AVONMOUTH SEVERNSIDE ENTERPRISE AREA (ASEA) ECOLOGY MITIGATION AND FLOOD DEFENCE SCHEME

Waste Recovery Permit - Environmental Management Summary

EPR/JB3309LY/A001

Issue and Revision Record

Revision	Date	Originator	Checker	Approver	Description
P01	31/07/2020	S George	B Marrinan A Manns C Postlethwaite	M Secker	First issue
P02	05/11/2020	S George	N Reid A Manns C Postlethwaite	M Secker	Update for duly making

Document reference: ENVIMSW002194-BMM-XX-Z00-RP-EN-0302139

EA file naming and file metadata

BS1192 file name	ENVIMSW002194-BMM-XX-Z00-RP-EN-0302139
BS1192 suitability	S2 – For Information
Revision	P02
EA deliverable reference	B0200
EA work stage	EA4
Level of Development	LOD4
Title	Waste Recovery Permit - Environmental Management Summary

Information class: Standard

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1 Environmental Management Summary

1.1 Introduction

This summary is intended to accompany the application for a new bespoke Environmental Permit for the recovery of waste in the Avonmouth Severnside Enterprise Area (ASEA) ecology mitigation and flood defence scheme, hereafter referred to as 'the scheme'.

The waste recovery operation includes inert, class 2C stony cohesive waste material being imported under the permit, for recovery in the construction of the scheme flood defences. Waste will be checked, inspected and validated at the source, prior to being loaded onto lorries by various approved waste carriers. Any unsuitable waste in line with the project earthworks specification will be rejected at this point. Waste will be hauled to the scheme-specific Waste Transfer Station, taking non-biodegradable wastes, on the proposed stockpiling area on the land off the A403 at Northwick (ST 56585 89776) where it will be received and, if compliant with the permit conditions, unloaded under supervision. In some cases, the waste material will be directly transferred from the source location to the point of deposition, in accordance with the same waste acceptance procedures.

Wastes to be accepted are inert construction wastes only as specified within the permit Waste Recovery Plan. No further treatment or screening of the material is proposed, as only material that is compliant with the earthworks specification will be imported to the site. A maximum total volume of material imported to the site under this permit will be 80,000m^3, or approximately 100,000 tonnes per year. Waste material will be deposited, compacted and placement compliance checked in line with the project earthworks specification.

The integrated BAM Mott MacDonald Joint Venture (BMMJV) Management System and its associated procedures and guidance, are accredited to ISO 14001 and are in accordance with the requirements identified in the Environment Agency Guidance, which has been followed in developing a project-specific management system.

It should be noted that the waste for recovery under the permit will be geotechnically and geo-environmentally suitable, natural soils, similar to non-waste materials. The scheme is to be undertaken with material of this type, also sourced via site-won reuse under a materials management plan, as well as purchased aggregates. The procedures for management of waste and non-waste materials are, therefore, the same, especially for topics such as: dust; mud, debris and litter; vermin and wildlife; odour; and noise; and covered within existing project documentation for environmental management. The principal document for reference is the Construction Environmental Management Plan (CEMP) (project document reference: ENVIMSW002194-BMM-XX-Z00-RP-Z-0402040). Additionally, activity specific management plans will also be in place to minimise risks to the environment during the works. The CEMP should be read in conjunction with this summary for further detail on the proposed environmental management procedures.

1.2 Operating Hours

Operating hours for the construction of the scheme, and transfer site within which wastes may be temporarily stockpiled, are in line with BMMJV standard operating hours:

- 07:30 – 18:00 Monday to Friday, and
- 07:30 – 13:00 Saturday.

Works outside of these hours may be required for specific activities, including plant maintenance, and must be agreed with the Client prior to the works.

1.3 Phasing plan

The works are to be undertaken in a phased manner and features involving waste recovery are anticipated to be completed as summarised in Table 1-1.

