Construction Environmental Management Plan

Cardiff Arena & Hotel

CAH-RCG-XX-XX-PL-W-XX-003

Contents

What you need to know about this document	
Why do we need it?	The Project Environmental Management Plan (PEMP) is part of the Robertson Environmental Management System (EMS) which sets out the process and procedures used to effectively identify and manage the environmental risks. The PEMP is one of the Technical Plans that sit within the Project Management Plan (PMP). It applies to everyone involved in a project and is a live document.
Who is responsible for the plan?	The bid team and/or preconstruction team must start filling-in the plan as early as possible. During mobilisation and construction, this transfers to the project operations lead.
When is it required?	From mobilisation through to completion of works. The PEMP is a project lifecycle document and must be developed at the earliest possible opportunity.
Where do you find it and where do you save it?	This form is available online at: Robertzone > RMS > RG > Environmental Management System > Project > Forms. Save to: SharePoint Project Page. You may also be required to issue cope to Asite and other platforms.
Update/review frequency?	Review at least every six months or anytime the site environmental risks change significantly
What does it include?	Environmental aspects/activities, impacts, controls, legal obligations, responsibilities, licences/permits, survey reports, emergency response planning,
What you need to do?	Write the plan as a site-specific document by filling in the details as fully as possible. SHE team can provide support and guidance. To understand what is required of project/sites, read procedure **RG-EMS-02-PRD-001 Project Environmental Procedure**. To understand the overarching company EMS, read procedure **EMS Manual RG-EMS-01-PRD-001**.
Why do we need it?	The Project Environmental Management Plan (PEMP) is part of the Robertson Environmental Management System (EMS) which sets out the process and procedures used to effectively identify and manage the environmental risks. The PEMP is one of the Technical Plans that sit within the Project Execution Plan (PEP). It applies to everyone involved in a project and is a live document.
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What does it include?	Environmental aspects/activities, impacts, controls, legal obligations, responsibilities, licences/permits, survey reports, emergency response planning,

1.0 Document Control

1.1 General

This document is the Core Plan forming the overall Project Management Plan (PMP). This plan must be site-specific and be prepared and approved by a competent person with the adequate environmental skills, knowledge, training and experience.

The document is subject to an overall controlled revision status and is owned by *insert project lead name* and will be completed, reviewed, and updated at a project level by the Project Director/Manager

1.2 Plan Approval

This Plan and any associated Plans have been agreed by the appointed persons listed below. Representatives named have been given the authority to accept this document for the specified project and use. They are also responsible for its maintenance and distribution during the project Lifecycle.

Table 1: Plan Approval

Duty	Position	Date	Name
Draft Plan Creation	Group Preconstruction Director	**27/08/21**	Mike King
Review of Plan			
Approval of Plan			

1.3 Revision Status

This document, together with associated Core and Technical Plans will be reviewed at each gateway between the phases identified in the project lifecycle diagram highlighted in section 3.2 of this document. The PMP will be updated to reflect major milestones, or significant changes in the nature of the works. Any updated versions are to be recorded with the appropriate details in the table below.

Table 2: Revision & Amendments Summary

Revision	Date	Amendments	Proposed By Project Lead	Approved By Operations Director
1	**27/08/21**	WIP Version	N/A	N/A

2.0 Project Summary / Introduction

2.1 Works & Contract Details Summary

The following is a summary of the works, inducing a short description, the form of contract, full project cost, start and end dates.

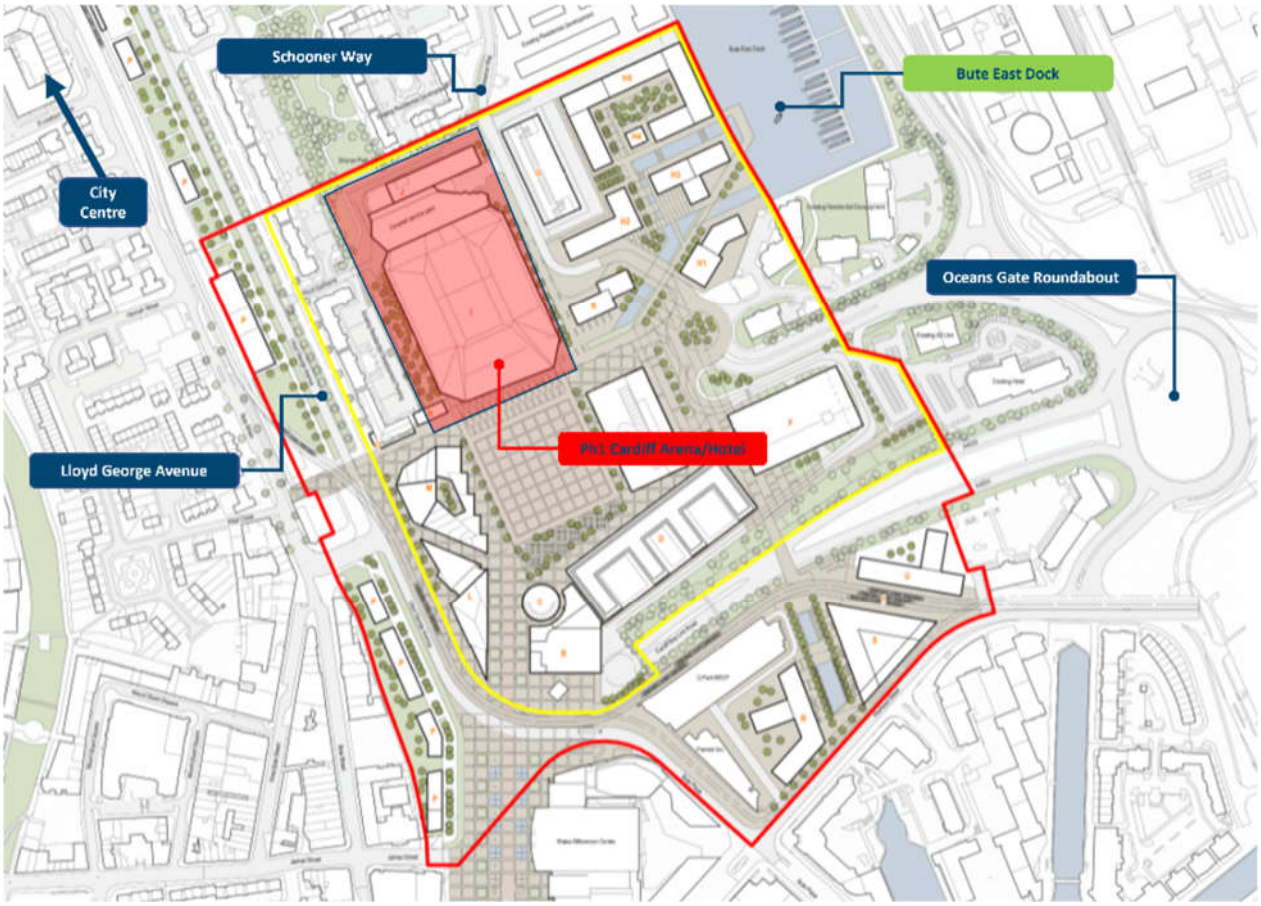
Table 3: Project Summary

Project Name	Cardiff Arena & Hotel		
Start Date	TBC	End Date	TBC
Contract Period	TBC		
Project Description	The Cardiff Arena & Hotel project forms part of the overall Atlantic Wharf Bluetown Masterplan and will be the first phase to progress on site as per the following summary. Phase 01: Enabling works, construction of arena and hotel, plaza, 1,300 space MSCP, and associated infrastructure and landscaping. Demolition of existing Travelodge hotel and A3 Unit (Spring 2022 – Spring 2025). Arena: Cardiff Arena will comprise a 15,000-capacity indoor arena with the ability to host approximately 140 events each year. Hotel The hotel will comprise a six storey 182-bed hotel to replace the current Travelodge on Hemingway Road that sits within the area proposed as the arena plaza.		
Working Hours	Monday – Friday	7:30am – 7pm	
	Saturday	8am to 5pm	
	Sunday	8am to 2pm	

2.2 Site Address & Location

The Site is located within the Inner Harbour area of Cardiff Bay, Cardiff and is currently occupied by County Hall and its car park, the Red Dragon Centre and its car park, part of Silurian Park, Schooner Way and Hemingway Road. The Site is located between Bute East Dock and the Future Inn to the east, Lloyd George Avenue to the west, the A4232 and the Wales Millennium Centre to the south and Schooner Way and Silurian Park to the north. The Site lies within the administrative area of Cardiff Council. The location of the Site and the hybrid application boundaries are illustrated on the Site Location Plan below

Table 4: Site Location & Addresss

Site Location: Atlantic Wharf, Cardiff

Site Address: Hemming Way Road / Schooner Way, Atlantic Wharf, Cardiff CF10 4UW

2.3 Roles & Responsibilities

Project Directors / Managers shall be ultimately responsible for the development and implementation of the PEMP and the environmental issues associated with their sites. They may delegate the role to another member of their team, with the approval of the relevant Operational Head. The Group SHE Director co-ordinates Environmental Management with Robertson to take account of continuing developments in customer requirements, legislation, and management principles. The table below summarises the general roles and responsibilities of all parties involved in the project.

