon solutions into their tender responses
- Prior to supplier selection we will engage with the supply chain at the Sub-Contract Negotiation Meeting. The '*GRAHAM Environmental Sustainability Requirements for our Supply Chain*' will be issued to promote low-carbon solutions, communicate our carbon targets and the role the supply chain has in achieving these carbon targets
- Periodically we will host Supply Chain Briefings to reaffirm our carbon targets and our commitment to low carbon solutions. This forum allows a round table discussion on how low-carbon techniques or products can supported across our projects
- In partnership with the Supply Chain Sustainability School we will offer an Environmental Sustainability Learning Pathway to upskill our supply chain capability to develop their low carbon skills
- Telematics will be utilised to monitor the performance of machinery and plant to ensure that it is effective and efficient in maximising productivity and reducing carbon
- Due consideration will be given to energy efficiency and emissions when plant and vehicles are researched for potential use on site. We will continue to work with plant manufacturers and trial available electric, hybrid and hydrogen plant as the technology evolves and comes to market.
- We will explore the viability of alternative sources of energy including fuel cell modules and HVO biofuels which are compatible with existing diesel engines and equipment
- All plant and vehicles will be serviced at designated intervals, so they run efficiently, reducing carbon emissions. Where subcontracted or hired plant and vehicles are utilised on our sites, evidence of testing, inspection, and regular maintenance is required prior to any permitted use on site
- Anti idling material - posters, toolbox talks, performance data will be regularly refreshed to minimise idling on GRAHAM sites.

**Low Carbon
Site
Compound**

- Welfare accommodation will be required to meet the GRAHAM eco specification standard to include energy saving devices and technologies
- On site renewable energy solutions for site accommodation will be implemented where feasible
- GRAHAM have partnered with energy management broker Sustainable Advantage to assist sites in procuring electricity/ gas. By operating through a broker we can ensure that sites/ offices utilise 100% REGO backed renewable electricity.
- Where feasible we will install Electric Vehicle charging infrastructure within site compound areas

**Green
Transport**

- We recognise that the travel associated with our business has a direct impact on the environment, particularly through vehicle emissions, fuel consumption and our impact on local congestion. We are committed to reducing the need for unnecessary business travel and encouraging the uptake of more sustainable transport across our operations
- The specific Green Travel practices which will be implemented on site are as follows:
 - The Carbon Trusts eco driving training will be mandatory training for high mileage drivers

Managing Behaviours

- Promote the Green Travel policy initiatives - Raise awareness on site of the need to reduce transport emissions
- Consider the location of meetings to minimise travel distances and promote the use of video conferencing and tele-conferencing to replace some work trips
- Encourage car sharing and the use of work vans & minibuses to minimise collective distances travelled
- Encourage sub-contractors to use work vans & minibuses to travel to site to minimise collective distances travelled

- Energy awareness will be encouraged amongst employees through energy saving posters and training
- Energy usage will be monitored against agreed targets
- Energy Audits will be regularly conducted by the SHE team, with opportunities for improvement implemented
- Subcontractors and suppliers will be encouraged to adopt energy efficient systems of work in their operations
- All staff and subcontractors will be reminded that appliances must be switched off when not in use

8.6 Communication, Campaigning and Training

Communication Strategy

- In order to ensure the success of the ECMRP it is essential that all relevant parties are kept informed as to how they can contribute to reaching the emissions reduction targets as well as communicating success stories on what has already been achieved. The table below outlines the proposed communication strategy.
- The objective of the Communication Strategy is to promote energy awareness, to encourage a low carbon culture and to disseminate information on the ECMRP and performance against emission targets.

Method	Description	Target	Involvement
Site Induction	Verbal instruction given at Site Induction	Site Operatives, Site Visitors	Site Manager
Posters, Resource Management Summary, Advice Notes	Printed material for distribution on site and displayed on notice boards in site compound and offices.	Site Operatives, Site Visitors	Site/ Project Manager, Environmental Manager/ Advisor and SHE Team members

Challenging the Value Chain for Low-Carbon Solutions

In order to encourage communication across the supply chain, we will continue to challenge our clients, designers and suppliers to provide low-carbon solutions throughout the project timeline via workshops.

Carbon Training

Carbon training will be provided to all GRAHAM staff and suppliers in line with section 1.10 of this CEMP and the GRAHAM Environmental Training Matrix, version 6.

8.7 Measurement and Reporting

As per the project lifecycle stages defined in PAS 2080 below, project carbon emissions will be assessed as follows:

Product Stage			Construction Process Stage		Use Stage							End-of-Life Stage				Benefits and loads beyond the system boundary		
Raw material supply	Transport	Manufacturing	Transport to building site	Installation into building	Use/application	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D

Construction Emissions (A5)

We have invested in and improved the mechanism for monitoring energy and carbon in order to streamline and improve the visibility of the information for sites and all interested parties, including clients.

Emissions data relating to construction impacts (A4 & A5) will be uploaded to Onos on a monthly basis, including upstream transport, electricity, fuel, water and waste. The software will be used to convert the data into tCO₂e by applying an appropriate emission factor as determined by UK Government conversion factors and checked annually.

A5 data sources will include: Electricity usage, both renewable and non-renewable; Fuel, including gas oil, HVO and diesel using fuel receipts from fuel deliveries; Water consumption, including grey water will be measured using meter readings; Waste will be measured through waste transfer notes and the percentage recycled will be confirmed using recycling reports from waste broker portals. A4 data will be collected from upstream transport relating to material deliveries and will be recorded on Onos. It will be ensured that all A4-A5 carbon emissions on this project are accounted for.

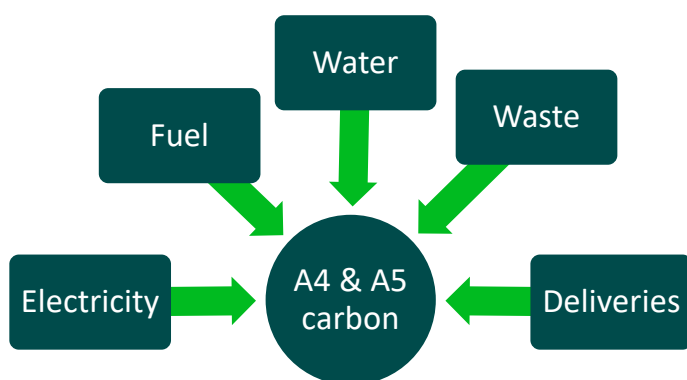


Figure 15: Contributors to site carbon emissions

****DELETE THE REST OF SECTION 8.7 FOR NON PAS 2080 PROJECTS****

(To be confirmed relevant during stage 2)

Life Cycle Emissions

The Lifecycle assessment process for the project will be assessed in line with BS 15978:2011 and the RICS Professional Statement: Whole Life Carbon assessment for the built environment (2nd edition), where required for PAS 2080 alignment.

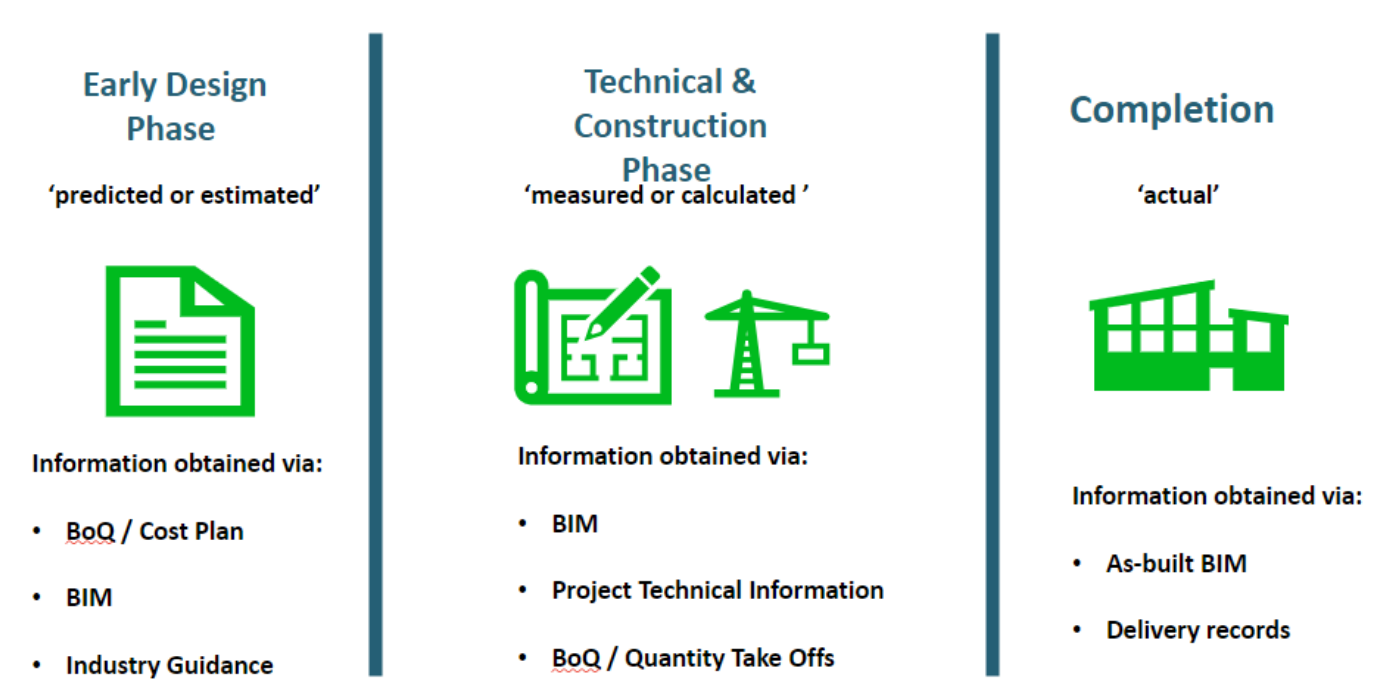
In all instances the lifecycle assessment scope and system boundaries will be defined and set out within the project carbon tracker (PF10-PR10-43-F039).

It is acknowledged that the stage within which GRAHAM have been engaged/ involved in the project will impact on the effectiveness of LCA data and our ability to influence carbon reduction.

Whole life carbon on this project will be assessed by GRAHAM / NAMED EXTERNAL CONSULTANT using One click LCA / XXXXX software.

Collecting and Processing WLC Emissions

Data will be gathered at key project stages from various sources including:



In all instances the data will be collated using reliable and auditable sources.

At each project stage calculated carbon emissions will be compared to the project target to track progress and inform future assessments. The final material quantities will be used to calculate the as-built WLC assessment.

We will ensure due diligence in verifying the accuracy of reported emissions. A Carbon Data Verification Checklist (below) will be maintained at each stage of the assessment

Verifying WLC Data

It is necessary to verify the accuracy of reported emissions for PAS 2080 aligned projects, and therefore regular submission of the Carbon Data Verification Checklist will be required. The submission schedule should be adaptable based on the requirements of the task and the data collected will be processed as described above. The quantities must be confirmed by the responsible person for these materials.

During the pre-construction stage:

- The quantities and specification of materials will be based on the information provided by the design consultants and Bill of Quantities.
- Transportation distances will be based on assumptions which align with the RICS methodology for A5.

During the construction stage:

- The evidence of quantities and specification of materials shall be as per the table below. A periodic review of the data will be carried out against the Bill of quantities to ensure that the data aligns.
- The transportation distances must be recorded to ensure accuracy of A4 (Transport) emissions.
- This information will be provided to allow sufficient time for review before submission, according to the submission schedule.