Table 1-1: Phasing plan

Area 1	Start	End
Passage Road Flood Embankment	29-Jul-20	19-Oct-20
Passage Road Flood Tie-in	01-Mar-21	15-Apr-21
Embankment South of Cake Pill	15-Mar-21	15-Apr-21
Northwick Wharf Embankment		
CH900 - 1750	15-Mar-21	30-Jul-21
CH1750 - 2650	21-Jun-21	15-Oct-21
CH2650 - 3050	26-Apr-21	18-Jun-21
CH3050 - 3300	15-Mar-21	23-Apr-21

Work will be undertaken to construct the embankments to full height over 100m sections.

1.4 Site Management

The ASEA works sites will be managed by BMMJV as the Principal Contractor, with the importing of the material sub-contracted to the Kelston Sparkes Group. BMMJV has significant construction experience and associated site procedures to minimise environmental impacts from construction. BMMJV will conform to best practice, works will be undertaken in line with the regulator agreed CEMP and the site will be registered under the considerate constructers scheme.

The CEMP defines the arrangements for achieving health, safety and environmental standards on the project. It includes general procedures, such as; water management, refuelling, the storage and management of hazardous substances, reporting arrangements etc, as well as emergency procedures in relation to accidents and incidents, including; pollution incidents, damage to utilities, fire etc. The plan will be followed during all works.

The import of waste material covered by this bespoke waste recovery Environmental Permit will be overseen by nominated Technically Competent Managers (TCM). Certification has been included as part of this application (see document reference: Technical Competence - WAMITAB Certificates).

The sites will be subjected to compliance audits and regular inspections by the Environment Agency, and site compliance reports will be produced.

1.5 Waste Acceptance

Prior to any waste being recovered, the material would be geotechnically and geo-environmentally tested to ensure that it complies with the Waste Acceptance Criteria for reuse specified within the project earthworks specification. Relevant extracts of the limiting values are provided in the supporting documents; ENVIMSW002194-BMM-XXX-000-DR-C-0202912-A4-C01-B0200-EA4-LOD4 (geotechnical specification sheet 1), ENVIMSW002194-BMM-XXX-000-DR-C-0202914-A4-C01-B0200-EA4-LOD4 (geotechnical specification sheet 2), and ENVIMSW002194-BMM-XX-000-DR-C-0202913 (geo-environmental limiting values, derived from site data in consultation with the Environment Agency). Additionally, only inert materials will be accepted in line with the Waste Recovery Plan.

Any waste that is found not to comply with the acceptability criteria will require treatment in order that it is acceptable, such as removing any deleterious material (such as wood fragments) by hand, using lime to control pH, or drying the material to reduce moisture content. If the geo-environmental limits are exceeded, further site-specific risk assessments may be undertaken to reduce conservatism and understand if the material poses a risk to receptors in the vicinity of the placement location. Any material failing additional risk assessment will not be used, and removed from site for off-site recovery or disposal. No remediation works are proposed.

At the point of removal from the source site, materials will be visually inspected for suitability prior to being imported using HGV road wagons, and taken directly to the deposition sites, or to the transfer site prior to the material being distributed to the needed construction locations of the scheme. Material movements will be undertaken by registered carriers and managed by the sub-contractor. Any wastes accepted by the sites will conform to the waste acceptance specification and procedure, and the European Waste Catalogue (EWC) code specified in the Environmental Permit. All wastes will be transferred using a registered waste carrier.

Compliance with BMMJV waste acceptance procedures and guidance ensures:

- Compliance with relevant waste management legislation;
- Application of industry best practice; and
- Identification of opportunities in waste minimisation/resource efficiency.

Waste materials will be transferred under a waste transfer note. All waste material will be accompanied by a Waste Transfer Note, which will be kept for a minimum of two years.

The site supervisor will ensure that each load is checked for compliance and logged prior to discharging the load.

The visual inspection, and the details contained in the above documentation, will be compared with the Waste Acceptance Criteria (WAC) for the site. The materials will be accepted if they comply with the EWC codes below.

