

CHAPTER 26: OUTLINE ENVIRONMENTAL MANAGEMENT PLAN

26. OUTLINE ENVIRONMENTAL MANAGEMENT PLAN

26.1 Introduction

The purpose of this outline Environmental Management Plan (EMP) is to guide Aberdeen Harbour Board (AHB) and their contractors during the construction and operational phases of the Aberdeen Harbour Expansion Project, to ensure that the commitments to mitigation, management and monitoring that are presented in this ES are applied. It would not be practical or achievable to produce a fully detailed EMP at this stage. The aim of the chapter, therefore, is to provide a framework that can be followed to develop a detailed EMP, in consultation with the regulators and their scientific advisors, once specific project design elements are known (i.e. once a construction contractor has been appointed).

Separate plans for construction activities and operational activities will be produced. A Construction Environment Management Plan (CEMP) and an Operational Environment Management Plan (OEMP) will be part of the overarching EMP. This will ensure that management measures are appropriate for the environmental risk during each phase of the development. Unless otherwise requested by the regulatory authorities the CEMP will be submitted to the relevant regulators for approval prior to construction commencing and the OEMP will be submitted for approval prior to completion of the construction works. These plans will be 'live' documents and it will be important that they are updated to manage change and re-submitted to the relevant regulators for approval.

Alongside the CEMP will be a Construction Method Statement (CMS). The CMS will include working methods, scopes, schedules, layout plans etc. It is important that the detailed CEMP is cross-referenced to the CMS so that environmental management measures are implemented.

26.2 Environmental Clerk of Works

Prior to commencement of construction, AHB will appoint an Environmental Clerk of Works (ECoW). The role of the ECoW will be to ensure delivery of the CEMP. The ECoW shall be on site during construction activities and will have the authority to halt works if necessary.

Post-construction, during the operational phase a designated employee of AHB will assume the role of Environmental Manager and will ensure delivery of the OEMP.

26.3 Construction Environmental Management Plan

The CEMP will make reference to:

- Mitigation measures set out in the ES;
- Conditions attached to the statutory consents;
- Further mitigation measures agreed post publication with consultees;
- Conditions and commitments agreed between AHB and landowners/occupiers; and

- Environmental best practice measures including those set out by statutory agencies such as Marine Scotland, the Scottish Environment Protection Agency (SEPA) and Scottish Natural Heritage (SNH) (some of which are also included in the ES mitigation).

26.3.1 Marine Non-native Invasive Species Plan

A Marine Non-native Invasive Species Plan will be developed to cover the construction phase of the development. The plan will include mitigation measures to prevent or reduce the potential for the introduction of marine non-native species into the marine environment. This will be developed in consultation with contractors/vessel operators and agreed with Marine Scotland. This plan will cross reference the Vessel Management Plan (VMP) – see Section 26.3.5.

The plan will include:

- Ballast and bilge water best practice;
- Identification of species of concern;
- Assessment of risk for construction vessels;
- Transfer mitigation methods; and
- Biofouling protocol.

26.3.2 Pollution Prevention Plan

A Pollution Prevention Plan will be developed that will aim to prevent and manage air and water pollution. The plan will be developed in consultation with contractors, and will incorporate existing pollution prevention protocols and operating systems where appropriate. The plan will be agreed with Marine Scotland and SEPA.

Controls of Emission to Water

The Pollution Prevention Plan will be based upon SEPA's Pollution Prevention Guidelines and will include the following measures as a minimum:

- Surface water drains will either drain to a sewer or be fitted with interceptors/silt-traps and shut off valves as appropriate;
- Materials will be stored as per specifications in appropriately designed containers and staff will be trained to ensure chemicals are appropriately disposed of;
- Staff will be trained in the prevention measures to adopt during maintenance, cleaning and repainting of vessels. Hull cleaning operations and substantial vessel maintenance will take place within dry dock facilities within the existing Aberdeen Harbour;
- Bunkering operations are completed only by trained personnel with constant presence at 'stop' switches; and
- A Spill Contingency Plan will be in place in the harbour. Dock Control Officers will patrol the area regularly for spills; stocks of absorbents will be maintained and staff will be trained to report and clean-up spills immediately.

Site Drainage

The contractor will retain a drainage plan on site detailing the location of all surface and foul water drains and will implement working practices to ensure that contaminated water does not impact upon controlled waters. The contractor will make relevant staff aware of the existing drainage network.

Under no circumstances will waste chemicals, fuels, silt or sediments be discharged to the drainage system, surface water or groundwater without appropriate permission. In the event of a blockage, a specialist trade contractor will clear out the drains and the waste material disposed of accordingly. Filters and/or settling tanks will be installed on drains to protect from emissions to sewer or controlled waters and these will be checked regularly.

Trade effluent from the site, including dewatering effluent, shall not be discharged to surface or foul water drains without obtaining consent from the Scottish Water. The contractor is responsible for obtaining necessary consents and ensuring compliance with any conditions, for example, relating to the quantity and quality of effluent.

Hazardous Substances

Hazardous substance stores (including fuel and chemical stores) and areas at risk of spillage/leakage of polluting materials will be bunded above ground where possible. Bunded compounds will have an impervious base, which can hold at least 110% of the biggest tank's capacity or 25% of the total capacity, whichever is the greater, to minimise the risk of hazardous substances entering the drainage system or the underlying aquifer.