< Please delete Material Quantity Table for either Building or Civils >

Emissions from Site Activities

	Evidence	Responsible Party	Responsible Person
Fuel	Delivery Note / Invoice / ONOS	Environmental Champion	Edward Lawson
Water	Meter Readings / ONOS	Environmental Champion	Edward Lawson
Electricity	Meter Readings / ONOS	Environmental Champion	Edward Lawson
Waste	Waste Transfer Notes / Waste Reports from Broker / ONOS	Environmental Champion	Edward Lawson

Other Project-Related Data

	Evidence	Responsible Party	Responsible Person
Business Mileage	Telematics from Plant	Works Manager	TBC
Commuting	Biometric Systems	Biometric System	TBC
Transportation	GRN Register	Procurement Manager	TBC
Project Monthly Spend	Provided by Quantity Surveyor	Quantity Surveyor	TBC

Infrastructure Material Quantities

Infrastructure Category	Evidence	Responsible Party	Responsible Person
Earthworks and Mass Hauling	Goods Received Notice or Invoice	Subcontractor / Site Team	
Masses sourced for the project (Recycled or virgin materials)	Goods Received Notice or Invoice	Subcontractor / Site Team	
Excavated and removed masses (For future use elsewhere)	Goods Received Notice or Invoice	Subcontractor / Site Team	
Masses that can be reused in the project	Goods Received Notice or Invoice	Subcontractor / Site Team	
Construction Materials	Goods Received Notice or Invoice	Subcontractor / Site Team	

Foundations & Geotechnical structures (Bridges, load bearing structures, noise protection, and all other permanent structures)	Goods Received Notice or Invoice	Subcontractor / Site Team	
Technical Structures, Construction works & Systems (Water, safety, electricity, communication, utility transfer and HVAC)	Goods Received Notice or Invoice	Subcontractor / Site Team	
Surface and Pavement Layers	Goods Received Notice or Invoice	Subcontractor / Site Team	

The Person Responsible for Completing the Carbon Data Verification Checklist is: _____

The Person Responsible for Checking the Carbon Data Verification Checklist is: _____

In the absence of the Responsible Persons, _____ will complete the Carbon Data Verification Checklist and carry out the checks.

8.8 Carbon Offsetting

Carbon offsetting in general is a controversial area of carbon management both because of the risk that it distracts from the pressing need to reduce emissions at source, and because the claimed savings can be difficult to monitor and verify. However, it is acknowledged that as part of the GRAHAM overarching target to achieve "Net Zero Carbon", we are likely to need offsetting.

Sites have the option to offset their carbon and may do so using GRAHAM supply chain partner "Natural Capital Partners" or another provider. However, offsetting is only permitted when the following criteria (aligned to the Oxford Offsetting Principles) have been met:

- Reduction of emissions must be prioritised first – Minimise the need for offsets in the first place
- Ensure Environmental Integrity – Only use offsets that are verifiable and correctly accounted for and have a low risk of non-additionality, reversal, and creating negative unintended consequences for people and the environment
- Maintain transparency – disclosure current emissions, targets and the type of offsets employed

In addition, carbon removal offsetting (rather than emissions reductions) should be prioritised and long-lived storage (rather than short-lived) should be prioritised where practicable.

Site teams should consult with their Environmental Sustainability Manager prior to the purchase of all carbon credits.

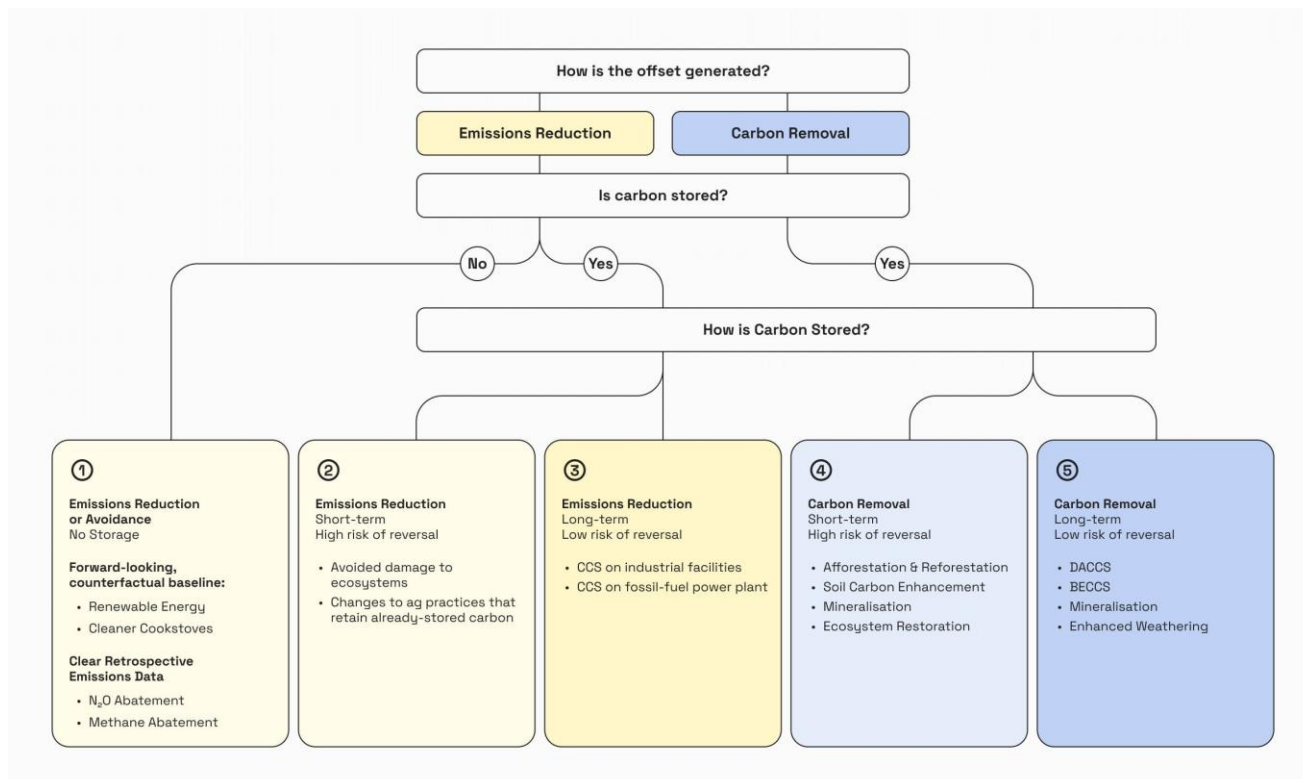
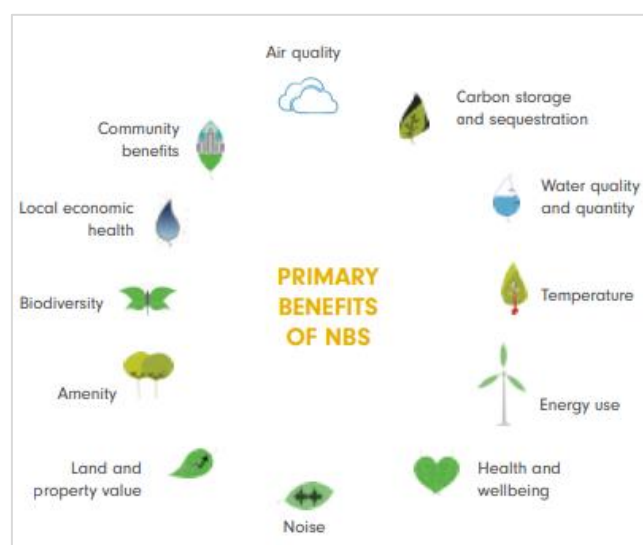


Figure 13: Carbon Offsetting Principles

8.9 Nature Based Solutions

Nature-based solutions (NBS) can be an effective way to tackle both the climate and ecological crises simultaneously. NBS offer a means of adapting to the impacts of climate change, whilst protecting and enhancing biodiversity, acting as carbon sinks in some circumstances. Natural capital including wetlands, peatlands, grasslands and forest are essential for sequestering carbon from the atmosphere, alongside engineered sequestration solutions.

NBS, including green walls, green roofs, urban parks, SUDs and street trees, when done well, can deliver many different advantages including improved temperature regulation, better air & water quality, carbon storage, biodiversity hotspots, increased footfall to commercial areas and improved health & wellbeing for local residents among many others. They deliver climate resilience alongside carbon reduction and where possible, NBS should be researched and integrated into projects to maximise benefits.



At GRAHAM we recognise the need for NBS to enhance the resilience of our ecosystems, built environments, and communities. At project level, proportionate solutions should therefore be planned, designed and implemented to deliver those benefits. Depending on the stage of the decision-making process, a qualitative or quantitative approach may be required.

We must ensure that; natural capital assessments follow DEFRA's Enabling a Natural Capital Approach (ENCA) guidance; adherence to standards; third party assurance or peer review for high profile projects.

Figure 17: Primary benefits of NBS.

SECTION 9.0 Site Waste and Resource Management Plan

Guidance Notes:

This section contains details of the processes and opportunities to reduce waste, reuse or recycle products, components and buildings, and for materials to move up the waste hierarchy so that material resources can flow around a circular economy.

- 9.1 Purpose and Description of the Project**
- 9.2 Responsibilities and Declarations**
- 9.3 Description of Waste Management Roles**
- 9.4 Waste Management Policy**
- 9.5 Benchmarks for Conserving Resources**
- 9.6 Proposals for Waste Minimisation**
- 9.7 Identification of Waste and Proposals for Waste Reuse and Recycling**
- 9.8 Organisations which may be used to facilitate reuse**
- 9.9 Waste Storage Arrangements**
- 9.10 Office Waste Arrangements**
- 9.11 Duty of Care and Waste Transfer Procedures**
- 9.12 Waste Transfer Note Detail**
- 9.13 UK SIC CODES - Excerpts from UK Standard Industrial Classification of Economic Activities**
- 9.14 Minimisation of Hazardous Waste**
- 9.15 Typical Hazardous Outputs**
- 9.16 Management of Hazardous Waste**
- 9.17 Hazardous Waste Consignment Note Detail**
- 9.18 Training**
- 9.19 Subcontractor Requirements**
- 9.20 Management of Subcontractors**
- 9.21 Waste Management Supplier Requirements**
- 9.22 Waste Monitoring and Reporting**

9.1 Purpose and Description of the Project

Project Name	Havant Footbridge Replacement		
Project Location	<p>Havant Railway Footbridge is located in an urban setting within the centre of the town of Havant, in southeast Hampshire.</p> <p>It provides pedestrian access between Elmleigh Road (northwest of the station) and North Street and the entrance (to the south). A covered ramp from the bridge also provides pedestrian access to the rear of Leigh Road (to the northeast) where a multi-level car park is located (this access route is currently closed to the public).</p> <div data-bbox="743 619 1252 1350">  <p>Hampshire County Council</p> <p>DRAWING TITLE: STFB 560 HAVANT STATION FOOTBRIDGE LOCATION PLAN.</p> <p>E: 471720 N: 106600</p> <p>Bridge location Date: 31/15/2018</p> </div>		
Project Cost (estimated)*	TBC		
Project Start Date	Date	Month	Year
	01	September	2026
Project End Date	Date	Month	Year
	TBC	TBC	TBC

Description of the Project	<p>Havant footbridge was built in 1947 and provides the main public route over the railway. It connects the Civic Centre Campus, Havant College, and nearby large housing area of Leigh Park in the north to Havant Town Centre, Bus Station and Havant Park in the south.</p> <p>Deterioration of the footbridge has accelerated over recent years, and it is no longer deemed cost effective or practical to continue repairing it. In addition, the footbridge no longer meets uses needs. Therefore, the footbridge is to be removed, and a new one provided which meets current standards and provides access for all.</p> <p>ECI Phase:</p> <ul style="list-style-type: none"> • Provision of pre-construction information to facilitate planning and work alongside HCC to enable demolition of the existing footbridge and design, fabrication and installation of the new footbridge. • Contractor design for footbridge, ramps and stairs. <p>Construction Phase:</p> <p>Details TBC.</p>
Project Footprint (Sq/M)	TBC
Client	Hampshire County Council
Principal Contractor	GRAHAM
Version Number and Date	001 08.09.2025

9.2 Responsibilities and Declarations

	Name	Contact details
Who is responsible for drafting the SWMP?	GRAHAM	
Who is responsible for implementing the SWMP on site?	GRAHAM	
Who is the waste champion?	GRAHAM	
Who is the person in charge of the project?	GRAHAM	
Where will this SWMP be kept?	On file in the site office and on SharePoint	

Declaration statement:

We the 'Client' and the 'Principal contractor' will take reasonable steps to ensure that all waste from the site is dealt with in accordance with the waste duty of care in section 34 of the Environmental Protection Act 1990 and the Environmental Protection (Duty of Care) Regulations. All reasonable steps will also be taken to ensure that the waste materials are handled efficiently, and waste managed appropriately.