Table 1-2: EWC codes accepted

Waste Code	Description of Waste
17 05 04	Soil and stones other than those mentioned in 17 05 03

If the vehicle is carrying material that is not considered to be inactive/inert or fails to meet the specific criteria, the vehicle shall be turned away from the site and the load rejected. A record of rejected loads will be kept in the site diary. All records will be available for inspection by the relevant authorities upon request.

1.6 Environmental Monitoring and Daily Inspections

This section has been completed with reference to:

- Environmental Risk Assessment (ERA) (see document reference: ENVIMSW002194-BMM-XX-Z00-RP-EN-0302138) included as part of the Environmental Permit application;
- Area 1 and Area 3A Contaminated Land Risk Assessment, Remediation and Verification Strategy (project document reference: ENVIMSW002194-BMM-XX-A10-RA-Y-0109007); and
- Sitewide Construction Environmental Management Plan (project document reference: ENVIMSW002194-BMM-XX-Z00-RP-Z-0402040).

Reference should be made to these documents as necessary. Sensitive receptors and designated environmental constraints are shown in Appendix B of the ERA.

Monitoring and inspections of the stockpiling area off the A403 are covered under the permit EPR/HB3706SM/A001.

Monitoring and inspections will be undertaken daily and dynamically by the area supervisors. Additional checks will be carried out by the assigned TCM who will be responsible for ensuring the environmental management system and other permit requirements are followed. The appointed TCM have up to date Level 4 Waste Management Industry Training and Advisory Board (WAMITAB) certifications or continuing competence certificates for waste management operations (managing treatment of non-hazardous waste, transfer of hazardous waste, landfill of hazardous waste, and medium risk operator competence for open inert landfill). Full certificates are provided with the permit application.

Weather reports from the Meteorological Office website will be reviewed each week for the proceeding 5 days, to highlight when conditions may present an increased risk to receptors from the ongoing works. If additional control measures are required, the most applicable control measure will be decided by the area supervisor and implemented to keep risk to receptors as low as reasonably possible.

1.6.1 Dust

Dust may have the potential to cause nuisance during dry periods, predominantly in the spring and summer months. Consideration needs to be given to local residents, highways, watercourses, and sensitive sites, habitats and species, especially during dry and windy weather conditions.

Visual checks for dust will be undertaken daily during works, with additional dynamic checks during changing weather conditions, or during activities that are likely to generate dust. All visual checks will be recorded in the site diary and will include the date, time, weather conditions and wind direction as well as appropriate action taken.

Proposed general control measures, consist of the following:

- Only permitted wastes are to be accepted, and dusty waste will be rejected prior to loading. The material is subject to testing before import, including moisture content and grading, which confirm that the material is cohesive (even when dry) and complies with suitability criteria for use in the ASEA Scheme. Granular materials will not meet the specification and therefore not be accepted.
- All import vehicles carrying loose material will be covered/sheeted;
- Speed limits will be put into place for all vehicular movements on-site;
- Vehicles exiting the stockpiling area will pass through a wheel wash and rumble strips;
- Drop heights of material from vehicles will be minimised where possible;
- Undertake visual inspections regularly to determine the need for any additional control measures, including on highways.

If additional control measures are required, the most applicable control measure will be decided by the area supervisor and implemented. These measures may include:

- Mobile water bowsers deployed at regular intervals to suppress dust;
- Stopping waste movement and/or placement during significantly dry and windy periods.

Phasing of the works is covered in Section 1.3 which, details the likely exposure timescales for receptors in the vicinity of the works.

1.6.2 Mud, Debris and Litter

The Site Managers will undertake inspections of the site access roads, all concreted and paved areas and haul roads, and consider whether it is necessary to remove any mud and debris found. These inspections will be carried out daily, but more frequently during times perceived to be of higher risk e.g. wet weather. The site managers will also inspect the immediate surroundings for the presence of litter as well as general housekeeping being undertaken daily to keep the sites safe, clear of debris, litter and dust. Any inspections and actions taken will be recorded on either the daily inspection sheet or in the Site Diary.