Table 5: Project Roles & Responsibility

Project Role	Responsibility
Project Director/ Manager	Ensure a full PEMP is developed, approved, updated and distributed to relevant parties. Delegate responsibilities to individuals and ensure sufficient resources are available to implement the Environmental Management System including appointment of competent persons, training and other programmes. Establish communication and consultation will all relevant parties including client, contractors, design team, third parties and the public.
Construction/ Site Managers	Ensure the environmental aspects, impacts and controls identified are managed in accordance with the PEMP and that all personnel for whom they are responsible are aware.
SHE Manager	Supporting project team in delivery on the environmental requirements including conducting site inspections.
Community Liaison Manager	Arranges and manages interface within the communities of which we operate within
All Site Operatives & Subcontractors	Undergo environmental induction and awareness training. Demonstrate commitment to the implementation of the Environmental Policy. Co-operate with the Company in fulfilling its compliance obligations. Conform to requirements of the PEMP and Site Waste Management Plan. Be aware of any Project specific objectives and targets. Co-operate with the Company to achieve continual improvement. Co-operate with the Company to prevent pollution. Monitor their workplace for potential threats to the environment and alert their supervisor or manager of any that are observed.
Construction/ Site Managers	Ensure the environmental aspects, impacts and controls identified are managed in accordance with the PEMP and that all personnel for whom they are responsible are aware.
SHE Manager	Supporting project team in delivery on the environmental requirements including conducting site inspections.
Design Team	Ensure that the design development accounts for regulatory and legislative environmental requirements. Contribute to the preparation of the PEMP where required. Support the development and submission of consents, licences and authorisations. Support the development and implementation of BREEAM requirements.

Project Role	Responsibility
SmartWaste Champion	Lead on the setting up and reporting of waste and other environmental data
BREEAM Lead	Coordinate the Arena project's BREEAM assessment
Environmental Sustainability Champion	The Project Environment and Sustainability Lead will ensure relevant parties are aware of Significant Aspects and Impacts; Environmental hazards, near misses, incidents and complaints; Changes to the Environmental Management System; Audit Results and Trends; Results of Management Reviews; Objectives and Target Results; Receiving, distributing and responding to communications from interested parties. Lead on protecting biodiversity and finding any net gain opportunities, reducing carbon emissions and reducing waste.
Others	TBC

2.4 Preconstruction Stage Surveys & Plans

Table 6: Summary of existing surveys/reports

Name	Title	Date	Publisher
412678-MMD-XX-XX-RP-Z-001	Preliminary Ecological Appraisal Report	06/02/2020	Mott MacDonald
412678-MMD-XX-XX-RP-Z-004	Bat Survey Report	23/07/2020	Mott MacDonald
CAH-ARP-XX-XX-RP-Y-10-0001	Geotechnical and Geo-environmental Interpretative Report	26/07/2021	Arup
CAH-RCG-AX-ZZ-RP-W-10-0002	Archaeological Watching Brief	07/05/2021	Cotswold Archaeology
TBC	Environmental Impact Assessment		Wardell Armstrong

2.4 Construction Stage Surveys & Plans

Table 7: Summary of construction stage surveys/reports

Name	Title	Date	Publisher
TBC			
TBC			

2.5 Summary of significant Environmental Risks

The following summary checks have been carried out as per table 8 to assist in determining the key environmental risks summarised in table 9. These risks will be considered against the RCG *Environmental Aspects, Impacts & Controls* in **Section 3.0**.

Table 8: Summary of key risks

What to check	Checked?	Comment
Planning conditions	No	Planning conditions to follow
Contractual/client requirements/completion criteria	Yes	
Local environmental receptors e.g. rivers, trees, habitat, species, residents	Yes	EIA & ES in production and being reviewed jointly
Design specifications/Drawings	Ongoing	Carried out as part of ongoing review
Survey/report findings	No	Current surveys as per table 6 reviewed

Table 9: Summary of key risks

Environmental area	Summary of key risks
Pollution Prevention & Watercourses	There are a number of receptors currently identified in the **chapter 8 of the ES** (Table 8.12) where there is a risk from the proposed development. Chapter 9 of the ES also identifies where receptors are at risk due to ground conditions. **Surface Water Risk to** • Atlantic Wharf adjacent to site. Receptor sensitivity low • Roath Basin & Dock 390m & 300m southeast of site. Receptor sensitivity low • Cardiff Bay 300m south of site. Receptor sensitivity medium

Environmental area	Summary of key risks
	Groundwater Risk to General groundwater risk to aquifers on which the site is located The general standard controls described in **Section 3.0,** and **Section 4.0** are considered to be adequate to mitigate risks associated with the various receptors
Flood Risks	There are no anticipated flood related risks on the project.
Waste management	From a waste management perspective, consideration will need to be given to the disposal of hazardous materials as identified within **chapter 9 of the ES**, and as identified within the Arup Geotechnical and Geo-environmental Interpretative Report including: • Contaminants associated with sites former industrial use, including presence of hydrocarbons and asbestos fibres The general standard controls described in **Section 3.0** are considered to be adequate to mitigate risks associated with the various receptors
Biodiversity	ES chapter 10 identified a number of risk items to Biodiversity including: • Pollution to watercourse from construction activities • Bat roosts impacted by construction activity associated with tree clearance and demolition • Lighting and noise impact on bats and birds through use of temporary lights during the construction phase The controls described in **Section 3.0** are considered to be adequate to mitigate risks associated with the various receptors and will be supplemented through the support of a qualified ecologist to be retained on site during the construction works.
Ecology (Flora/Fauna), tree preservation orders etc.	ES Chapter 10 identifies the limited ecological features on the site, being predominantly an existing car park.
Statutory Nuisance	ES Chapter 12.4 sets out the existing and proposed sensitive receptors (all of a Residential nature) and Table 12.10 sets out the anticipated construction noise at each receptor. Vibration may be experienced beyond the site boundary, when particularly heavy plant or piling rigs are used (but within agreed working hours).
Contaminated Land	From a waste contamination perspective, consideration will need to be given to the disposal of hazardous materials as identified within chapter 9 of the ES, and as identified within the Arup Geotechnical and Geo-environmental Interpretative Report.

Environmental area	Summary of key risks
	Risks include: • Contaminants associated with sites former industrial use, including presence of hydrocarbons and asbestos fibres • Contaminants associated with the infilled dock structure • Risk of surface water contamination • Construction workers contact of contaminated sub soils through dermal, ingestion and inhalation. The general standard controls described in **Section 3.0,** and **Section 4.0** are considered to be adequate to mitigate risks associated with the various receptors
Archaeology & Heritage	ES Chapter 13, compiled by Archaeology Wales, sets out the limited below-ground features recorded (such as the Bute West Dock wall), together with plans to mitigate any impact.
Geology & Hydrogeology	ES Chapter 9, prepared by Arup, reviews the Desk Study and Geotechnical and Geoenvironmental Interpretive Report for the site.
Environmental Assessments e.g. BREEAM	For Phase 1, the Arena project will target a BREEAM score of 'Very Good'. Buildings in subsequent phases will establish their own goals.
Others e.g. planning or client contractual requirements	*TBC*
Materials	Reuse of soils within proposed development to be subject to further assessment and a Materials Management Plan

3.0 Environmental Aspects, Impacts & Controls

The following tables identify the site's environmental aspects, impacts, legal obligations, controls and responsible persons. The environmental control measures defined below apply to all personnel including Robertson staff, subcontractors, suppliers and third parties; and all activities and operations associated with the project. Mandatory environmental controls are indicated; however each site must be assessed on its own merits and appropriate controls selected.

3.1 Pollution Prevention & Water

Pollution Prevention and Water Management is mandatory on all sites to ensure construction activities are managed in a manner to prevent risk to groundwater, surface water sources and drainage systems.