Client signature:**Signature of Principal Contractor Representative:****Signature of S/C Representative(s):**

9.3 Description of Waste Management Roles

Project Manager/ Site Manager:	<ul style="list-style-type: none"> • Ensure plan meets client's approval and is signed off accordingly • Implementing and managing the plan on site • Arranging for full details of all arising's, movements and treatment of waste to be accurately recorded and reported in a timely manner • Distinguish reusable materials from materials suitable for recycling • Ensure maximum segregation at the source and separate materials for recovery • Appointment of a suitable "Waste Champion" for the site
Environmental Manager:	<ul style="list-style-type: none"> • Implementing the plan within GRAHAM • Providing training • Providing advice and guidance to the Site Manager and ensure that best practice is transferred across the organisation • Conducting waste audits
Procurement Manager:	<ul style="list-style-type: none"> • Ensure that materials are ordered so that the quantity delivered, the timing of the delivery and storage of materials does not generate unnecessary waste • Ensure that the waste management requirements within the GRAHAM procurement documents are communicated to our supply chain • To undertake early engagement with our Waste Management Contractor in order to discuss our waste forecasts and to ensure an optimal skip strategy which maximises recycling
Environmental Champion:	<ul style="list-style-type: none"> • Overseeing management of waste records • Periodic reviews of SWMP • Regular inspection of waste recycling areas on site • Ensuring that regular toolbox talks on waste management and minimisation are carried out • Encourage and motivate site personnel to implement best practices
Appointed Operatives:	<ul style="list-style-type: none"> • Ensure that discrete operations stated in the SWMP are performed on an on-going basis

9.4 Waste Management Policy

GRAHAM operate an Environmental Management System which is certified by National Quality Assurance (NQA) against the requirements of BS EN ISO 14001:2015. Our EMS will be utilised to assist in the employment of waste reduction techniques on the project

This Site Waste Management Plan has been prepared in accordance with the GRAHAM Environmental Policy, Waste Management Policy and Waste Management Procedure **PF10-PR10-44**

GRAHAM are committed to the Circular Economy, where products and materials are kept in high value use for as long as possible. This includes minimising waste, reducing consumption, and designing for reuse, repair and recycling. This commitment has driven the adoption of an approach which prioritises the reuse of all materials and products.

9.5 Benchmarks for Conserving Resources

GRAHAM WASTE TARGETS

	KPI/Metric	Target
A	Tonnes of Construction waste generated per £1M construction value	Refer to Onos
B	Diversion of Construction waste from landfill	Refer to Onos

SECONDARY WASTE TARGETS

	KPI/Metric	Target
C	Tonnes of Construction and Demolition waste generated per £1M construction value	Project Specific
D	Tonnes of Construction waste per 100m2 GIFA	Project Specific

- The site construction waste reduction target has been derived using GRAHAM data relating to construction waste generated on all construction sites during our baseline accounting year (2014/15). This waste reduction target aligns with the GRAHAM Company Target to reduce the quantity of avoidable Construction Waste generated by 65% by 2030 and 100% by 2040*
- Projects within the building division also benchmark against BREEAM KPIs for construction and waste demolition and waste diversion (Target D).

* Avoidable construction waste is interpreted as materials, products or components that can be prevented from becoming waste. At every stage of a project lifecycle, from the manufacture of materials and products, the design, specification and assembly of buildings through to deconstruction there are opportunities to avoid waste and reuse or recycle products.

9.6 Proposals for Waste Minimisation -To be developed during the ECI Stage

REF	INFORMATION REQUIRED	YES/NO/NA	RESPONSE / COMMENTS
1.	Have opportunities been identified to reduce waste through the design process e.g., no-dig techniques, pre-fabrication of materials?	Choose an item.	
2.	Can structures be raised out of the ground to reduce excavation volume?	Choose an item.	
3.	Is excavation material suitable for re-use following suitable testing?	Choose an item.	
4.	Can excavated materials be re-used at another GRAHAM Site (Note - waste exemption required)	Choose an item.	
5.	Can it be arranged for excavated material to be used at a landfill site for capping or engineering works?	Choose an item.	
6.	Can contaminated material be treated using soil washing, bioremediation or other techniques to render it suitable for re-use?	Choose an item.	
7.	Is there scope to use a recycled product such as 6F2 or fine fill aggregates, reducing reliance on finite raw materials?	Choose an item.	
8.	Has the site team discussed and identified strategies for reducing waste with subcontractors?	Choose an item.	
9.	Has a "Waste Management Suppliers pre-appointment Assessment" been completed?	Choose an item.	
10.	Will Subcontractors and Site operatives who handle materials and waste receive waste awareness toolbox talks and other training?	Choose an item.	
11.	Is waste data going to be regularly reviewed (e.g. during progress meetings) in order to monitor waste targets for the project?	Choose an item.	
12.	Will the Environmental Champion be briefed on their duties to help facilitate waste prevention during the project?	Choose an item.	
13.	Can redundant equipment be sold for reuse?	Choose an item.	
14.	Can unsuitable material be conditioned to make it useable by following the relevant Waste and Resources Action Programme (WRAP) quality protocol?	Choose an item.	
15.	Are there any other ways in which the project will minimise waste to landfill?	Choose an item.	

9.7 Identification of Waste and Proposals for Waste Reuse and Recycling - -To be developed during the ECI Stage

With reference to the Drawings and Specification, the following materials have been identified as wastes which could potentially arise on the Project. Quantities of forecast construction wastes have been derived by multiplying the total material quantity by standard wastage rate data provided by the Waste and Resources Action Programme (WRAP).

Waste Type	Waste Stream	Material Type	Suggested LOW Code	Destination	Forecast Quantities
					(tonnes)
Excavation	Soil and Stones	Soil and stones other than those mentioned in 17 05 03	17 05 04	Choose an item.	
Excavation	Bituminous material	Bituminous mixtures other than those mentioned in 17 03 01	17 03 01	Choose an item.	
Demolition	Gypsum (plasterboard)	Gypsum-based construction materials other than those mentioned in 17 08 01	17 08 02	Choose an item.	
Demolition	Inert	Concrete, bricks, tiles and ceramics	17 01 07	Choose an item.	
Demolition	Wood	Timber materials – demolished roof/doors/window frames	17 02 01	Choose an item.	
Demolition	Metals	Mixed metals – building cladding/pipework/cables	17 04 07	Choose an item.	
Demolition	Insulation	Floor/Wall/Roof Insulation	17 06 04	Choose an item.	
Demolition	Plastics	DPC/ Pipework / Coverings	17 02 03	Choose an item.	
Demolition	Glass	Glass/ Windows	17 02 02	Choose an item.	
Construction	Gypsum (Plasterboard)	Gypsum-based construction materials other than those mentioned in 17 08 01	17 08 02	Choose an item.	
Construction	Wood	Timber materials – offcuts/shuttering/wooden packaging	17 02 01	Choose an item.	
Construction	Metals	Mixed metals – electrical and plumbing waste/pipe offcuts/stud wall cuttings	17 04 07	Choose an item.	
Construction	Plastics	Hard Plastics/Pipe offcuts/ wrapping protection materials	17 02 03	Choose an item.	
Construction	Packaging	Mixed Packaging – Cardboard/Paper/Plastic	15 01 06	Choose an item.	
Construction	Segregated Hazardous Waste	Used Engine Oil/ Batteries/ Waste paints/ Aerosol cans/ Paint thinners	Various	Choose an item.	

Construction	Office waste	Mixed Municipal Waste from site offices/canteen	20 03 01	Choose an item.	
--------------	--------------	---	----------	-----------------	--

9.8 Organisations which may be used to facilitate reuse

- **The National Community Wood Recycling Project**

www.communitywoodrecycling.org.uk

The National Community Wood Recycling Project (NCWRP) is a network of wood recycling social enterprises. The aim of the enterprise is to

- Save resources by rescuing and re-using waste timber that would otherwise be landfilled
- Create sustainable jobs, as well as training and volunteering opportunities, for local people – especially those who might find it difficult to get into or back to employment.

- **Recipro**

www.recipro-uk.com

Suppliers and contractors donate unwanted, surplus building materials to the Recipro social enterprise. The products are then sold on at hugely discounted rates. Customers range from charities to schools, churches to shops as well as the local community

- **Community Repaint**

www.communityrepaint.org.uk

Community Repaint is a network of paint reuse schemes across England, Scotland, Wales and Northern Ireland. The purpose of the scheme is to collect leftover reusable paint and redistribute it to those who need paint but cannot afford it.

- **International Synergies**

www.international-synergies.com

International Synergies can be utilised to identify any wastes which may have a value to other member companies with a view to third party re-use of these materials.

- **Reuse Network**

www.reuse-network.org.uk

Surplus furniture and household items can be donated for reuse through the Reuse Network. This is a national coordinating body for 300 furniture and appliance re-use and recycling organisations which exist across the UK.

Note - this list is non-exhaustive and may be added to as new opportunities are sought and implemented.

9.9 Waste Storage Arrangements

In line with best practice for the recycling of waste, we will segregate waste on site and to facilitate this, an appropriate number of waste handling and segregation areas will be set up. At these areas, waste streams will be segregated into separate skips and then removed to an approved material recycling facility. Each skip will be clearly labelled indicating type of waste contained within.



Figure 14: Waste Storage Arrangements

The segregation of skip wastes will be of the following types:

- Metal
- Packaging
- Timber
- Gypsum
- Inert
- Mixed (for all other wastes)

Additional skips and bins will also be provided for office derived waste including:

- Paper & Cardboard
- Plastic
- Cardboard
- Food waste

All skips utilised on site will:

- Prevent spillages or leakages
- Be corrosive resistant (to the weather elements)
- Will prevent scavenging from animals
- Prevent materials from being blown away

9.10 Office Waste Arrangements

Site offices and canteens often generate a significant quantity of wastes, many of which are recyclable. Opportunities should be sought to recycle as many of these items as possible and separate waste bins should be available in the site offices to facilitate collection of recyclables such as paper, cardboard, aluminium cans and plastic bottles. Site Operatives should be regularly reminded of the office/ canteen waste recycling procedures and bins should be labelled to assist in their correct usage.