A road sweeper will be on standby to carry out cleaning of hardstanding as required, as well as vehicles exiting the stockpiling area passing through a wheel wash and rumble strips. Cleaning of the vehicles and plant will be carried out as required.

1.6.3 Vermin and Wildlife

Ecological surveys have been undertaken to confirm the presence of: bird roosts; badgers; bats; water voles; great crested newts; and otters on, and in the vicinity of, the work sites. Constraints and controls are presented in Table 1-3.

Works will be carried out in line with the Environmental Action Plan, Construction Environmental Management Plan, and works specific RAMS to ensure that protected and notable species, and sensitive areas are not significantly impacted by the works.

Table 1-3: List of Species in the vicinity of the site and constraints

Location/ activity	Constraints and control
Within 200m of a high tide roost	Biodiversity Protection Zones. No works to be carried out that would exceed 55dBA within two hours of high tide, between March and September inclusive.
Within 8m of a flood defence or Main River	Flood defence consent application and method statement.
Within 20m of a known bat roost	Bat roost – vibration and light levels within limits set out in Environment Action Plan. Depending on roost type, try to avoid season during which bats are known to be present, if not possible, works should be carried out under an EPS licence and the installation of a pole mounted bat box should be undertaken in a suitable location.
Within 250m of a GCN pond	Disturbance to GCN within this area and potentially outside this boundary if the area has good connectivity. A European Protected Species licence has been applied for to cover all works within this 250m buffer, potential to also work under a Reasonable Avoidance Measures method statement (RAMS).
Works near to a badger sett	If a badger sett is identified on site, a 30m exclusion zone should be maintained around the sett or setts. Tool Box Talks will be undertaken prior to works to ensure site staff are aware of potential presence of badgers and actions to take should these be discovered during works.

The waste type to be accepted is unlikely to be attractive to vermin, in that there will not be any food waste present. However, should vermin be found to be present onsite then advice will be sought from a specialist to appropriately deal with such incidents.

1.6.4 Odour

There is no requirement to monitor odour. The waste material will be non-biodegradable and therefore unlikely to produce odours.

1.6.5 Noise

The construction noise management plan is detailed in the CEMP. In summary, the nearest receptors are the villages of Aust, Ingst, Northwick, Redwick and Severn Beach, and the designated sites within the Severn Estuary, particularly the birds using these sites. Residential properties in the area are generally dispersed, however, proposed control measures consist of the following:

- Plant will be serviced regularly to minimise adverse noise impacts;
- All mechanical plant will be fitted with white noise reversing beacons;
- Selection of plant to benefit from effective silencers;
- Generators located near the sensitive receptor areas will be silenced or bunded;
- Plant switched off when not in use rather than letting engines idle;
- All drivers will adhere to the site speed limit;
- Plant will be started up sequentially rather than all together;

- HGV movements and deliveries, using public highways, will be planned within normal site working hours (working hours for construction will be restricted to 07:30 to 18:00 Monday to Friday. It is not envisaged at this stage that weekend working will be required, this will be on a planned basis, as required. When required, working hours will be 07:30 – 13:00 on Saturday);
- Staff and operatives will be briefed on the effects of noise nuisance and industry best practice, to reduce noise impacts;
- Prefabrication and cutting of materials off site wherever possible;
- Acoustic fencing will be used (if necessary) to prevent noise generated from localised activities from travelling; and
- Noise and vibration monitoring will be undertaken and assessed periodically during construction to ensure suitable noise levels are maintained. The HSE noise risk assessment INDG362 will be used to monitor exposure to noise; this spreadsheet is based upon the HSE publication L108 Controlling Noise at Work.

  No works are to be carried out that would exceed 55dBA within two hours of high tide, between March and September inclusive.

It is anticipated that much of the material movement works are to be undertaken during the earthworks season, between March and October, although material movements may be undertaken year-round. Phasing of the works is covered in Section 1.3 which, details the likely exposure timescales for receptors.