Table 10: Pollution Preventaion & Water Impacts & Aspects

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
1	Pollution of groundwater and surface watercourses;	**1**	Works over or near a controlled watercourse (e.g. stream / river / canal)?	Yes	Impacts: All Legal: 13651
2	Liability for costs of clean-up;	**2**	Risk of flooding? (Flood risk area)	No	Impacts: All Legal:
3	Pollution of surrounding land;	**3**	Managing surface water on site? e.g. run-off from demolition, soil and vegetation stripping, earthworks, excavations, silt water, contaminated water, contaminated land	Yes	Impacts: All Legal: 1769; 3817; 13651
4	Impacts on fauna and flora;	**4**	Abstracting groundwater? (wells or boreholes)	No	Impacts: All Legal: 3713; 13651; 3817
5	Risk of fire or explosion;	**5**	Discharging to water courses, land (ground water), surface water drainage or foul sewer? (concrete wash / abstracted	Yes	Impacts: All Legal: 3763; 1769; 3713; 3741; 13651; 3817; 1387; 3746

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
			groundwater / surface run-off with silt / effluent / dangerous substances)		
6	Risks to human health (asphyxiation, poisoning, chemical burns, cancer agents);	**6**	Impoundment of water at rivers or wetlands?	No	Impacts: All Legal: 13651
7	Corrosion of buried services and structures;	**7**	Preventing and responding to pollution incidents / spills?	Yes	Impacts: All Legal: 1769; 3817
8	Prosecution and fines	**8**	Installing water fittings?	Yes	Impacts: All Legal: 20870
		9	Using and storing substances hazardous to health (COSHH) including fuels, oils, chemicals in mobile or fixed containers (including refuelling)?	Yes	Impacts: All Legal: 1886
		10	Construction of impermeable surfaces during temporary conditions	Yes	
		11	Construction of works using concrete, mortar materials	Yes	

Table 11: Pollution Preventaion & Water Aspects & Controls

Pollution Prevention & Water Aspects		Current Control Status
Ref	Description	
1.01	*Locate existing watercourses and drainage/sewer systems incl. surface water, foul and combined on/near site	In Place

Pollution Prevention & Water Aspects		Current Control Status
Ref	Description	
1.02	*Obtain environmental permissions (CAR authorisation (Scotland); Abstraction licence; Dam, weir and other obstruction consent; Temporary flow diversion (i.e. Flood Defence Consent); Trade effluent discharge consent; Herbicides in or near water approval	To Action
1.03	Record water quality and levels by taking baseline assessments if required before work begins	To Action
1.04	Mark all drains to distinguish them (surface water = BLUE; foul = RED)	To Action
1.05	*Obtain prior approval from environmental regulator for temporary works affecting a riverbed, banks or flood channel, or within 8m of a main river or 16m of a tidal defence	Not Applicable
1.06	*Ensure all temporary connections are being made with the right type of drainage system	To Action
1.07	Protect/cover drains from pollutants e.g. silt bags ('witches hat'), bungs etc.	To Action
1.08	No spoil heaps or mud build-up next to watercourses	To Action
1.09	Check watercourse daily for silt, discoloured water, oily sheen (check downstream)	To Action
1.10	Use decking or barges below the works to act as a bund in the event of a spillage	Not Applicable
1.11	Erect dust screens and splash plates on bridges	Not Applicable
1.12	Secure/tie a floating sorbent boom across water course downstream of the works	Not Applicable
2.01	*Check flood risk of site in Scotland: sepa.org.uk/environment/water/flooding/ OR England: flood-warning-information.service.gov.uk/warnings	Not Applicable
2.02	Where flood risk exists, prepare RG-EMS-03-FOR-001 Flood Response Plan	Not Applicable
3.01	Obtain SEPA Construction Site Licence (CAR) for Scottish sites exceeding 4 hectares/5km of roads/1 ha site with 25° slope	Not Applicable
3.02	*Prepare the Emergency Response Plan section of this PEMP	To Action
3.03	Excavations: Consult environmental regulator prior to carrying out works below the water table, including site dewatering	Not Applicable
3.04	Run-off/silt: Use existing vegetation/grass (filter strips) as natural control against silt water run-off (don't strip soils all at once)	Not Applicable

Pollution Prevention & Water Aspects		Current Control Status
Ref	Description	
3.05	Run-off/silt: Prior to starting works install cut off trenches/bunds/walls/straw bales/ponds/soakaways	To Action
3.06	Run-off/silt: Sediment fencing, silt filters, check dams and traps	To Action
3.07	Run-off/silt: Frequently check site boundary for run-off, and check drains and watercourses for discolouration	To Action
3.08	Settlement tank: Make sure water is not flowing too fast into settlement pond/tank, or over-flowing	Not Applicable
3.09	Settlement tank: Allow enough time for sediment to settle	Not Applicable
3.10	Settlement tank: Install a long, narrow, shallow settlement lagoon to ensure maximum retention time of all water	Not Applicable
3.11	Settlement tank: Clean out entry chamber periodically to prevent the build-up of silt	Not Applicable
3.12	Excavations: Reduce surface water flowing into excavations (cut off trenches/ponds/soakaways)	To Action
3.13	Excavations: Reduce ground water in excavations, install cut-off ditches, walls or well-point dewatering	To Action
3.14	Excavations: Install stone-filled edge drains leading to sumps to control water (inside excavations)	To Action
3.15	Wheel wash: Contain wastewater in bunded area and recycle the water	Not Applicable
3.16	Wheel wash: Pump wastewater into a settlement tank/lagoon then obtain consent to discharge to foul sewer	Not Applicable
3.17	Wheel wash: Collect heavily silted water/slurry in a sealed tank for removal from site by a licensed waste disposal contractor	To Action
3.18	Wheel wash: Use waterless wheel cleaning ramp (EcoRamps, RumbleRoad etc.)	To Action
3.19	Concrete: Designate a concrete wash out area (tank or pit - lined, signed, maintained) min. 10m away from drains / watercourses	To Action
3.20	Concrete: Concrete supplier to wash out at their yard/depot	To Action
4.01	Obtain licence to abstract groundwater from environmental regulator (>5m^3/day in England and >10m^3/day in Scotland).	Not Applicable
4.02	Comply with the conditions of any abstraction licence	Not Applicable

Pollution Prevention & Water Aspects		Current Control Status
Ref	Description	
5.01	Obtain effluent discharge consent from sewerage company before discharging to foul water sewer	To Action
5.02	Obtain discharge consent from environmental regulator before discharging to surface waters/drains	To Action
5.03	*Allow sufficient time to obtain discharge consents (between four and twelve weeks)	To Action
5.04	Comply with conditions stated in discharge licence e.g. treatment, monitoring of pH/flow rate/turbidity and record keeping	To Action
5.05	*Only allow 'clean' rainwater to enter a surface water drainage system	To Action
5.06	Check outfalls and pipework to ensure they are clean and clear of litter	To Action
5.07	Inspect nearby water courses/drains for any visible signs or smell of water pollution	To Action
5.08	Make sure water treatment systems are working properly (cut off ditches, settlement tanks, filter bags etc.)	To Action
6.01	*Permit from environmental regulator and follow any conditions attached	To Action
7.01	*Prepare the Emergency Response Plan section of this PEMP	To Action
7.02	*Adequate spill kits to hand (sorbent pads/socks/granules)	To Action
7.03	*Site team trained on spill response/drill: STOP > CONTAIN > NOTIFY > CLEAN UP	To Action
7.04	Display contact details for spill response contractors i.e. Briggs Environmental Services (Scotland); Adler & Allan (England)	To Action
8.01	*Only competent persons/contractors to install water fittings	To Action
9.01	*COSHH/fuels must be stored with secondary containment system (110% of the contents or 125% if multiple drums), covered/roofed to prevent ingress of rainwater, lockable, away from potential vehicle impacts, away from water courses and drains.	To Action
9.02	*Spill kit/emergency response equipment kept adjacent to COSHH storage and refuelling points	To Action
9.03	*Fixed designated refuelling area with catchment bund, away from surface water drains/water courses	To Action
9.04	*Mobile refuelling with drip mats, plant nappies, drip trays and spill kits	To Action

Pollution Prevention & Water Aspects		Current Control Status
Ref	Description	
9.05	*Inspect fuel taps and hoses for signs of leakage and ensure all valves and trigger guns are vandal/ tamper-proof	To Action
9.06	*Before moving COSHH liquids, make sure lids/caps/bungs are secure	To Action
9.07	*Where refuelling near water course is unavoidable, absorbent pads and booms readily available in case of spillage	Not Applicable
9.08	*Vehicles/plant are not left unattended during refuelling/delivery valves are not jammed open	To Action
9.09	*Fuel bowsers with automatic cut out	To Action

3.2 Waste

Robertson Group takes its waste management responsibilities seriously including duty of care obligations and waste minimisation. RG uses the SmartWaste website to prepare a Site Waste Management Plan (SWMP) including forecasting and recording waste movements before and during works. Projects must consider reusing and recycling materials rather than disposal, as per the waste hierarchy. SmartWaste also has a section to include waste minimisation ideas, for example designing out waste, and supplier take back schemes. The SWMP on SmartWaste should be completed by the Project Manager for each project. Subcontractors and waste contractors must provide waste estimates and minimisation actions, as well as monthly uploads of waste data including recycling rates, waste removed from site, material reused and waste transfer notes. The information should be submitted by the 3rd working day of the month and checked by the site SmartWaste champion / verifier. Forward planning is essential when dealing with:

- Contaminated land – it may be suitable for reuse rather than disposal
- Establishing whether a material is waste or not
- Exemptions from the Waste Management Licensing Regulations
- Tracing the origins of materials used for construction materials
- Eliminating waste at source through design, specification, size etc
- Re-use and recycling on site – with or without treatment
- Re-use and recycling off site – consider other RG sites, other contractors etc.