Figure 15 - Office Waste Segregation

9.11 Duty of Care and Waste Transfer Procedures

Throughout construction of the Project, it will be ensured that all site staff, subcontractors and waste management contractors will act in accordance with all environmental legislation in relation to waste management. All movements of waste will be accompanied by waste transfer notes. GRAHAM site staff will ensure that the waste is described as accurately as possible and that the waste transfer note is signed by both the waste producer and the waste carrier. The waste carrier will hand over a copy of the note to a member of GRAHAM site staff prior to leaving the site.

- Waste Transfer Notes will be stored in Appendix 4.1 of this plan
- A log of each waste movement will be completed. This can be done via Onos or by using the GRAHAM waste log (REF:PF10-PR10-44-F009) and storing the log in appendix 4.4 of this plan

Only registered carriers of waste will be employed for transport purposes and copies of all waste management permits, licences and exemptions will also be obtained and held on site prior to any movement of waste taking place. For all waste transfers, GRAHAM will obtain a copy of the receipt, or a copy of the invoice, from the authorised disposal site as proof that the waste reached the proposed destination.

- Details of Waste Management Carriers for Transporting Waste (REF:PF10-PR10-44-F012) will be stored in Appendix 4.3 of this plan
- Details of Permitted, Licenced or Exempt Sites (REF:PF10-PR10-44-F011) will be stored in Appendix 4.2 of this plan

GRAHAM will retain all controlled waste transfer notes for a minimum of two years and hazardous waste transfer notes for a minimum of three years. Waste transfer notes will initially be retained on site and upon project completion will be transferred to a document store in head office. Each consignment of waste taken from the site will be subject to documentation, which will conform to the table below to ensure full traceability of the material to its final destination.

Waste Transfer Note Detail

1. State the name of the waste producer.
2. Signature of the waste producer.
3. Signature of the waste carrier.
4. A combination of:
 - (i) a description of the waste (inert, non-hazardous or hazardous) and
 - (ii) the relevant the European Waste Catalogue (EWC) code classification.
5. State the quantity of waste in cubic metres (m³).
6. How the waste is stored and any processes the waste has been through
7. State the name of the site where the waste is being created.
8. State the date and time that the waste was taken off site by the waste carrier.
9. State the name and address of the waste carrier.
10. Waste carrier licence number
11. State the name and address of where the waste is being taken to and the site licence/ permit or exemption number
12. State whether the waste carrier is the producer or carrier of the waste (in most cases it will be the latter).
13. Highlight on the waste transfer note the certificate number
14. Standard Industry code (SIC) of your business
15. Include a statement that you have applied the waste hierarchy

9.12 Waste Transfer Note Detail

Duty of Care – Waste Transfer Note

PF10-PR10-44-F008

Project:

Section A – Description of Waste

1. Description of the waste being transferred: _____
2. European Waste Catalogue/ List of Waste Code [17] [01] e.g. 17 01 01
3. How is the waste contained?
Loose ☐ Sacks ☐ Skip ☐ Drum ☐ Other ☐ Please describe _____
4. How much waste? For example, number of sacks, weight etc: _____

Section B – Current holder of the waste (Transferor)

By signing in section D below I confirm that I have fulfilled my duty to apply the waste hierarchy

1. Full Name: Graham Construction
2. Company name and address: Ballygowan Road, Hillsborough, BT26 6HX
3. SIC code (2007): _____
4. Which of the following are you: (Please tick one or more boxes)
 Producer of the Waste ☐ Importer of the Waste ☐ Registered Waste Carrier ☐
5. Please state how has the waste been treated:
 Segregation/ separate collection/ screening/ hand picking (Delete as appropriate)
6. If treatment has not been carried out please state why this is not considered necessary. (E.g. The waste is inert waste which cannot be treated because it is not technically feasible to do so): _____

Section C – Person collecting the waste (Transferee)

1. Full Name: _____
2. Company name and address: _____
3. Which of the following are you?

	Tick	Licence/ permit number	Expiry date
Holder of a valid exemption	☒	N/A	N/A
A registered waste carrier/ broker/ dealer	☐		

Section D – The Transfer

1. Address of transfer/ collection point (SITE): _____
2. Date of transfer: _____
(For multiple consignments/ "Season Tickets" give "between" dates)
3. Time(s) of transfer: _____
4. Destination of Waste, give address: _____
5. Destination of Waste, give licence/ permit number: _____
6. Name and address of broker who arranged this waste transfer (if applicable): _____

Transferor's signature

Print Name: _____

Transferee's signature

Print Name: _____

Destination details including permit or exemption reference for that facility GRAHAM requirement for waste destination to be on the waste transfer note

Signatures of the transferee (waste producer) and the transferor (waste Carrier) both signatures are needed on all WTN

Note: Legible copies of waste transfer notes must be available at all times and must be kept for two years from the date of the waste collection

Details of the container and the quantity of waste Skip, size, Volume or weight and whether waste is in bags

The Waste Hierarchy Declaration confirming that the waste producer has considered prevention, reuse, recycle, recover and disposal in that order.

Details of the person transferring the waste (transferor) this is usually the waste producer – GRAHAM. If subcontractors are arranging waste disposal it may be named.

Details of the person the waste is being transferred to (the transferee) this is the waste carrier e.g. skip company, haulage contractor, road sweeper.

Written Description of the Waste e.g. concrete timber

European Waste Code (EWC) E.G.

17 09 04 Mixed Construction

The Standard Industry Classification (SIC) Code See list of common GRAHAM SIC Codes (section 9.13 of SWRMP)

Details of the place where the waste is transferred from the transferor (waste producer) to the transferee (carrier) this is the location the waste is being collected from

Date of the waste transfer (date or period the collection was made)

The Waste Carriers Registration Number

9.13 UK SIC CODES - Excerpts from UK Standard Industrial Classification of Economic Activities

Section F Construction

41100 Development of building projects

Common SIC CODES for GRAHAM operations

41201	Construction of commercial buildings
41202	Construction of domestic buildings
42110	Construction of roads and motorways
42120	Construction of railways and underground railways
42130	Construction of bridges and tunnels
42210	Construction of utility projects for fluids

42220 Construction of utility projects for electricity and telecommunications

42910 Construction of water projects

42990 Construction of other civil engineering projects

43110 Demolition

43120 Site preparation

43130 Test drilling and boring

43210 Electrical installation

43220 Plumbing, heat and air-conditioning installation

43290 Other construction installation

43310 Plastering

43320 Joinery installation

43330 Floor and wall covering

43341 Painting

43342 Glazing

43390 Other building completion and finishing

43910 Roofing activities

43991 Scaffold erection

43999 Other specialised construction activities

Short Enforcement Guide

- You will be committing an offence, if you give waste to an unregistered waste carrier
- You will be committing an offence, if you do not have valid waste transfer notes and or consignment notes for the movement of waste
- You will be committing an offence, if you transport waste and you are not registered to do so
- You will be committing an offence, if you transport waste and do not have a complete waste transfer note with you
- You will be committing an offence, if you accept waste without holding the relevant waste authorisation
- You will be committing an offence, if you keep, treat or dispose of waste without the relevant waste authorisation

9.14 Minimisation of Hazardous Waste

Hazardous Waste Minimisation

Eliminating the use of hazardous materials will eliminate the generation of hazardous waste from these products. Therefore, it is important that designers and architects are involved in any plan to reduce hazardous waste as they may specify materials which we (as a contractor) are bound by. However, GRAHAM also have an element of choice in the products we purchase, and we also have further opportunities to reduce the amount of hazardous waste produced through better handling, segregation and identification of re-use and recycling options.

The following table is a list of potential opportunities that may be applied to the construction project in order to reduce the generation.

Hazardous waste management/ minimisation measures				
	Material	Measure	Indicative Cost	Anticipated Benefits
1.	Solvents	Purchase only low-VOC paints, solvents and adhesives	Low	Reduced VOC emissions to atmospheres, less residual solvent in containers, easier disposal
2.	Various	Brief all site workers on likely hazardous wastes. Identify and clearly mark recovery & disposal storage arrangements	Low	Less cross-contamination, increased hazardous waste segregation, raised levels of awareness, reduced disposal costs
3.	Paints & Solvent	Increase level of accountability for hazardous materials – single point of issue, with nominated person responsible	Low	Less hazardous raw materials used, greater accountability and control/understanding of material usage (benchmarking).
4.	Packaging	Clean and sort packaging to reduce hazardous component prior to disposal	Low - Medium	Reduced volume of packaging being consigned as hazardous (disposal costs reduced)
5.	Treated wood	Reduce disposal of treated waste wood to landfill – minimise off-cuts and increase re-use where applicable.	Low - Medium	Increased level of beneficial wood re-use (or energy recovery), reduced landfill, potential future revenue source
6.	Oils, fuels & lubricants	Ensure all materials are stored in bunded areas and allocate central accountancy for oil wastes	Low - Medium	Reduce the frequency of spills to ground, increase collection of waste oils/rags.

9.15 Typical Hazardous Outputs

Storage of Hazardous Wastes

All Hazardous waste streams will be stored separately from other Hazardous wastes and will be stored separately from controlled waste in secure and labelled containers.

Typical Hazardous Waste Streams

Typical hazardous waste streams occurring on site will include

Activities	Hazardous Inputs	Hazardous Outputs
Site clearance and demolition	N/A	Asbestos, treated wood, electrical and electronic items containing hazardous components (including cables and switches); refrigerants and foams; drums of hazardous materials, potentially fly-tipped hazardous materials
Excavation	N/A	Potentially contaminated soils, asphalt containing tar products from paving and driveways
General construction works (including cementing, grouting etc.)	Grout, cement, resins, hardeners, various COSHH materials	Spent resins and hardeners, concrete and grout wash-out, un-set cement/grout, contaminated shuttering, spent COSHH materials and contaminated packaging
Building installation (e.g. electrical wiring and fittings, insulation, plumbing)	Fluorescent tubes/bulbs, electrical and electronic equipment and cabling	Spent fluorescent tubes and bulbs, off-cuts of electrical wiring etc.
Floor and wall covering (including plastering)	Adhesives, solvents, coatings, polishes, varnishes, resins, treated wood, plasterboard	Spent coatings and adhesives, empty containers containing residue, contaminated packaging, spent solvents, asbestos, plasterboard off-cuts, plaster washout
Painting (including paint preparation)	Solvent-based paints, paint thinners, enamels, lacquers, epoxies, primers, acrylics, brush cleaners	Spent solvent-based paints, empty solvent-based paint tins containing residue, spent solvent cleaners
Asphalting (roofing, paving)	Asphalt	Unused asphalt containing tar products, contaminated containers and equipment
General maintenance and power generation	Oils, greases, degreasers, batteries	Oily rags, oil filters etc. from maintenance of plant and machinery; waste oil; spent batteries; greases and lubricants; spent COSHH materials; oil contaminated absorbent spill material; contaminated PPE; oil contaminated water from bunds etc.

9.16 Management of Hazardous Waste

How to determine if waste is Hazardous

To determine whether waste is hazardous or not, the European List of Wastes (LoW) should be consulted. Within the LoW, Hazardous Waste is classified as "Absolute, Mirror or Non-Hazardous". Absolute (A*) is considered hazardous irrespective of the concentration of levels of dangerous substances present. A Mirror entry (*) can be either hazardous or not, depending on whether it contains certain levels of "*dangerous substances*".

Unexpected discovery of Hazardous Waste

Unexpected hazardous waste not previously anticipated will be identified as early as possible into the duration of the project. Appropriate facilities and remediation or disposal arrangements will be made at the earliest possible opportunity. Examples of unexpected hazardous wastes include discovery of contaminated land.