1.6.6 Surface and Groundwater Monitoring

Local watercourses and receptors have been identified through risk assessment in the immediate vicinity to the work sites. Discussions with a Technical Specialist (Groundwater, Hydrology and Contaminated Land) from the Environment Agency Wessex office concluded that the underlying geology is generally considered to be ‘low’ as a strategic groundwater resource and Environmental Quality Standard failures are known to be present in the area, including the Severn Estuary and other surface water. Monitoring of these waters is, therefore, not understood to be required in relation to the proposed works as the Acceptability Criteria of the material would ensure it is not a source of additional contamination to water quality, or ecological receptors (including protected species in the area).

Works will be managed in line with the CEMP and risk assessments to control the generation of sediment containing run-off, however, the material will be inert and compliant with quality testing, and therefore should not have significant detrimental impacts on controlled waters, human health or ecological receptors.

1.6.7 Maintenance

All haul roads and access points will be inspected daily and maintained by bulldozer and road sweeper to provide a suitable running surface and cleanliness.

Perimeter fencing will be inspected daily and repaired accordingly to ensure there are no gaps. All inspections will be recorded in the site diary.

The condition of plant and equipment will be inspected daily by the plant operator or site foreman in line with the CEMP. The inspections and their findings will be recorded in a plant inspection sheet / the site diary. Where identified that repair or maintenance is required, work on the machinery will be undertaken.

1.7 Security

Construction areas of the scheme will be secured using double clipped Heras fencing, and accessed via a secured entry gate. The Heras fencing will be braced at regular intervals to prevent it from collapsing in high winds or prevent unauthorised access. The fencing will be inspected daily by the site supervisor and repairs carried out accordingly and in a timely manner. All inspections will be recorded in the site diary.

1.8 Personnel, Training and Technical Competence Management Plan

A technically competent Site Manager will be nominated in advance of the commencement of works. The Site Manager will hold or be working towards their appropriate technical competence qualification to undertake their role and be aware of the effects that their role has on the management of environmental impacts on site. The Site Manager or other qualified personnel should be contactable during all operational hours or should make arrangements for short periods when they might not be contactable.

The training requirements for each employee at the site will be identified and inexperienced workers will be trained, coached and supervised closely by the site manager until considered competent for the task.

Training will include:

- Site specific inductions;
- Task specific instructions;
- Relevant health and safety modules/briefings according to role;
- Information relating to the permit and its management plans; and
- Any other specific training to enable the employee to do their job.

1.9 Site Records

All records which are required under the conditions of the Environmental Permit shall be maintained and kept secure from loss, damage or deterioration, and shall be kept in accordance with the requirements specified in Table 1-4 below.

All records that are required under the conditions of the permit shall be kept in a suitable and available place for immediate inspection, if necessary, by an authorised officer of the Environment Agency.

Table 1-4: Standards for keeping site records

Site records	Specified standards
• Wastes accepted at the site • Wastes rejected	• All records shall be stored either: – on paper in a secure cabinet or cupboard; or

Site records	Specified standards
• Wastes despatched from the site • Site diaries	– computer disc with a back-up copy. • Records shall be kept for a minimum of two years.

Project documents will be maintained and updated, as necessary, through the lifetime of the project, so that they continue to be relevant and applicable. This will include documents such as (but not limited to); the CEMP, activity management plans, and permit specific documents including the environmental risk assessment, and site condition report.

1.10 Community Engagement and Complaints

A Public Liaison Officer (PLO) has been appointed (Tony Bajjada), who is responsible for:

- Acting as the first point of contact for members of the public and the media;
- Ensuring local residents and stakeholders are kept informed of progress and key issues;
- Establishing and maintaining relationships with key stakeholders;
- Disseminating information relating to the construction programme to interested parties including any noisy activities or works requiring large vehicles/traffic disruption etc;
- Dealing with queries, responding to complaints and resolving concerns; and
- Producing newsletters, bulletins, posters etc. and displaying these throughout site offices and at site entrances to raise awareness of current issues within the project team and throughout the local community.