Table 12: Waste Impacts & Aspects

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
1	Failure to comply with any contract and planning conditions relating to waste	**1**	Generating and disposing of waste?	Yes	Impacts: All Legal: 9885; 13698; 3763; 3591; 19233; 3852; 25366; 15303; 13788; 2236; 2070; 3267; 1904; 19335; 2071; 1903; 13698; 19357;
2	Nuisance and odours	**2**	Generating and disposing of hazardous/special waste?	Yes	Impacts: All Legal: as above
3	Risks to human health (poisoning, chemical burns, cancer agents)	**3**	Storing waste generated on site for more than 1 year?	No	Impacts: All Legal: as above
4	Pollution of groundwater and surface watercourses	**4**	Disposing of office waste and canteen waste including waste oils from canteen?	Yes	Impacts: All Legal: as above
5	Pollution of surrounding land	**5**	Transporting waste outside company sites/premises?	Yes	Impacts: All Legal: as above
6	Impacts on flora and faun	**6**	Treating waste on site?	Yes	Impacts: All Legal: as above
7	Corrosion of buried services and structures	**7**	Importing and using waste?	No	Impacts: All Legal: as above
8	Liability for costs arising from fly-tipped waste	**8**	Other waste activities including disposing of tyres, batteries, accumulators, Waste Electrical Electronic Equipment (WEEE); or burning waste?	No	Impacts: All Legal: as above
9	Reputational damage from prosecution and fines for failure to				

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
	dispose of waste correctly				
10	Impacts on landfill capacity				

Table 13: Waste Aspects & Controls

Waste Management Aspects		Current Control Status
Ref	Description	
1.01	*Follow RG-EMS-04-PRD-001 Waste Duty of Care Checks procedure	To Action
1.02	*Create a SmartWaste account, input site details and Site Waste Management Plan information including forecast and waste reduction ideas	To Action
1.03	*Apply the waste hierarchy (prevent, reuse, recycle, recover)	To Action
1.04	Demolition contractor to provide a Pre-demolition Audit i.e. a demolition waste forecast	To Action
1.05	*Waste only removed from site by licenced waste carrier (check licence BEFORE waste leaves)	To Action
1.06	*Waste only sent to locations with valid waste management licence / exemption (check licence BEFORE waste leaves)	To Action
1.07	*Keep copies of valid waste transfer notes for 2 years	To Action
1.08	*Waste Transfer Notes will include Description, EWC six-digit code, Container type, Quantity, Waste carrier licence, SIC code, Destination, any processing waste has been through	To Action
1.09	*General, inert and hazardous waste will not be illegally mixed nor will solids and liquids	To Action
1.10	*Waste materials are segregated into different skips/bins wherever possible e.g. timber, metal, card, inert rubble, food	To Action
1.11	*Ensure road sweepers dispose of waste correctly and records are provided	To Action
2.01	*Haz waste is removed with a valid Consignment Note and the facility receiving the waste must sign Part E and return document to site for records	To Action
2.02	*Haz waste stored in labelled, watertight containers/bins/bags eg COSHH, asbestos, acids, waste oils	To Action

Waste Management Aspects		Current Control Status
Ref	Description	
2.03	*Haz waste are not mixed together or with other wastes	To Action
2.04	Haz waste will be tested to determine the best disposal route i.e. Non-reactive cell in non-haz landfill (asbestos /plasterboard); Haz waste treatment plant; Haz landfill etc.	To Action
2.05	*Haz waste Consignment Notes are kept as records for min. 3 years	To Action
3.01	*Obtain permit/licence/exemption from environmental regulator and follow any conditions attached	To Action
4.01	*Waste only removed by licenced operators to licenced facilities (check licences and keep tickets)	To Action
4.02	*Ensure canteen oils are disposed of legally/recycled	To Action
4.03	*Food waste from food business e.g. onsite kitchens/cafes, must have dedicated food waste collection	To Action
5.01	*All waste movements must be under a valid waste carriers licence and with completed waste transfer notes	To Action
5.02	*Ensure destination facility or site has a valid waste management licence/permit/exemption	To Action
6.01	Obtain permit from environmental regulator and follow any conditions attached	To Action
6.02	Obtain permit from environmental regulator and follow any conditions attached	To Action
7.01	Tyres are not allowed to be sent to landfill	To Action
7.02	No burning of waste on site	Not Applicable
7.03	Batteries are sent back to suppliers via take back scheme or special recycling service	To Action
7.04	WEEE electrical waste is removed by a licensed waste company	To Action

3.3 Biodiversity

The client or developer should identify all significant ecological impacts in their pre-construction Environmental Assessment. In the event that no assessment is available, refer to the pre-construction checks in the table below.

Note that much flora and fauna is protected by law, with legislation protecting specific stages of the organism's life cycle in some cases. Where the presence of protected flora or fauna is suspected on site, the appropriate legal requirements will be applied. In some case this will be to protect the species in question, in others it will enable us to comply with the reporting requirement for the species. There may also be specific conditions laid down in the planning consent. Where possible we will comply as fully as possible with the client's environmental and biodiversity plans. Works will be carried out in accordance with any specific control requirements identified in ecological surveys or report.

Table 14: Biodviersity Impacts & Aspects

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
1	Failure to comply with terms of planning conditions relating to habitat protection or protected species;	**1**	Is a formal Environmental Impact Assessment (EIA) required for the project	Yes	Impacts: All Legal: 29046; 1849; 3847; 3712; 3735; 3717; 3724; 3753; 3764;
2	Changes to water quality;	**2**	Is the site on or near a sensitive or designated protected area? (SSSI / Special Protection Area / Special Area of Conservation / RAMSAR (wetlands) / National Park / World Heritage / Scheduled Monument / AONB / Nature Reserve)	No	Impacts: All Legal: 29046; 1849; 3847; 3712; 3735; 3717; 3724; 3753; 3764;
3	Loss or damage to habitats, trees, hedgerows and vegetation;	**3**	Will works be near to or risk damaging any protected ecology?	No	Impacts: All Legal: 29046; 1849; 3847; 3712; 3735; 3717; 3724; 3753; 3764;
4	Death or injury of protected species;	**4**	Works to remove or alter trees, hedgerows or vegetation? Incl.: pruning, felling, uprooting and working near to trees with Tree Preservation Orders (TPOs)	Yes	Impacts: All Legal: 15252; 25739;

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
5	High noise levels disturbing adjacent ecology;	**5**	Dealing with invasive non-native species or injurious/noxious weeds? (e.g. Japanese Knotweed, Giant Hogweed)	Yes	Impacts: All Legal: 3750; 3764; 934
6	Damage, removal or burial of protected rock formations and landforms;	**6**	Installing temporary or permanent ecological enhancement measures?	No	Impacts: enhanced biodiversity

Table 15: Biodiversity Aspects & Controls

Biodiversity Management Aspects		Current Control Status
Ref	Description	
1.01	Check with the developer/planning authority if an EIA is required	To Action
2.01	*Liaise with developer/planning authority to understand ecological requirements	To Action
2.02	*Check protected areas www.magic.gov.uk / snh.org.uk/snhi/	To Action
2.03	*Check permissions are in place before any work starts on designated sites	To Action
2.04	*Adhere to agreed working methods/controls	To Action
3.01	Identify protected species in local area via National Biodiversity Network https://nbnatlas.org/	In Place
3.02	*Check if ecological survey(s) is available (or is required?) to identify protected sites, habitats or species	In Place
3.03	*Obtain consent from regulatory authority before work in/near a site of designated ecological importance	To Action
3.04	Appoint and follow recommendations of qualified ecologist	To Action
3.05	Phase works to avoid disturbance and/or damage to ecology	To Action
3.06	Implement Ecologist's recommendations	To Action