Moving and Transporting Hazardous Waste

Hazardous wastes must be:

- Transported by a registered or exempt waste carrier
- Accompanied by a consignment note
- Transferred to a facility that holds a suitable environmental permit or pollution prevention and control (PPC) permit

Consignment Notes

A consignment note should be completed every time hazardous waste is removed from the site. The consignment note will then accompany the hazardous waste whilst it is being moved or transferred. In line with our legal requirements copies of completed hazardous waste consignment notes should be kept for three years.

Consignment notes can be purchased/ obtained from the relevant statutory authority. The type of consignment note you need to complete depends on how and where the waste is transported. You can use single or multiple collection forms.

Pre-notification/ Premise Registration

A Consignment Note must accompany all movements of hazardous waste. The CN contains more information than a standard Waste Transfer Note and should be retained for 3 years. There is no requirement to pre-notify the regulator of such waste movements.

9.17 Hazardous Waste Consignment Note Detail

Consignment Note
Code Unique code
generated by the
waste producer

Details of the site
the waste is being
collected from
GRAHAM site /
premises address

European Waste
Code (EWC) 17 03
01* bituminous
mixtures
containing coal tar

17 05 03* soil and
stones containing
hazardous
substances 17 06
01* Insulation
containing
asbestos 17 06 05*
construction
materials
containing
asbestos 13 05 03*
interceptor
sludges 13 05 07*
oily water from oil
/ water separators
13 07 01* fuel oil
and diesel
160601*lead
batteries 20 01
21* fluorescent
tubes 20 01 27*
paint, inks,
adhesives and

Details of the
waste carrier
including the
carrier registration
number and
vehicle
registration
number must be
signed and dated
by the waste

The Hazardous Waste Regulations 2005: Consignment Note



PRODUCER'S/HOLDER'S/CONSIGNOR'S COPY (Delete as appropriate)

PART A Notification details

- 1 Consignment note code:
- 2 The waste described below is to be removed from (name, address, postcode, telephone, e-mail, facsimile):
- 3 The waste will be taken to (name, address and postcode):
- 4 The waste producer was (if different from 2) (name, address, postcode, telephone, e-mail, facsimile):

PART B Description of the waste

If continuation sheet used, tick here ☐

- 1 The process giving rise to the waste(s) was:
- 2 SIC (2007) for the process giving rise to the waste:
- 3 WASTE DETAILS (where more than one waste type is collected all of the information given below must be completed for each EWC identified)

Description of waste	List of wastes (EWC code)(6 digits)	Quantity (kg)	The chemical/biological components in the waste and their concentrations are:		Physical form (gas, liquid, solid, powder, sludge or mixed)	Hazard code(s)	Container type, number and size
			Component	Concentration (% or mg/kg)			

The information given below is to be completed for each EWC identified

EWC code	UN identification number(s)	Proper shipping name(s)	UN class(es)	Packing group(s)	Special handling requirements

PART C Carrier's certificate

(If more than one carrier is used, please attach schedule for subsequent carriers. If schedule of carriers is attached tick here: ☐)

I certify that I today collected the consignment and that the details in A2, A3 and B3 are correct and I have been advised of any specific handling requirements.

Where this note comprises part of a multiple collection the round number and collection number are:

- 1 Carrier name:
On behalf of (name, address, postcode, telephone, e-mail, facsimile):
- 2 Carrier registration no./reason for exemption:
- 3 Vehicle registration no. (or mode of transport, if not road):

Signature
Date Time

PART D Consignor's certificate

I certify that the information in A, B and C has been completed and is correct, that the carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the waste is packaged and labelled correctly and the carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England and Wales) Regulations 2011.

- 1 Consignor name:
On behalf of (name, address, postcode, telephone, e-mail, facsimile):

Signature
Date Time

PART E Consignee's certificate (where more than one waste type is collected all of the information given below must be completed for each EWC)

Individual EWC code(s) received	Quantity of each EWC code received (kg)	EWC code accepted/rejected	Waste management operation (R or D code)

- 1 I received this waste at the address given in A3 on: Date Time

- 2 Vehicle registration no. (or mode of transport if not road):

- 3 Where waste is rejected please provide details:

I certify that waste permit/exempt waste operation number:

authorises the management of the waste described in B at the address given in A3.

Where the consignment forms part of a multiple collection, as identified in Part C, I certify that the total number of consignments forming the collection are:

Signature
Date Time

Details of the
waste destination
the receiving
waste facility must
hold a permit that
allows it to accept
the hazardous

The Standard
Industry
Classification (SIC)
Code
Construction:
41.20

Demolition 43.11

The Hazardous
Property (HP) code
and or identity of
Persistent Organic
Pollutant (POP)
(COSHH
Assessment)

H1 – Explosive

H2 – Oxidising

H3 – Flammable

And / or

Details of the
container and the
quantity of waste

Details of the
person
transferring the
waste (consignor)

This is usually the
waste producer,
GRAHAM or a
subcontractor if
they have
arranged the
waste collection.

Note: A copy of the HWCN must be taken when the waste is removed and a further copy with Part E signed must be obtained. Part E is signed by the waste facility when they receive the waste from the carrier. The final copy with Part E must be obtained from the waste carrier and returned to GRAHAM. Legible copies of hazardous waste consignment notes must be available on site and must be kept for three years from the date of the waste collection.

Confirmation that the
waste facility has received
the waste from the carrier.
A copy of the HWCN with
this section signed by the
waste facility must be
obtained within 3 months

9.18 Training

Everyone on site will receive training which will include the following waste and environmental issues:

- The Site Waste and Resource Management Plan
- Roles and responsibilities
- Waste procedures on site – including segregation, recycling, reuse and return methods
- Hazardous waste
- Duty of care/ responsibilities
- Materials storage and handling

Waste and environmental training on site will consist of:

- Induction training will incorporate a section on waste management on site
- Toolbox talks will be carried out on waste issues and all site operatives and subcontractors will be expected to attend
- Various employees attend workshops and seminars delivered by External providers such as WRAP in order to further advance knowledge and best practice in relation to waste issues.
- A training course for the elected "Site Environmental Champion" is delivered in house to relevant operatives by the Environmental Manager.

Communication:

- Communication of the progress of the SWRMP is carried out during monthly progress meetings involving site staff, senior management, and the client
- Posters are displayed throughout the site to ensure that everyone is aware of the importance of the Site Waste and Resource Management Plan and adheres to the site waste management procedures



Figure 16 - Posters

9.19 Subcontractor Requirements

All Subcontractors are required to fulfil the following responsibilities in relation to waste management:

- Provide to the project team a forecast of the key waste streams that you will create and an identification of what actions you plan to take to reduce waste.
- Minimise the use of materials and the production of waste through, efficient design, handling, transportation, stock control, the use of prefabricated / pre-sized materials, minimise packaging and efficient construction techniques.
- Segregate waste, use specific waste containers and waste management areas.
- Fulfil all statutory waste handling requirements such as Duty of Care Regulations
- Manage the collection, storage, segregation and treatment/disposal of the different types of waste you produce

In addition, a small number of subcontract work packages may be **responsible for the disposal of their own waste**. Where this is the case, the Site Team will ensure that these Subcontractors undertake the following responsibilities:

- Complete the "Expectations for removal of Excavated Material from Site by a Sub-Contractor" form (REF: PF10-PR10-44-F007)
- Provide the waste carriers licence (collection permit in ROI) for the haulier removing the waste
- Provide the waste management licence /permit/ exemption certificate or permit for the site receiving the waste
- Provide any other relevant licence / permit / exemption such as that required for reprocessing or waste storage
- Provide a monthly report (using the standard GRAHAM format) with the quantities of the different types of waste removed from site. This must be provided with the split of each different type of waste managed, according to waste management method – re-use, recycling, recovery, landfill and other, and, in the case of re-use, recycling and recovery, whether this has taken place on- or off- site; and the quantity of waste materials sent to landfill.

9.20 Management of Subcontractors

Illustration of Type A and Type B Subcontractors

The nature of Subcontractor work activities will assist in determining whether a Subcontractor should be responsible for their own wastes (as illustrated below). This arrangement can only be finalised following receipt of relevant documentation illustrated below. Where relevant documentation has not been provided, GRAHAM will arrange the waste removal and contra-charge the Subcontractor as appropriate.

Site Activity/ Sub-contractor Work Package	Primary Waste Stream	Waste Management Responsibility
Demolition and site clearance	Hardcore, spoil, timber, plastics	<p><u>Type A Subcontractor</u></p> <p>Subcontractor has full responsibility for their own waste and must collect, store, segregate and dispose of all waste materials in accordance with industry best practice and current legislation.</p> <p><u>MUST</u> provide the Site Team with copies of the following for all waste leaving the site:</p> <ul style="list-style-type: none"> • Waste Carriers Licences • Waste Management Licences/ permits • Waste Exemption Certificates • Waste Transfer Notes • Hazardous/ Special Waste Consignment Notes • Monthly figures of all waste removed from site to include type of material, total quantity of waste, waste management option i.e. landfill, reuse, recycling and the percentage of each waste material recycled or reused.
Groundworks	Spoil	
Foundations/piling	Spoil and hardcore	
Structure	Bulk concrete, miscellaneous hardcore & metal	
Drylining	Plasterboard, metal studwork and insulation off cuts	
Brick/ blockwork	Bricks (crushed and incorporated into works)	
Building envelope	Timber, plastic, cardboard, hardcore/ rubble, Metal, Hazardous Waste	<p><u>Type B Subcontractor</u></p> <p>Waste Management Contractor has responsibility for overall waste management and removal of waste from site.</p> <p>Individual subcontractors have local responsibility for segregation and distribution of waste on site to the waste compound.</p>
Mechanical & Electrical	Cables, metal, timber, plastic, cardboard, plastic packaging, Hazardous waste	
Trades (Joinery, Painting, Timber, cardboard, plastic packaging, Plastering, etc.)	Timber, paint, renders, cardboard, plastic packaging, Hazardous waste	
Landscaping habitat restoration/creation	Green waste and Topsoil	
Site re-instatement, removal of site offices and final clear away	Timber, hardcore, metal, office waste	
Office activities	Paper, cardboard, plastic packaging, general office waste	

9.21 Waste Management Supplier Requirements

To actively help achieve the waste reduction, reuse and recycling targets that have been set out for the project, requirements for Waste Management Suppliers are as follows:

- Agreement to work in accordance with GRAHAM Waste Supplier KPIs
- Fulfil all statutory waste handling requirements.
- Work with the project team to plan and implement suitable on-site waste management processes
- Monthly waste analysis reports to be made available to the GRAHAM site team by the 3rd of each month
- The tonnage of each waste material must be recorded within the waste report and the percentage recovery rates for each material illustrated.
- Waste log to be made available to the GRAHAM site team by the 3rd of each month
- Facilitate site visits/ audits by GRAHAM where requested
- GRAHAM are to be informed immediately of any changes to the operator's conditions, licence suspensions or pending prosecutions
- Delivery of at least 99% diversion of non-hazardous waste from landfill
- Contribute to the development and implementation of the Site Waste and Resource Management Plan as required.

GRAHAM Approved/ Preferred List of Waste Management Suppliers

The GRAHAM SHE team maintain a list of approved/ preferred Waste Management Contractors. Suppliers not on the "approved/ preferred and unapproved list" will be asked to complete the "Waste Management Supplier Pre-Appointment Assessment" (Appendix 1.3 – REF: PF10-PR10-44-F0010). The returned information will be forwarded to the SHE Team to review details and ensure that the supplier meets relevant GRAHAM environmental requirements.