Biodiversity Management Aspects		Current Control Status
Ref	Description	
3.07	*Clear vegetation outside bird nesting season i.e. not March - August inclusive OR ecologist must supervise	To Action
3.08	*Check Method Statements comply with planning conditions and protect ecology	To Action
3.09	Communicate controls to protect ecology to all site personnel (e.g. site induction/toolbox talks)	To Action
3.09	Barrier/fence-off construction operations from ecologically sensitive areas	To Action
3.10	*Report the discovery of protected species and suspend works until advised to continue	To Action
4.01	*Check surveys/planning authority to learn of any TPOs in effect or whether trees are within a conservation area	To Action
4.02	*Obtain licence/permission from local planning authority for works to protected trees/hedgerows (tree surgery/ felling/uprooting)	To Action
4.03	*Consult with the local planning authority to determine whether hedgerows are designated as an 'important' hedgerow	To Action
4.04	*Ensure qualified Arboriculturist conducts survey prior to works involving Tree Preservation Orders (TPOs)/important hedgerows	To Action
4.05	*Erect tree fencing to protect trees and roots from works (vehicles/plant; excavations; underground services; storage of heavy materials)	To Action
4.06	*Inform site personnel of protected trees (site induction/toolbox talks)	To Action
5.01	*Ensure a survey has been conducted by a competent person	To Action
5.02	*Prevent invasive or noxious vegetation from spreading through use of exclusion zones, signage, boot wash, wheel wash	To Action
5.03	*Fence-off areas of invasive plants and erect signage	To Action
5.04	*Ensure method statements contain detailed controls for removing weeds	To Action
5.05	*Inform site personnel of invasive species via site induction/toolbox talks	To Action
5.06	*Unexpected finds of noxious weeds to be treated as emergency (fence off, implement controls, wash boots/plant, report)	To Action
5.07	*Only use specialist contractors to manage invasive or injurious weeds	To Action

Biodiversity Management Aspects		Current Control Status
Ref	Description	
5.08	*Stop work within 10m of the suspect plant until a specialist can advise	To Action
5.09	*Notify the landowner and local authority if the weeds are on an adjacent site	To Action
5.10	*Dispose of any stems, roots and shoots as hazardous/special waste by licenced waste contractor	To Action
6.01	Design and install biodiversity/habitat enhancing features on site (vegetation, green roof, SUDS, wildflower meadow etc)	To Action

3.4 Statutory Nuisance

Nuisance Management is mandatory on all sites to prevent adverse nuisance impacts such as dust, odour, emissions, noise, vibration and lighting on local sensitive receptors such as local biodiversity and people. Where possible, causes of nuisance shall be controlled at source e.g. prevention of dust. All works would be undertaken to the guidance detailed in BS 5228:2009 + A1:2014 – Code of Practice for noise and vibration control on construction and open sites, Part 1: Noise and Part 2: Vibration. Best Practicable Means as defined in Section 72 of the Control of Pollution Act 1974 (as amended) shall be employed always to reduce noise and vibration to a minimum. The Site Management Team shall employ best practice and consider timing, duration and phasing of construction activities to cause minimum nuisance to sensitive receptors where practicable and reasonable.

Table 16: Statutory Nusiance Impacts & Aspects

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
1	Failure to comply with terms of planning conditions relating to dust, noise, vibration	**1**	Works generating dust / emissions / odours?	Yes	Impacts: All Legal: 3763; 3742; 9887; 3852; 21877; 1870; 25366; 17476;
2	Complaints and claims from neighbours and local businesses	**2**	Works generating noise, vibration, light at night or increased traffic?	Yes	Impacts: All Legal: 3763; 3742; 9887; 3852; 21877; 1870; 25366; 17476;

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
3	Complaints and claims for dust soiling of parked vehicles, windows and property	**3**	Works that may raise complaints from the general public.	Yes	Impacts: All Legal: 3763; 3742; 9887; 3852; 21877; 1870; 25366; 17476;
4	Claims from farmers for dust damage to crops	**4**	Works that may cause litter?	Yes	Impacts: All Legal: 9887
5	Impacts on ecology through dust soiling	**5**	Managing vehicles and deliveries on and around site?	Yes	Impacts: All Legal: 9887
6	Health hazard				
7	Structural damage to buildings and utilities				
8	Civil nuisance claims				
9	Enforcement/abatement notices				
10	Prosecution and fines for nuisance, littering				
11	Programme delays and associated costs				
12	Risk of attracting vermin				

Table 17: Statutory Nuisance Aspects & Controls

Statutory Nuisance Aspects		Current Control Status
Ref	Description	
1.01	*Nuisance Management is mandatory on all sites to prevent adverse nuisance impacts such as dust, odour and emissions on local sensitive receptors such as local biodiversity and people	To Action
1.02	Plan site to locate stationary plant as far from sensitive noise receptors as possible	To Action
1.03	Pave/tarmac heavily used areas and haul roads, or use geotextiles to prevent dust	To Action

Statutory Nuisance Aspects		Current Control Status
Ref	Description	
1.04	Inspect site for evidence of airborne dust, dark smoke or emissions	To Action
1.05	Keep an eye on weather forecasts to prepare for dry dusty spells	To Action
1.06	Erect screens to trap dust/act as a windbreak	To Action
1.07	Vehicles pass through the wheel wash before leaving site	Req TBC
1.08	Damp down haul roads and stockpiles (seed or cover stockpiles if windy and dry)	To Action
1.09	Minimise cutting and grinding on site and look for opportunities to specify pre-cut/treated materials	To Action
1.10	Cutting/grinding equipment fitted with dust extractors, local exhaust ventilation (LEV)	To Action
1.11	Use water sprays to damp down work areas/cutting	To Action
1.12	Keep fine dry materials within buildings/protected from the wind	To Action
1.13	Use enclosed chutes for dropping demolition materials/dampen chutes regularly	To Action
1.14	Minimise drop heights into haulage vehicles, conveyors and skips	To Action
1.15	Stop and remove any plant emitting dark smoke	To Action
1.16	Use electrically powered plant instead of petrol or diesel, where possible	To Action
1.17	Switch off plant and vehicles when not in use	To Action
1.18	Cover waste skips and containers	To Action
1.19	All plant and machinery will be maintained to a good standard	To Action
2.01	*Nuisance Management is mandatory on all sites to prevent adverse nuisance impacts such as noise, vibration, and light on local sensitive receptors such as local biodiversity and people. Lighting management plan to be developed	To Action
2.02	Agree work with Local Authority i.e. site working hours, Section 61 noise/vibration limits if applicable	To Action
2.03	Notify residents before starting noisy or vibratory works (explain timings and duration of works)	To Action
2.04	Workers briefed and inducted on minimising noise from works including arriving to and from the site	To Action

Statutory Nuisance Aspects		Current Control Status
Ref	Description	
2.05	Survey (photo) existing structures before works start, to record existing damage, cracks, broken tiles, pipes, gullies, plaster or paving	To Action
2.06	Monitor noise and/or vibration levels where necessary i.e. sensitive receptors in vicinity	To Action
2.07	Provide a 24-hour contact number, available to the public	To Action
2.08	Select low noise work methods e.g. hydraulic shears instead of hydraulic impact breakers, pre-fabricate formwork and steel work off-site	To Action
2.09	Use perimeter hoarding/enclosures/bunds/acoustic barriers for noisy works near sensitive receptors	To Action
2.10	Vehicles and mechanical plant to be fitted with exhaust silencers where possible	To Action
2.11	Use white noise reversing sounders where possible	To Action
2.12	Night-time generators located as far away from residents as possible otherwise effective barriers must be installed	To Action
2.13	Operate plant in a way that produces high frequency vibration which causes less damage than low-frequency vibration e.g. vibratory roller	To Action
2.14	Place vibrating plant on a heavier base and/ or isolate from ground to reduce vibration	To Action
2.15	Use rubber linings on tippers and forks in sensitive areas	To Action
2.16	Keep haul roads well maintained and free of potholes	To Action
2.17	Direct site lighting away from residents, switch lights off when not needed e.g. timeclocks/photocells	To Action
2.18	Encourage site workers to use public transport and make sure they only park in agreed areas	To Action
3.01	Liaise with the local community to build relationship (site contact details/meetings/letter drops/emails)	To Action
3.02	Keep a logbook to record complaints and what action was taken by site to resolve the situation	To Action
3.03	Visit / contact residents to notify them before starting noisy works e.g. power-floating at night	To Action
3.04	Minimise noise, disturbances and offensive language around the site	To Action
4.01	Carry out litter picks around site perimeter and encourage use of bins	To Action

Statutory Nuisance Aspects		Current Control Status
Ref	Description	
4.02	Install hoarding/fencing to prevent debris blowing away	To Action
4.03	Remove graffiti, old signage and fly-posters and repair any vandalism quickly	To Action
5.01	Install hoarding/fencing to prevent debris blowing away	To Action
5.02	Remove graffiti, old signage and fly-posters and repair any vandalism quickly	To Action
6.01	No engine idling	To Action
6.02	Dust sheets to cover loads	To Action
6.03	Vehicles must use wheel wash	To Action
6.04	Road-sweeper to clear muck	To Action
6.05	Vehicles follow speed limits	To Action

3.5 Contaminated Land

Table 18: Contaminated Impacts & Aspects

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
1	Delays to programme through unexpected or accidental contamination	**1**	Construction works on contaminated land?	Yes	Impacts: All Legal: 9886; 1854; 21822; 1855; 2236;
2	Liability for costs arising from spreading or making existing contamination worse	**2**	Dealing with asbestos?	Yes	Impacts: all Legal: 2236;
3	Risks to human health (asphyxiation, poisoning, microbiological diseases, chemical burns, cancer agents)				

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
4	Pollution of groundwater and surface watercourses				
5	Pollution of surrounding land				
6	Impacts on flora and fauna				
7	Corrosion of buried services and structures				

Table 19: Contaminated Aspects & Controls

Contaminated Land Aspects & Controls		Current Control Status
Ref	Description	
1.01	*Allow time to obtain any permissions for remediation, reuse and/or disposal of contaminated soils e.g. mobile plant, waste exemption	To Action
1.02	Agree any required changes to site remediation plan and forward to local authority	To Action
1.03	*Ensure evidence for remediation work is collected (certificates/paperwork)	To Action
1.04	*Ensure Method Statements contain detailed controls for managing risks of contaminated land	To Action
1.05	*Communicate the risks to site personnel (toolbox talks, induction, RAMS, signage)	To Action
1.06	During excavation, piling and dredging activity, check for visual signs and olfactory/smells of contamination	To Action
1.07	Cover stockpiles to prevent windblown dust or the ingress of rainwater	To Action
1.08	Place soils on impermeable surfaces to prevent contamination of the underlying ground	To Action
1.09	Cordon-off areas of contaminated land from those that are uncontaminated	To Action
1.10	Control surface water run-off using cut-off ditches, bunds, cover stockpiles	To Action
1.11	When contaminated materials are suspected stop work, report/seek expert advice, cordon off the area	To Action

Contaminated Land Aspects & Controls		Current Control Status
Ref	Description	
1.12	Ensure contaminated materials requiring off-site disposal are removed by a competent waste contractor with consignment notes	To Action
2.01	Liaise with/appoint contaminated land/asbestos specialists to ensure planning conditions and other requirements are met	To Action
2.02	*Prevent asbestos being released into the air	To Action
2.03	*Treat asbestos as hazardous/special waste	To Action

3.6 Materials

Table 20: Materials Impacts & Aspects

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
1	Failure to comply with contract or planning conditions relating to the specification of materials.	**1**	Using materials on sites and in offices?	Yes	Impacts: All Legal: 11407.
2	Depletion of natural resources.	**2**	Using equipment with ozone depleting substances, fluorinated greenhouse gases and PCBs? (air-con, fridges, fire protection systems)	Yes	Impacts: all Legal: 2236;
3	Nuisance claims and complaints (dust, soiling, noise, odour)	**3**	Earthworks / excavating material?	Yes	Impacts: All Legal:
4	Health hazard	**4**	Importing / exporting soils and bulk materials?	Yes	Impacts: All Legal:
5	Pollution of air, water and land.	**5**	Using, crushing, recycled aggregate?	Yes	Impacts: All Legal: 7476; 25366;
6	Vandalism or theft.				

Table 21: Materials Aspects & Controls

Materials Aspects		Current Control Status
Ref	Description	
1.01	Review contract / planning conditions for any specific material requirements (recycled content/low VOC/locally sourced etc)	To Action
1.02	Communicate specific material requirements e.g. Green Guide 'A', FSC timber, CFC-free, low solvent	To Action
1.03	*Ensure all timber/timber products are certified as legally and sustainably sourced with certificates and delivery notes	To Action
1.04	Retain records of materials used incl. subcontractors e.g. 'chain of custody cert' /delivery notes	To Action
1.05	*Store all materials correctly to avoid damage and waste (away from vehicles, protected from weather)	To Action
1.06	*Avoid over ordering materials	To Action
1.07	Maximise use of cement replacement products in concrete mixes/Recycled Concrete Aggregate (RCA)	To Action
1.08	Carry out gate checks, audits and inspections to ensure correct materials are delivered	To Action
1.09	Select materials with less packaging waste	To Action
1.10	Prioritise materials that are: responsibly sourced (BES 6001); high recycled content; low embodied carbon; low water footprint, wherever possible	To Action
1.11	Use local suppliers where possible to reduce transportation costs and carbon emissions	To Action
1.12	Work with suppliers to implement packaging take back schemes	To Action
1.13	Prioritise use of recycled aggregates (e.g. crushed concrete) or secondary aggregates (e.g. GGBS, PFA etc.)	To Action
1.14	For office/site furniture check with other sites if they have spare first	To Action
1.15	Record the embodied carbon of key materials using the embodied carbon calculator	To Action
2.01	Ensure competent contractors working with air-con, PCBs and fire protection systems (including offices) are competent at managing the equipment, their inventories, and disposal methods	To Action
3.01	Strip soils in phases to reduce exposed ground and minimise risk of water run-off	To Action
3.02	*Avoid stripping large areas of soils during heavy rainfall (5mm or more in a 24-hour period)	To Action

Materials Aspects		Current Control Status
Ref	Description	
3.03	*Avoid reinstating soils following periods of heavy rainfall (5mm or more in a 24-hour period)	To Action
3.04	Segregate grades of soils i.e. top and subsoil stockpiles to enable reuse and erect signage	To Action
3.05	Lightly compact stockpiles, angle at 45°, and consider seeding with vegetation to minimise water run-off and erosion	To Action
3.06	*Locate stockpiles away from drains and watercourses and place silt fences/bunds around bottom to reduce run-off	To Action
4.01	Develop a Materials Management Plan for moving, storing and using soils. Refer to guidance and regulations, seek expert advice to establish what exemptions / permissions (if any) are required to move soils and stones from one site to another e.g. CL: AIRE etc.	To Action
4.02	*Documentation from the supplier to verify imported topsoil i.e. satisfies the requirements of BS 3882	To Action
4.03	*Conduct waste Duty of Care checks to ensure transport and disposal of waste soils is licenced	To Action
4.04	*Ensure recipient sites receiving exported soils have the relevant waste management licence/exemption	To Action
5.01	*Ensure recycled aggregates meet product quality standards e.g. WRAP Quality Protocol: Production of Aggregates from Inert Wastes - defined materials specifications e.g. 6F2, Type 1, Type 2	To Action
5.02	*Ensure any necessary permits/exemptions are in place for the use of recycled aggregates	To Action
5.03	*Recycled aggregate delivered to site must not contain more than 1% by mass of Class X materials i.e. wood, plastic and/or metal	To Action
5.04	*Recycled aggregate delivered to site must not contain asbestos materials or smell of oils/diesels	To Action
5.05	*Ensure that all crushing plant has been issued with a PPC Permit (retain a copy for site records)	To Action

3.7 Energy Carbon & Water

Table 22: Energy, Carbon & Water Impacts & Aspects

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
1	Depletion of natural resources;	**1**	Using water onsite /in offices?	Yes	
2	Pollution of air, water and land incl. climate change;	**2**	Using energy for construction/in offices?	Yes	
3	Nuisance, noise, vibration and emissions;	**3**	Transport to and from site?	Yes	
4	Reputational damage, prosecution & fines for failure to report/reduce carbon & energy;				

Table 23: Energy, Carbon & Water Aspects & Controls

Energy Carbon & Water Aspects		Current Control Status
Ref	Description	
1.01	*Water saving measures implemented (e.g. meters, flow restrictors, trigger sprays, rainwater collection)	To Action
1.03	*Collect monthly water consumption data and report on SmartWaste / KPIs	To Action
2.02	*Introduce energy saving ideas during construction	To Action
2.02	*Use energy efficient site accommodation (B rating or equivalent)	To Action
2.03	Temporary Electrics subcontractor to advise how energy savings can be made	To Action
2.04	*Ensure all site plant and appliances (incl subcontractors) are well maintained	To Action
2.05	*Collect monthly consumption data and report on SmartWaste/KPIs	To Action
2.06	Procurement team buy temporary electricity supply via utilities broker to get 100% renewable & certified REGO	To Action
2.07	Where a generator is necessary, use low carbon / high efficiency generator technology (e.g. hybrid generator)	To Action