Reporting and Documentation

The Waste Management Contractor shall provide the following information:

- Waste Transfer Notes and Hazardous Waste Consignment Notes.
- Copies of the Carriers Licence for all carriers used.
- Copies of the Waste Management Licences / Permits (or exemptions) for all destinations of waste.
- A register of containers logged.

On a monthly basis the Waste Management Contractor will supply the following information:

- The quantity (weight) of waste produced for each waste type together with the destination of that waste (reused, recycled, land filled, etc.).
- Recommendations for improved waste management/minimisation.

9.22 Waste Monitoring and Reporting

Waste quantities and data should be recorded within the waste management section of SHEILD. Data should be uploaded each month by the 5th of the month.

Navigating to Waste Management

The Waste section can be accessed via the left navigation menu - listed under the 'Environmental' option

Waste Mgmt.

Monthly Summary

Waste Data

Destinations

Dashboard

Add Event

Health & Safety

Environmental

Incidents

KPIs & Factors

Waste Mgmt.

Observations

Disciplines

Audits

Actions

Reporting

SHE Support

PERFORMANCE

0.66

79.3%

Construction (t)

Demolition (t)

Excavation (t)

Figure 17 - SHIELD (waste section)

Use SHEILD to input project waste data. The software will automatically calculate the total waste, and waste to landfill.

Overview Page - Key Features

Navigation

Data cards

Link to page filters

Waste Mgmt.

Monthly Summary

Waste Data

Destinations

Carriers

TOTAL WASTE (T)

259

CONST. WASTE (T)

45

CONST. WASTE (T/E1M)

1

CONST. WASTE DIVERSION FROM LANDFILL

79%

TARGET SUMMARY

PERFORMANCE

INTERNAL TARGET

INDUSTRY TARGET

Const. Waste (T/E1M)

0.66

< 35.00

-34.34

< 40.00

-29.34

Const. Waste Diversion (%)

79.3%

> 80.0%

-0.7%

> 82.0%

-2.7%

Monthly Waste Source

Constitution - Source

Chart card actions

Export as image

Summary

Export

PROJECT

DIVISION

REGION

SECTOR

PROJECT VAL.

MONTHLY VAL.

RANGE/PROJECT MONTHS

RANGE VAL.

GENERATED (T)

ACTION

Archfield Hospital

UTB

Build

England

Health Care

£70.00m

£4.12m

10

£41.18m

197.50

Table row actions

View monthly data

Figure 18: SHEILD (overview)

Waste Record - Key Features

The screenshot shows the 'Waste Record' form with the following fields and values:

- Classification:** Non-Hazardous (selected), Hazardous
- Date From:** 04/01/21, **Date To:** 04/01/21
- Source:** Construction (selected), Demolition, Excavation
- Material:** 15 01 02 - plastic packaging
- Destination:** Direct recycle off site
- Quantity:**
 - Generated (t): 1
 - Recovery rate (%): 80
 - Recovered (t): 0.80

Quantity of Waste

Using the Waste Generated and the Recovery Rate, Onos will calculate the Recovered Waste.

Waste details

Required fields are indicated with a red asterisk *

The date range allows for season ticket movements of the same material, via the same carrier to the same destination.

Carriers & Sites from the Onos directory

Area to attach files

The screenshot shows the 'Waste Carrier' and 'Receiving Site' form with the following fields and values:

- Waste Carrier:**
 - Carrier: 24/7 Waste Carriers
 - Registration number: 4567FGTHJS
 - License expiry date: 21/07/25
- Receiving Site:**
 - Site: Blue Sky Recycling Centre
 - Permit/Exemption number: XPT54HGT
 - Have checks been carried out on the site?: Yes
- WTN / Consignment Note:**
 - WTN/Consignment Note Ref: [Empty field]
 - WTN/ consignment note / season ticket: [Empty field with file upload icon]

Figure 19: SHEILD (Waste Records)

Waste Types Included in the Measurement

- Record ALL construction, demolition and excavation wastes – including that generated by subcontractors (where this is part of the main contract of works)
- Record wastes in Tonnes only. Volumes of waste should be converted using standardised conversion factors
- For skip wastes – find out from your waste management contractor, the total tonnage of waste generated and the percentage that has been recycled and record this within the spreadsheet
- Record ALL reuse of wastes on site e.g. reuse of topsoil in landscaping

Note:

- Guidance from the Department of Communities and Local Government identified that List of Waste **17 05 04 (soil and stones not containing dangerous substances)** is non-exempt and when sent to landfill should be allocated a 50% recovery rate. All sites should therefore ensure that where excavation waste classified under European Waste Code 17 05 04 is taken to landfill, that it is allocated a 50% recovery rate.
- Where EWC 17 05 04 is "beneficially reused" e.g. used as capping as part of a landfill closure or restoration or sent to an "exempt" site, it should be allocated a 100% recovery rate.

SECTION 10 Invasive Species

Guidance Notes:

This section contains details of the steps required to safeguard the site from negative impacts in respect of contaminated land and invasive plants.

- 10.1 Invasive Species Issues**
- 10.2 Identification and Survey**
- 10.3 Site Conditions**
- 10.4 Invasive Species Management**
- 10.5 Invasive Species Control and Eradication**

10.1 Invasive Species Issues

Non-native, or invasive, species are described as 'organisms introduced by man into places outside of their natural range of distribution, where they become established and disperse, generating a negative impact on the local ecosystem and species' (International Union for Conservation of Nature (IUCN), 2011). The ecological impacts of such 'biological invasions' are considered to be the second largest threat to biodiversity worldwide, after habitat loss and destruction.

The UK is bound by international agreements such as the Convention on Biological Diversity, the United Nations Convention on the Law of the Sea, the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979), the Convention on the Conservation of European Wildlife and Natural Habitat (Bern, 1979) and the Habitats and Birds Directives. All of these include provisions requiring measures to prevent the introduction of, or control of, non-native species, especially those that threaten native or protected species (JNCC, 2004). Additionally, Section 14 of the Wildlife and Countryside Act (WCA) (1981) makes it illegal to release, or allow to escape into the wild, certain plants or animals which may cause ecological, environmental or socio-economic harm. These commitments are expected to be subject to greater international enforcement over time.

Those invasive plant species most commonly found in the UK are:

- Himalayan Balsam
- Japanese Knotweed
- Common Ragwort
- Giant Hogweed

10.2 Identification and Survey

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Himalayan Balsam												See Jan & Feb
Japanese Knotweed												See Jan & Feb
Ragwort												See Jan & Feb
Giant Hog Weed												See Jan & Feb

Figure 20 - Invasive Plant Identification

Where pre-construction information and investigations indicate a potential for the presence of invasive plant species, a survey will be carried out by a competent person and a distribution map drawn up to indicate specific locations of the plant on site.

Where survey information identifies that invasive plants are present on site, an invasive plant management plan/ method statement to outline controls must be put in place.

10.3 Site Conditions

Details of invasive non-native animal/ plant species present on site

There are no known invasive non native species present on site

Pathways for the potential introduction of non-native species

- Accidental imports from materials brought into the system as a result of the development.

Pathways for the potential introduction of non-native plant species

- Human transport (plant) routes
- Human movement via footwear
- Incorrect disposal methods

10.4 Invasive Species Management

- An invasive plant management plan/ method statement to outline controls will be put in place.
- The plant and the surrounding area will be fenced off. The fence will be at least 4 metres away from the outer perimeter of the plant
- Signage will be installed at the area – e.g., Environmentally sensitive area – Keep Out
- Information and basic requirements with regards to the invasive plant will be identified as part of the induction training so that everyone is aware of the requirements
- The control and management of the invasive weed will be regularly monitored for any spread, regrowth or reintroduction. The “Invasive Plants – Record of Monitoring” form and the “Invasive Plants – Record of Treatment” will be completed as required
- If plant and machinery are working in a contaminated area, wheels will be washed on exit
- Double handling of the contaminated materials will be avoided to reduce the risk of spreading the plant

10.5 Invasive Species Control and Eradication

Currently there are various means by which invasive plants can be eradicated from sites. These include:

- Long-term treatment with herbicides.
- Excavation and disposal at a licensed landfill site. (If invasive plants are disposed of offsite, they will be dealt with as waste in accordance with the Duty of Care Requirements)
- Excavation, deep burial and/or bunding on site prior to treatment with herbicide.

Due to site specific variations in soil type, topography, adjacent sensitivities and degree of invasive weed infestations, combinations of various control methods may be used. These methods will be detailed within the invasive plant management plan/ method statement.

SECTION 11 Archaeology & Cultural Heritage

Guidance Notes:

This section contains details of archaeological considerations and steps required to safeguard archaeology and cultural heritage during construction.

11.1 Archaeological Monitoring

11.2 Discovery of Unexpected Archaeological Finds

11.1. Archaeological Monitoring

Access will be afforded to the site at all reasonable times to any nominated Archaeologist to observe the operations and to monitor the implementation of archaeological requirements.

11.2. Discovery of Unexpected Archaeological Finds

- STOP work immediately.
- IMMEDIATELY PROTECT the find by fencing/blocking off.
- NOTIFY the discovery to the project team
- Access to the area by machinery and personnel is to be prevented.
- Time is to be allowed for the archaeologist to undertake the appropriate level of recording.
- Archaeological objects and treasure discovered must be reported to the regulator

SECTION 12 Emergency Response

Guidance Notes:

This section contains details of the procedure to follow in the event of an environmental complaint, spill or incident.

12.1 Emergency Response Equipment and Resources

12.2 Environmental Incident Response Plan

12.3 Incident Response Reporting

12.1. Emergency Response Equipment and Resources

Oil spillage kits will be available on site at all times and a team of operatives will be trained on how to maintain, position and use them properly. Training may be carried out in-house by the Environmental Manager or by the site team.

The trained Emergency Spill Response team will be identified on the site’s environmental noticeboard.

Spill kits should be appropriate and adequate for risk on site



Figure 21: Spill kits



Figure 22: Spill Response Team Poster

If the nature of the incident necessitates external spill response provision, the Emergency Response Team will be contacted using the contact details below:



Response Team	Phone	Availability
OHES Environmental	0333 333 1123	24hr Service

12.2. Environmental Incident Response Plan

The Environmental Incident Response Plan describes the actions to take in order to deal with any unexpected environmental incidents and details simple guidance on the immediate action to be taken in order to prevent and minimise pollution resulting from an environmental incident. The response actions are detailed according to the specific pollutant and the receiving receptor.

The Environmental Incident Response Plan also describes environmental incident reporting and investigation processes.

The Environmental Incident Response Plan will be displayed on site and communicated to all operatives. (IMS Ref: PF10-PR10-43-F013)

12.3. Incident Response Reporting

- All operatives will be made aware that any environmental incident, spillage or complaint must be reported to the GRAHAM site staff as soon as it happens
- Environmental Events as a result of the Works will be recorded by adding an "Environmental Incident", "Environmental Complaint" or "Other" event record on Onos.
- Every effort will be made to establish the cause of the issue leading to a complaint/ spill/ incident. Assuming the issue arose from the failure of a control system, the issue will be put right at the earliest opportunity
- The response action will be recorded on Onos by the Site Manager
- A log of all complaints/ spills/ incidents and follow-up actions will be maintained
- The Environmental Manager will undertake an investigation of all major incidents and will notify relevant agencies as required. Any reference numbers will be recorded and notified to the Employers Representative.
-

SECTION 13 OUTLINE MATERIALS MANAGEMENT PLAN

Guidance Notes:

This outline MMP explains how excavated materials that will be generated in the course of constructing the Proposed Development will be re-used in a manner that is compatible with the Waste Framework Directive (Parliament 2008) and associated regulations.