Energy Carbon & Water Aspects		Current Control Status
Ref	Description	
2.08	Utilise low carbon fuel for generators (e.g. HVO instead of red diesel)	To Action
2.09	For temporary lighting, utilise 'eco' or solar powered temporary lighting	To Action
2.10	Consider site cabins with integrated solar PV panels / battery, where appropriate	To Action
2.11	Consider jack pads instead of concrete foundations for temporary site accommodation cabins	To Action
2.12	Generator supplier to assess load profiling/power planning and resize during project for less people / warm months	To Action
2.13	Specify fuel/energy efficient plant and machinery (*Green Plant List*) from Procurement & Supply Chain teams	To Action
2.14	Use the latest Euro standard equipment on site (in relation to combustion engine phases)	To Action
2.15	Ensure that machine operators are trained to use equipment efficiently and safely	To Action
2.16	Consider use telematics system on machinery and analyse the data	To Action
3.01	Use/request smallest vehicle necessary for the work/delivery and request electric or hybrid vehicles where possible	To Action
3.02	*Record transport data on SmartWaste (deliveries, waste transport, staff etc)	To Action
3.03	Promote sustainable travel options on site (provide bike storage/lockers/shower, bus route info etc)	To Action
3.04	Develop green travel plan	To Action
3.05	Consider use of minibuses or bike hire from local park and rides where appropriate (e.g. for city centre projects)	To Action
3.06	Use/request smallest vehicle necessary for the work/delivery and request electric or hybrid vehicles where possible	To Action

3.8 Archaeology & Heritage

Table 24: Archaeology & Heritage Impacts & Aspects

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
1	Failure to comply with any contract and	**1**	Will the works be on or near areas of cultural heritage importance? (archaeology, listed buildings,		

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
	planning conditions relating to archaeology.		conservation area, Scheduled Ancient Monuments, burial grounds)?		
2	Damage to known archaeological remains or historical features requiring protection during construction.	**2**	Discovering / removing human remains?		
3	Discovery of unexpected archaeological finds.				
4	Disruption to project programme and cost.				
5	Prosecution and fines				

Table 25: Archaeology & Heritage Aspects & Controls

Archaeology & Heritage Aspects		Current Control Status
Ref	Description	
1.01	*Check the Pastscape (England) website: https://www.pastscape.org.uk/OR Check the Historic Environment Scotland website: https://www.historicenvironment.scot	To Action
1.02	Liaise with/appoint archaeologists and heritage experts to ensure planning conditions and requirements are included within contracts	To Action
1.03	*Ensure any consents are obtained prior to works commencing	To Action
1.04	*Adhere to planning conditions and other obligations to preserve archaeological remains	To Action
1.05	*Ensure any required controls are included in method statements and outlined in inductions	To Action
1.06	*Follow advice/instructions given by the appointed archaeologist when working on or near sites of archaeological importance	To Action
1.07	*When excavating ground keep a look out for unusual features (tile fragments, coins, pottery, skeletons)	To Action

Archaeology & Heritage Aspects		Current Control Status
Ref	Description	
1.09	*If an unexpected discovery is made: stop work, protect find, fence-off, report, consult a specialist	To Action
1.10	*Report treasure finds to police e.g. gold, silver, coins	To Action
1.11	*Cause no damage to Scheduled Ancient Monuments or other designated sites	To Action
2.01	*Stop works, report human remains to police and do not move without a licence from the Home Office	To Action

3.9 Site Management

Table 26: Site Management Impacts & Aspects

Impacts		Aspects [Note ref does not correspond to impact ref]			
Ref	Description	Ref	Description	Applicable	Impacts & Legal
		1	Setting staff to work on a site with environmental risks?	Yes	
		2	Interacting with enforcing authorities? (SEPA, EA, council, Natural England, Scottish Natural Heritage etc.)	Yes	
		3	Conducting site environmental checks, inspections or audits?	Yes	
		4	Meetings with contractors and project teams?	Yes	
		5	Environmental training for staff?	Yes	
		6	Reporting environmental performance?	Yes	

Table 27: Site Management Aspects & Controls

Site Management Aspects		Current Control Status
Ref	Description	
1.01	*Check risk assessments and method statements contain adequate environmental controls	To Action

Site Management Aspects		Current Control Status
Ref	Description	
1.02	*Ensure competent staff are appointed for all environmental deliverables/duties and made aware of their responsibilities	To Action
2.01	*Report enforcing authority visits to SHE Manager/Group Environmental Manager	To Action
3.01	*Carry out weekly environmental checks/inspection focussing on key risk areas and controls	To Action
3.02	*Ensure audits occur as planned to comply with EMS, legal and other requirements	To Action
3.03	*Ensure actions are closed out where issues are identified	To Action
4.01	*Environment to be an agenda item (or part of SHE) at project meetings incl. with subcontractors	To Action
4.02	*Review environmental risks and control measures where appropriate	To Action
4.03	*Review any findings from inspections, audits, complaints and incidents	To Action
4.04	*Review performance against environmental deliverables/targets	To Action
5.01	*Site management to have environmental awareness training	To Action
5.02	*All site operatives to receive regular toolbox talks on key environmental issues	To Action
5.03	*Record environmental training using attendance sheets	To Action
5.04	*Site staff to have CSCS cards	To Action
5.05	*Site induction to cover key environmental issues and any project-specific requirements	To Action
6.01	*Report environmental data at month end (SmartWaste/other contractual requirements)	To Action
6.02	*Ensure information on noticeboards is relevant and up to date	To Action

4.0 Additional Project Information Requirements

4.1 Project Targets

Robertson Group have several objectives and targets to be met on an annual basis, which require to be achieved on each of our projects. The targets are published in a separate document **RG-EMS-11-PRD-002** Environmental Targets.

Use this space to record additional **project-specific targets:**

4.2 Permits & Licences

Use this section to list and detail any environmental permits/licences/consents/permissions for the site. For example, Trade Effluent Consents, CAR Construction Site Licences, Waste Exemptions, Standpipe Licences, Abstraction Licences etc. N.B. waste licences may be saved on SmartWaste platform online but please ensure licences are valid.

Table 28: Permtis & Licenes Required

Permit/ Licence Type	Issuing Organisation	Licence Details/Where is copied kept?	Date Applied	Date Received
Enter text	Enter text	Enter text	Enter text	Enter text

4.3 Records

Use this section to detail what records are kept and where they are stored. For example, data collected on noise/vibration/dust/odour/water quality/groundwater/ground gas/ecological records etc.

Table 29: Project/Site Records

Type of Record	Method & Frequency	Where is the record saved?	Person Responsible
Enter text	Enter text	Enter text	Enter text

4.4 Environmental Location Plan

Prepare a VISUAL diagram of environmental risks on site – either mark-up existing logistics/site plan or create a standalone document for environmental features.

Refer to guidance below, attach a copy to this PEMP and display a copy onsite

The Environmental Location Plan should be a clear diagram of the site, marked up to show features with environmental significance:

- Layout of buildings including access routes and meeting points for emergency services
- Sensitive noise receptors e.g. neighbouring properties
- Any environmentally sensitive features such as special habitat or water courses
- COSHH (fuel/chemical) storage and refuelling areas
- Location of spill response equipment including spill kits and fire hydrant
- Drainage arrangements either on the same or a separate plan to show foul, surface, water courses and trade effluent drainage on and around the site
  - Use the standard features of drainage plans to make it easier for others to understand i.e. red for foul sewers and blue for surface water drainage and watercourses
  - Indicate the direction of flow for all sewers
- A description, including maps showing the locations, of all known sites of archaeological or cultural heritage interest and conservation areas within and adjacent to the construction site

5.0 Environmental Emergency Response

An environmental emergency incident is an event that either causes harm or has the potential to cause harm to an environmental receptor e.g. air, water, land, wildlife or local habitat. The primary aim is to protect human health and the environment, prevent further incidents and identify actions to improve future incident management.