A detailed MMP will be developed prior to the commencement of the construction phase of the project.

13.6 Relevant Policy and Guidance

13.7 Excavated Materials Management Plan

13.8 Proposed Material Re-use

13.9 Waste Management

13.10 Other Regulatory Issues

13.1. Relevant Policy and Guidance

General

The detailed MMP will set out policy and guidance for materials management at the site. These may include those listed below (or an updated iteration), but not be limited to:

- CIRIA Report C809 Sustainable management of surplus soil and aggregates from construction (CIRIA 2023).
- Civil Engineering Contractors Association (CECA) Waste Classification and Permitting in Construction (Association 2018).
- CL:AIRE Definition of Waste Code of Practice (CL:AIRE, Definition of Waste: Code of Practice 2008).
- CL:AIRE Guidance Bulletin 3 – Definition of Waste Development Industry Code of Practice (CL:AIRE, CL:AIRE Guidance Bulletin 3 - Definition of Waste Development Industry Code of Practice 2023).
- Environment Agency and Department for Environment, Food & Rural Affairs Waste: environmental permits (Environment Agency and Department for Environment 2022).
- Environment Agency Land Contamination Risk Management (LCRM) (Agency 2023).
- National Planning Policy for Waste 2014 (Department for Levelling Up 2014)
- Resources and Waste Strategy for England 2018 (F. & Department for Environment, Resources and waste strategy for England 2018)
- Waste Framework Directive 2008/98/EC (Parliament 2008).
- Waste Management Plan for England 2021 (F. & Department for Environment, Waste Management Plan for England 2021 2021)
- Waste Prevention Programme for England 2023 (F. & Department for Environment, The waste prevention programme for England: Maximising Resources, Minimising Waste 2023)

Background to Material Re-use

The Environment Agency (EA) has a long-standing general concern regarding the re-use of unnecessary quantities of site-won materials at development sites, which is seen as a mechanism that could be used by disreputable developers to circumvent waste regulations and taxation.

Where material is excavated without a clear intent and need for re-use and a proven suitability for that use, the material can be considered a waste by the EA. This can result in substantial compliance difficulties, even for seemingly innocuous re-use tasks like backfilling around a pylon foundation excavation with the same material that was dug out to install the foundation.

It should be noted that "Uncontaminated soil and other naturally occurring material excavated in the course of construction activities where it is certain that the material will be used for the purposes of construction in its natural state on the site from which it is excavated" are excluded from the Waste Framework Directive (WFD). Re-use of these materials in accordance with the above exclusion is therefore not considered to be a waste activity by the EA.

CL:AIRE Definition of Waste: Development Industry Code of Practice (DoWCoP) provides a self-regulated system by which developers can demonstrate that the re-use of excavated materials does not fall into the category of waste disposal and can be carried out without the need for waste permitting. While use of the DoWCoP is not strictly required for materials which fall within the WFD exclusion noted above, it is still considered prudent to include details of their management and reuse within the MMP.

To demonstrate compliance with the DoWCoP, it must be established that the excavated material to be re-used is (i) suitable for use. (ii) has a certainty of use, (iii) will only be used in necessary quantities and (iv) will not present a risk to health or the environment if re-used; collectively these are referred to as the four factors. When working under the DoWCoP, compliance with these criteria must be documented in a MMP, which is usually prepared by the PC or designer at the detailed design stage (ie post consent) and needs to be in place prior to the material being excavated. The MMP is open to verification and sign off by a Qualified Person (QP) and a declaration made to confirm that the materials are to be reused as stated. The QP must be chartered through a relevant professional body and

registered with CL:AIRE. The MMP must be reviewed by a QP and declared to CL:AIRE prior to the reuse of materials at the site.

13.2. Excavated Materials Management Plan

The Proposed Development will comply with good practice in accordance with CL:AIRE DoWCoP.

CL:AIRE provides three main scenarios for material excavation and management. General waste from site offices and welfare facilities is likely to include:

- Use on Site of Origin.
- Direct Transfer; and
- Cluster Projects.

Use on Site of Origin

The definition of Use on Site of Origin within CL:AIRE includes a single site or area covered by a single planning permission or a number of parcels of land in close proximity to one another forming a large development scheme. Excavated materials can be excavated and re-used in reinstatement at the Site of Origin on the provision that four factors outlined are satisfied, i.e.

- (i) suitable for use
- (ii) has a certainty of use
- (iii) will only be used in necessary quantities
- (iv) will not present a risk to health or the environment if re-used.

Where a Site of Origin approach is used, and a cluster or direct transfer approach is not possible, surplus material should be removed offsite to an authorised waste management site.

Whenever it is envisaged that materials would be temporarily stored on site and the use of those materials would occur more than one year from being stored, a bespoke time limit for such storage would need to be agreed with the Environment Agency (EA). The period of storage would take account of the extant consent or agreed programme of works.

Direct Transfer

The Direct Transfer provisions included in the DoWCoP allow for use of clean naturally occurring soil and mineral materials on another development site. The materials must originate from greenfield sites, such as agricultural land, where there is not a potential for past contaminative use (e.g. areas subjected to historical landfill or animal burial pits). Materials sourced from brownfield sites (areas of sites) require extensive characterisation to qualify for the direct transfer provision.

To qualify for reuse on another development site, the soils also have to have been excavated with an MMP in place. If surplus soils are identified during the Project Development, their excavation under this oMMP and/or future detailed MMP will allow them to be candidates for reuse on other development sites under Direct Transfer protocols. An MMP would need to be developed for the receiver site to satisfy the four factors, including reference to the Proposed Development as a donor site

The Direct Transfer provisions could also allow soils to be imported to the Proposed Development if a deficit of soils is identified during the Proposed Development. However, it is not envisaged that the import of soils will be required at this stage. If they are required, import through direct transfer will be considered as a sustainable reuse of materials which may otherwise be considered waste.

Cluster Projects

The DoWCoP allows for a number of development sites located in a close proximity to be linked and provide a sustainable soil resource by allowing for remediation, at what is defined as a 'hub site', and transfer of soils between sites. The treatment of soils at the hub site needs to be regulated under the Environmental Permitting regime. At this stage it is not considered that the Project Development would require, or benefit, from being involved in a Cluster Project arrangement. It is therefore not considered further in this outline MMP but would be within the detailed MMP if a requirement for its use is discovered.

Detailed MMP

The re-use of site-won materials should comply with the CL:AIRE code of practice to preclude them being defined as waste. This means that the excavated materials must:

- Not to be a risk to human health or the environment;
- Be suitable for their intended use without further processing (chemically and geotechnically);
- Be suitable for use following treatment under an appropriate Environmental Permit.
- Have certainty of use (specified in panning, remediation strategies); and
- Be only the quantity that is absolutely necessary.

The detailed MMP would be developed to include the above information, together with details of planning consent, site ownership, PC details, consultations with statutory consultees, tracking systems and verification.

The Construction Code of Practice for the Suitable Use of Soils on Construction Sites (F. & Department for Environment, Code of practice for the sustainable use of soils on construction sites 2018) provides best practice guidance for the excavation, handling, storage and final placement of soils and which would be taken into account in the detailed MMP and SRMP.

Whilst the MMP will require approval by the relevant local authorities, it is intended that it will be maintained and updated by the PC throughout the construction of the Proposed Development as live documents. It will be augmented by design specifications and construction documentation such as PC's construction phasing and therefore at any given time will provide comprehensive information on the management of excavated materials appropriate to the stage of development

Verification Plan and Verification Report

The Verification Plan included within the MMP would identify how the placement of materials would be recorded and the quantity of materials to be used. A Verification Report is produced and kept up to date throughout the construction period to provide an audit trail to show that materials and waste have gone to the correct destinations.

The Verification Report must also document any changes that may have been made to the MMP due to e.g. unforeseen ground conditions or alterations to the Proposed Development.

Qualified Person Assessment

The MMP would be subject to review and declaration by a QP, who must be registered with CL:AIRE. The declaration serves as notification the QP is satisfied that having reviewed the information, the CL:AIRE code of practice can be used appropriately. All declarations are added to the CL:AIRE Declaration management system and a Declaration receipt is issued. This carries a copy of the submitted information and is copied to the EA. The regulators add the information to their respective systems which informs local area teams.

The QP would be required to review the various documents relating to the excavation and movement of materials. They must be suitably qualified and experienced to undertake the review and be confident in signing the Declaration.

The QP assessment process would include consideration of the following main lines of evidence:

- Has the source site of the excavated materials been adequately described and appropriate information provided that confirms that these materials will not cause harm to the environment or harm to human health in the proposed location of future use;
- Have all parties involved with the excavation and treatment of materials been identified;
- Have all the materials been adequately characterised and fall within the scope of the DoWCoP;
- Has the MMP been completed using the correct CL:AIRE template;
- Have all the lines of evidence been followed and the appropriate regulators consulted and that they have no objection; and
- Is there enough evidence to demonstrate certainty of use of the excavated materials and of the correct quantity.

Subject to acceptance and sign off of the MMP by the QP, there would be no requirement for the EA to have any input to the process other than for auditing purposes. This could involve visiting the site and reviewing the MMP documentation, operation and management at the site and at any site(s)

receiving the material. Once the Declaration has been made, the organisation commissioning the QP must then follow the MMP for reuse of materials covered and produce a Verification Report on the works which would form part of the audit trail upon completion of the Proposed Development.

The MMP should follow the layout of the example CL:AIRE template as included in Appendix 3.4.

13.3. Proposed Material Re-use.

Hampshire County Council have previously commissioned Ground Investigation works with soil sampling and analysis being carried out, the report of which indicates that none of the contaminants tested were above the SGV for their respective screening criteria, and therefore no contaminants of concern have been identified. It is therefore anticipated that the majority of the excavated material generated by the construction of the new footbridge would be clean soil and the risk of substantial volumes of chemically or geotechnically unsuitable material is considered to be minimal. Any small proportion of unsuitable material would not be re-used (i.e. would be removed as waste). There is not currently envisaged to be a substantial requirement for geotechnical improvement of excavated materials prior to re-use (e.g. lime or cement stabilisation).

Anticipated activities and areas where management of excavated materials will be required include:

- Construction of temporary access routes
- Construction of temporary platforms for piling equipment and cranes
- Excavations for construction of footbridge foundations
- On-site trenching for services.

Prior to re-use of any excavated materials, the relevant owners of the asset (NR, HBC) will be consulted for acceptance.

Excavation Arisings

The construction of temporary access areas will primarily involve soils stripping which will mainly impact the topsoil. The construction of bridge foundations will require excavation of topsoil and subsoil materials to the required depth as well as for any associated trenching for the installation of duct routes for footbridge electrical services.

The preferred method for restoration of excavated or disturbed areas is to replicate, where practical, the principal habitat communities found within the area. Reinstatement will be undertaken by re-use of onsite vegetation and soil using turf/clodding methods. Vegetation monitoring will be carried out by the ECoW who will determine if re-seeding is required. Should re-seeding be required, species appropriate to the surrounding vegetation will be selected

The sections below detail how different types of excavated materials will be stored and used in the reinstatement process.

Topsoil

Topsoil will be stored beside the construction area for use in the re-instatement where site conditions allow. Consideration will be given to the potential for entrapment of water in their placement.

For temporary works areas, such as temporary access tracks and platforms, soils should be stripped in layers when the soil is sufficiently dry to a depth of 10 – 15cm and stockpiled adjacent to the work area for use in reinstatement at the completion of the project. In areas where permanent infrastructure is proposed, 30cm is considered an acceptable maximum depth for topsoil in most cases.

The stripped turfs/topsoil will be stored adjacent to the compounds and will be used for future restoration in areas of fixed equipment.

Aggregate

Aggregates will be stored either in construction compound storage areas, designated storage areas or local to working zones with 'on-time' delivery planned where required, but within the constraints of the CEMP and the CTMP. Aggregates will be used in construction of access tracks-or in the structural fill for foundations as part of the permanent infrastructure.

Aggregate will also be required in the construction of temporary infrastructure, including piling and crane platforms. Upon completion of construction, the aggregate will be dug up and removed before the area is reinstated with the subsoils and topsoil previously excavated from the area.

Subsoil

Any subsoil which requires removal, wherever possible, will be stored separately from other materials and ideally adjacent to the removal areas for future reinstatement.

Contaminated Soil

Any materials deemed not be suitable for reuse during excavation due to the presence of contaminants will be regarded as waste materials and require disposal off site at a suitable licenced waste facility.

Movement of Materials

Soils and excavated materials will be removed in accordance with the construction programme.

Record Keeping

The movement of materials within and between sites will be tracked with an audit trail. The system will include:

- Annotated plans indicating the excavation areas, any temporary stockpiles and proposed placement areas;
- Inspection and testing methods and certificates; and
- Records of movements, delivery tickets, including dates, volumes, material types, originating area and placement area as a minimum.

A Materials Management Plan form provided by CL:AIRE is included in Appendix 3.4 as an example of record keeping of the movement of materials during the advancement of the Proposed Development

13.4. Waste Management

The 'Waste Hierarchy' provides an outline approach of how waste management should be assessed within the outline MMP. The Waste (England and Wales) Regulation 2011 places a duty on all persons who produce, keep or manage to apply the 'Waste Hierarchy' in order to minimise waste production at every stage of the Proposed Development.

The 'Waste Hierarchy' promotes selection of the Best Practicable Environmental Option (BPEO) and preferred option for management of waste.

There are five principal stages in the 'Waste Hierarchy' as follows:

1. Prevention
2. Preparing for re-use
3. Recycling
4. Other recovery
5. Disposal

Waste Prevention

Minimisation of waste generation is achieved through careful design and creating a 'waste aware' culture on-site. All reasonable actions will be taken by the PC to avoid the production of and/or minimise the volume of waste produced as a result of the Proposed Development. This can be through reducing consumption, using resources efficiently, and designing for longevity.

Waste Separation for Reuse and Recycle

Where possible, the separation of waste will be carried out at the source in order to maximise opportunities for reuse and recycling. Segregation of waste will require training, monitoring and enforcement.

Waste Storage, Disposal and Transportation

All areas used for temporary storage of waste onsite will comply with Defra and EA guidelines and will be clearly signed. Waste storage facilities will be provided at source using the best environmental options available. Any hazardous or special waste will be stored in separate, secure containers and clearly identified as such.

Disposal activities will also be carried out in accordance with DEFRA / EA, pollution prevention guidance (F. & Department for Environment, Pollution prevention for businesses 2024) in order to ensure compliance with current waste legislation.

Waste transportation will take place at regular intervals to avoid the accrual of waste. Where possible, delivery vehicles will aim to remove waste materials on return trips.

Only registered waste carriers will be authorised to transport waste and a Waste Transfer Note (WTN) will be completed for each load of non-hazardous waste, which must contain a record of their waste carrier registration number. The appropriate European Waste Catalogue (EWC) code will be established using updated Technical Guidance (WM3) and will be noted on the WTN, in addition to how it is contained. All sites receiving waste must have an appropriate permit, licence or registration exemption, the details of which should also be recoded. These consignment notes will be held for at least three years.

13.5. Other Regulatory Issues

Temporary Storage Durations

The DoWCoP states: "Whenever it is envisaged that the use of materials will occur in excess of one year from being stockpiled/stored, a time limit will have to be agreed between the EA and the person responsible for the MMP [Materials Management Plan]. The decision relating to the length of storage will be made within the context of the extant planning permission or agreed programme of works. Supporting information may be requested by the EA in the form of site plans, cross sections and stockpile management issues, e.g. control of dust, suspended solids runoff".

Should storage durations need to exceed this, then agreements with the EA would be sought as required. Such agreements are not required at DCO application stage, because should this contingency be needed then the procedure is mandatory under the DoWCoP.

Movement of Excavated Material Within the Order Limits

In theory, excavated materials could be moved anywhere within the Order Limits for re-use. This can create regulatory concern due to ambiguity as to what can be considered the 'site of origin' when moving material (noting that more onerous restrictions apply for moving excavated materials between sites than within a site). However, in practice it is assumed that materials would be re-used locally to their point of excavation as far as is possible. This is necessary for construction practicality, cost-efficiency, programme and sustainability / environmental performance. Therefore, the extent of the Order Limits is not considered to present a feasibility issue or complication to the use of the DoWCoP.

Temporary Works

The Project will include various temporary works that involve the re-use of excavated material, such as temporary screening provision around construction compounds. Any such materials will be removed prior to, or on, the completion of construction, by either placing them elsewhere within the Order Limits as permanent re-use under the DoWCoP, or removing from the site under Direct Transfer provisions or as waste (if surplus)

CEMP APPENDICIES (1.1-1.8; 2.1-2.4)*(Retained on site in CEMP Site Folder 1)***1.0 RECORDS INITIATED DURING THE PRE-CONSTRUCTION PHASE**

1.1	Project Environmental Risk and Opportunities Register <i>Completed by the Regional/ Project Environment Manager (in co-operation with the Project Manager)</i>
1.2	Waste Management Supplier Pre-Appointment Assessment <i>Completed by the Regional/ Project Environmental Manager upon receipt of supplier information</i>
1.3	Expectations for Removal of Excavated Material from site by a Sub-contractor <i>Completed by the relevant Subcontractor</i>
1.4	Concrete Washout Risk Assessment
1.5	Noise Monitoring Plan
1.6	Site Drainage plan
1.7	Licences, consents, permits or permissions granted to GRAHAM (as detailed in section 1.14 of the CEMP)
1.8	Ecological Surveys

2.0 RECORDS OF ENVIRONMENTAL TRAINING AND COMMUNICATION

2.1	Introductory Site Environmental Awareness Training & Environmental Champion Training <i>(Delivered by the Project/ Regional Environmental Manager)</i>
2.2	Spill Kit Training (Training certificate or communication sheets) <i>(Can be delivered by the Project/ Regional Environmental Manager or by the site team (dependant on risk))</i>
2.3	Toolbox talks (Communication sheets)
2.4	Advice Notes (Communication sheets)

Records in bold text are those that must be available for each project. Other records are process and site specific

CEMP APPENDICIES (3.1-3.14; 4.1-4.8; 5.1-5.4; 6.1-6.2)
(Retained on site in CEMP Site Folder 2)

3.0 ENVIRONMENTAL MEASURING AND MONITORING

3.1	Weekly Site Supervisors Environmental Report
3.2	Water Quality: Visual Inspection Record
3.3	Water Quality – Sampling Record
3.4	Materials Storage Inventory
3.5	Invasive Plants - Record of Monitoring
3.6	Invasive Plants – Record of Treatment
3.7	NRMM Inventory
3.8	Noise Monitoring Report Form
3.9	Dust and Air Quality Monitoring Plan
3.10	Fuel delivery data (for upload to Onos)
3.11	Electricity and water meter readings (for upload to Onos)
3.12	Biodiversity Actions (for upload to Onos)
3.13	Environmental Risk Assessment
3.14	Recycled Aggregate – Quality Protocol Compliance

4.0 CARBON MANAGEMENT

4.1	Pre-Construction Environmental Information <i>Completed by the Project Manager and/ or members of the pre-construction team to inform Environmental Sustainability and Carbon Management Planning</i>
4.2	Embodied Carbon Workshop
4.3	Environmental Sustainability Action Plan
4.4	Carbon Data Tracker
4.5	Carbon Measurement Data and Reports
4.6	Evidence of Sharing Good Practice Outcomes
4.7	Evidence of Continuous Improvement and Ongoing Review
4.8	Carbon Training Records

5.0 WASTE MANAGEMENT	
5.1	Duty of Care Waste Transfer Notes
5.2	Details of Permitted, licenced or exempt sites
5.3	Details of Waste Management carriers for transporting waste
5.4	Waste Log (Only if ONOS is not used)
6.0 PERMITS	
6.1	Permit to pump and discharge
6.2	Permit to Clear

Records in bold text are those that must be available for each project. Other records are process and site specific

Appendices to be completed and added at Pre-Construction stage.

Appendix 1.1: Project Environmental Risk and Opportunities Register

Appendix 1.2: Waste Management Supplier Pre-Appointment Assessment

Appendix 1.3: Expectations for removal of excavated material from site by a Subcontractor

Appendix 1.4: Concrete Washout Risk Assessment

Appendix 1.5: Noise Monitoring Plan

Appendix 1.6: Site Drainage Plan

Appendix 1.7: Licences, consents, permits or permissions

Appendix 1.8: Ecological Surveys

Appendix 2.1: Introductory Site Environmental Awareness Training & Environmental Champion Training

Appendix 2.2: Spill Kit Training

Appendix 2.3: Toolbox Talks

Appendix 2.4: Environmental Advice Notes

Appendix 3.1: Weekly Site Supervisors Environmental Report

Appendix 3.2: Water Quality - Visual Inspection Record

Appendix 3.3: Water Quality - Sampling Record

Appendix 3.4: Materials Storage Inventory

Appendix 3.5: Invasive Plants - Record of Monitoring

Appendix 3.6: Invasive Plants – Record of Treatment

Appendix 3.7: NRMM Inventory

Appendix 3.8: Noise Monitoring Report Form

Appendix 3.9: Dust and Air Quality Monitoring Plan

Appendix 3.10: Fuel Delivery Data

Appendix 3.11: Electricity and Water Meter Readings

Appendix 3.12: Biodiversity Actions

Appendix 3.13: Environmental Risk Assessment

Appendix 3.14: Recycled Aggregate – Quality Protocol Compliance

Appendix 4.1: Pre-Construction Environmental Information

Appendix 4.2: Embodied Carbon Workshop

Appendix 4.3: Environmental Sustainability Action Plan

Appendix 4.4: Carbon Data Tracker

Appendix 4.5: Carbon Measurement Data and Reports

Appendix 4.6: Evidence of Sharing Good Practice Outcomes

Appendix 4.7: Evidence of Continuous Improvement and Ongoing Review

Appendix 4.8: Carbon Training Records

Appendix 5.1: Duty of Care Waste Transfer Notes

Appendix 5.2: Details of permitted, licenced or exempt sites

Appendix 5.3: Details of Waste Management Carriers for Transporting Waste

Appendix 5.4: Waste Reports

Appendix 6.1: Permit to Pump and Discharge

Appendix 6.2: Permit to Clear

Insert PF no's in list of appendices

File Labels

CEMP File 1

- **Construction Environmental Management Plan**
- Appendices 1.1 - 1.8 (Documents initiated during the pre-construction phase)
- Appendices 2.1 – 2.4 (Records of Environmental Training and Communication)

CEMP File 2

- Appendices 3.1 - 3.14 (Environmental Measuring and Monitoring)
- Appendices 4.1 – 4.8 (Carbon Management)
- Appendices 5.1 – 5.4 (Waste Management)
- Appendices 6.1 - 6.2 (Permits to work)