This section deals with environmental incidents arising from Spills of Fuels/Chemicals, Fire, Flooding, Asbestos, Sewage and Waste fly tipping which may occur at Robertson Group's operational and administration sites. The Health & Safety Management System also advises on managing emergency incidents. Refer to the Construction Phase Health and Safety Plan RG-HS-04-FOR-001 which sets out proposals that deal with the response and management of health, safety & environment risks associated with our work. Other relevant plans are:

- Fire **- RG-HS-06-FOR-002** Site Fire Management Plan
- Flooding - **RG-EMS-03-FOR-001** Flood Response Plan
- Asbestos **– RH-HS-20-GUI-001** Asbestos Guidance

Preparedness & Response

- All persons working for or on behalf of Robertson Group have responsibilities to be aware of the procedures and equipment in place to deal with emergency incidents.
- The Project Manager identifies risk of environmental incidents as a result of the site operations. Where the potential exists, they must ensure mitigation measures are implemented prior to works.
- Where an environmental incident occurs, competent personnel should firstly assess and where appropriate, deal with the incident.
- Where the nature or scale of the environmental incident is outside the capability of the competent person/s, they shall notify without delay, the Project Manager who will contact an appropriate

environmental incident containment organisation to deal with the incident and mitigate any impact to the environment (see Contact Details below).

Reporting an Incident

All persons working for or on behalf of Robertson Group have a responsibility to report the occurrence of any environmental incident as soon as possible as per the Incident Reporting section in the Project Environmental Procedure **RG-EMS-02-PRD-001**. The Project Manager must:

- Report using **RG-EMS-02-FOR-002** Environmental Incident Report Form/SHE Assure which defines the severity of the incident i.e. Significant/Minor/Unexpected Find
- Ensure that relevant agency or organisation is advised of where this is required – Contact Details for relevant agencies are given below
- Review the incident and ensure that the appropriate corrective actions have been undertaken and relevant preventative actions have been identified.

In all cases the Robertson Regional SHE Manager/Advisor AND Group Environmental Manager must also be notified of any incidents and the details of the incident recorded through the Group's online reporting system; **SHE Assure**. Further instructions for managing incidents are contained in the Group HSMS Topic 14 Managing Accidents and Incidents.

Emergency Response Testing

Where practicable, the contract/site will conduct periodic testing of applicable emergency preparedness and response procedures. Where testing is conducted, the results of the test and any improvement actions will be recorded on the **RG-EMS-02-FOR-003** Environmental Response Drill form. Testing arrangements in relation to fire are specified in **RG-HS-06-FOR-002** Site Fire Management Plan. Records of testing and resultant actions are maintained at project level.

Roles of Staff During an Incident

All persons working for or on behalf of Robertson Timber Engineering have responsibilities to ensure they are aware or have been made aware of the procedures and equipment in place to deal with emergency incidents.

Table 30: Incident Management Roles

Name	Position	Role During Incident (amend as necessary)
Enter text	Enter text	Coordinate overall response
		Assess safety of personnel, communicate risks and evacuate area if necessary
		Assess whether incident can be dealt with by local site team or whether specialists or emergency services are required (see Emergency Contact Details below)
		Contain incident/clean-up spill/supervise clean-up operation
		Report incident to SHE Manager and Environmental Manager
		Arrange for any hazardous waste to be removed by licensed contractor

Spills of Fuel/Chemicals

Spills are when any chemical or fuel is accidently released into the natural environment. Spills are one of the most frequent environmental incidents that can occur, and which can lead to pollution and risks to health. Leaving spills unchecked will lead to both short- and long-term environmental damage and can impact the health and safety of employees, contractors and the public. The information in this section, including the **Spill Response Flowchart** is provided to help deal with such a spill.

COSHH Register (Chemicals & Fuels)

Location of **RG-HS-19-FOR-001** Project COSHH Register: *Enter the location where COSHH register / material safety data sheets are located*

Spill Equipment

In the event of an incident, emergency equipment is available to help prevent pollution. Record the equipment and materials you have available at this location e.g. oil spill kit, chemical spill kit, absorbent pads and socks, drain mats/covers, pump equipment, plastic sheeting, bin/container for storing waste from used spill kits etc.

Table 31: Spill Equipment Requirements

Type of Equipment	Quantity	Location
Enter text	Enter text	Enter text

Spill Response Flowchart

Fire

Fire, smoke and wastewater from firefighting can cause damage to the natural environment. However, the threat to human life can be severe and therefore, responsibilities, activities and controls in relation to incidents involving fire are documented in **RG-HS-06-FOR-002** Site Fire Management Plan.

On discovering of a fire, personnel should immediately raise the alarm. In the unlikely event that this fails, shout your warning and contact the nearest Robertson Manager immediately, informing them of the location and nature of the fire, your name and any other relevant information. Only use a fire extinguisher if safe to do so and the fire is small.

Where the fire alarm is activated:

- Immediately stop what you are doing
- Turn off machinery and make your work safe if you can do it quickly
- Leave by the nearest available fire exit (not always the way you entered the building). Do not travel inside the building to collect belongings. Fire exits routes and final exits will be marked with the green 'running man' signs
- Move to your designated assembly point outside the building. Do not stand in roads and do not stay in doorways or close to the building
- Do not re-enter the building until given permission to do so

Flooding & Flash flooding

Flooding usually occurs near rivers or when rain falls too fast for ground/drains to cope. Flooding can, amongst other things, result in death, harm human health through illness and disease, cause damage to property, leave buildings uninhabitable for significant periods, impact traffic infrastructure and pollute the environment. Regular maintenance of drains, soakaways and other drainage systems can minimise the impact of localised flooding. To determine those sites at higher risk each contract should carry out a simple risk assessment using:

- England – Environmental Agency: https://flood-map-for-planning.service.gov.uk/
- Scotland – Scottish Environmental Protection Agency: http://map.sepa.org.uk/floodmap/map.htm

Where a risk of flooding is identified, the Project Manager is required to have an appropriate risk assessment and **RG-EMS-03-FOR-001** Flood Response Plan in place. Flood Alerts and Warnings must then be monitored and acted upon by the Project Team.

Asbestos

Asbestos can sometimes be accidentally released into the environment. It is classed as a hazardous waste and must be handled and disposed of according to strict regulations. Responsibilities, activities and controls in relation to incidents involving asbestos are set out in the **Group HSMS Topic 20 Control of Asbestos.**

The emergency response should include:

- Identify the cause of the release
- Move all persons working in the area to an uncontaminated area and isolate the area by whatever practical means are available e.g. by closing and sealing doors and windows
- Minimise the spread of asbestos by ensuring all persons working in the area where ACMs are discovered are suitably decontaminated

- Warn anybody who may be affected
- Exclude people from the area that are not required to deal with the issue
- Clean up dust and debris. Ensure anyone involved in clean-up operations is wearing appropriate PPE including respiratory equipment (RPE).
- Decontaminate anyone who is contaminated with dust and debris
- Ensure rags clothing or PPE is decontaminated or disposed of as contaminated waste
- Post highly visible warning signs to prevent further access to the contaminated area/s
- If no record of ACMs in the area/s has been recorded in the Asbestos Register, samples should be taken by a trained and competent person/s which must then be analysed by suitable analyst
- If samples prove positive for ACMs the appropriate actions should be taken to remove, repair or make safe the ACMs
- Details of previously unidentified ACMs should be added to the Asbestos Register

Sewage leak

Leaking sewage can damage the health of humans and pollute the natural environment. If you suspect a leak, contact Scottish Water to report incident and contact an emergency clean-up company to reduce the risk of the spread of disease.

Waste fly-tipping

Dumping waste in unlicensed locations is against the law. It can be expensive to clean-up but is also a form of pollution of the natural environment, especially if it hazardous (special) waste such as chemicals, or asbestos. Illegal dumping should be reported to SEPA and the local authority.

Emergency Contact Numbers

It is sometimes necessary to seek assistance from other departments or external agencies. You can add additional contacts in either the internal or external tables below if required:

Table 32: Emergency Contact Numbers

Type of Incident	External Contacts	Contact Number/Web
Significant environmental incident with harm to wildlife or habitat. Must report to Group Environmental Manager/Regional SHE Manager.	Environment Agency Scottish Environmental Protection Agency	Incident Hotline 0800 80 70 60
Emergency 999	Ambulance/Fire/Police	999
Gas Leak	National Gas Emergency Service	0800 111 999
Spill of Chemical/Fuel	Briggs Environmental (Sites in Scotland)	0800 374 348 Emergency (24/7)
	Adler & Allan (Sites in England)	0800 592 827 Emergency (24/7)

Type of Incident	External Contacts	Contact Number/Web
Sewage leaks/Burst mains	Local water supplier e.g. Scottish Water	Enter text
	Local clean up company (check online)	Enter text
Electrical Emergency e.g. hazards involving electricity lines, pylons etc.	Electrical System Operator	0800 40 40 90

Internal Contacts	Name	Contact Number
Project Manager	Enter text	Enter text
SHE Manager	Enter text	Enter text
Group Environmental Manager	Tom Gibbs	Enter text
Robertson Insurance/Risk Manager	Lorraine Loy	Enter text