Labels will be used to clearly indicate the contents of containers. There should be no storage of hazardous substances near open drains.

Fuel and Oil Handling and Delivery

Delivery of fuel and oil will be supervised at all times and checks will be made to ensure that the correct type and quantity of fuel is being delivered.

All pipelines and fuelling points will be protected from vandalism and unauthorised interference, and will be turned off and locked when not in use.

Drip trays will be used when filling smaller containers from tanks or drums to avoid drips and spills from entering the ground or drainage system.

Documentation

The following documents will be held on-site:

- Copies of Environmental Permits and/or discharge consents and records of any effluent monitoring be held in a designated file by Contractor and be available for inspection; and
- Should a pollution incident occur, a record of the incident will be maintained in an Environmental Incident Logbook by the contractor.

Control of Emissions to Air

On-site Preventative Procedures

Guidance from the Building Research Establishment (BRE) states that the most effective mitigation technique for dust control is to prevent dust from becoming airborne, since it is difficult to suppress after this stage.

Such measures would include:

- Damping down dry/dusty surfaces during dry weather;
- Erecting appropriate hoarding and/or fencing, as appropriate, to reduce dust dispersion;
- Sheeting chutes, skips and vehicles removing materials that could generate dust;
- Appropriate handling and storage of materials, especially stockpiled materials;
- Restricting drop heights onto lorries and other equipment;
- Using a wheel wash for vehicles (if required to reduce dust), appropriate management of vehicle speeds, avoidance of unnecessary idling of engines;
- Ensuring that all plant and vehicles are well maintained so that exhaust emissions do not breach statutory emission limits;
- Prohibiting fires on the construction site, other than as required for construction purposes;
- Ensuring that a road sweeper is available to clean mud and other debris from hardstanding roads and footpaths;
- The CMS will also provide protocols for materials handling, storage, stockpiles, spillage and disposal to minimise dust generation; and
- The contractor must ensure that all plant and vehicles are in good state of repair and conform to the manufacturers' specification or legislative/British Standard Emission Standards. Plant maintenance and defect reports shall be held on site in a designated file. Wherever possible, plant shall not be left running for long periods when not directly in use. Where appropriate, electrically-powered plant shall be used in place of machinery fuelled by petrol or diesel.

Monitoring

The contractor will develop a dust monitoring strategy to be detailed in the CMS. Dust monitoring record sheets will be completed.

Ongoing visual inspection of the site will be undertaken at all times. If dust clouds are observed, action should be taken immediately, notwithstanding dust monitoring measurements.

Documentation

The following documentation must be held on file on-site:

- Complaints procedure;
- Log complaints with source and details of corrective action taken; and

- Plant maintenance and defect reports.

Soil Contamination Controls

All land excavated material to be removed off-site would be subject to waste classification sampling and analysis.

In the event that ground investigation reveals elevated concentrations of contaminants within material scheduled for excavation and disposal, such material may require on-site treatment to reduce contaminant concentrations prior to disposal to landfill or indeed, re-use within construction.

Worker safety throughout the construction phase would be subject to mandatory requirements including the COSHH Regulations and the CDM Regulations. These regulations set out extensive requirements for the protection of construction workers and stress the importance of appropriate procedures in the event of the workforce encountering unexpected contamination.

The potential for contamination of the underlying soils and water environment receptors would be minimised through the following measures:

- Procedures for the management of materials, spillage clean-up, use of best practice construction methods and monitoring;
- The use of appropriate tanked and bunded areas for fuels, oils and other chemicals;
- Locating stockpiles of materials found to be contaminated on hardstanding surfaces to prevent mobile contaminants infiltrating into the underlying soils;
- Dust suppression measures; and
- Measures to avoid surface water ponding and collection and disposal of all on-site run-off.

Pollution Incident Control Procedure

General

This procedure applies to public safety, emergency and other unplanned activities during the development works. All staff are responsible for complying with the requirements of the procedure.

Procedure

The Contractor will have a spill control procedure as part of their operating procedures, which will be adhered to in the event of a spill.

Incidents that must be reported to the contractor are:

- Spills of chemicals, oils, fuels, unplanned or non-consented discharges;
- Release of fumes and gases;
- Any incident that could lead to local authority or regulatory enforcement, public complaint or media attention; and
- In the event of a spillage or other pollution incident, the Contractor or deputy, shall be notified immediately and immediate steps taken to prevent environmental pollution, for example:

- Protection of drains following a spillage of oil or other chemical;
- Use of spill kits following a spillage of oil or other chemical; and
- Turning off equipment or other source of fumes, noise or dust.

A suitable number of spill kits will be kept on site in the vicinity of the work in progress and areas of hazardous material storage, which as a minimum should contain absorbent granules, sand bags and drain covers. Absorbent pads and booms should preferably be used instead of granules and sand bags where possible. Used spill kits must be disposed of appropriately, for example as hazardous waste, where relevant.

If it is considered that a fugitive release to air, water or ground may have occurred, the following action will be taken:

- i. Ensure that it is safe to remain in the area;
- ii. Locate and switch any isolation switches, valves or pumps if possible;
- iii. Contact the following bodies where appropriate and follow their instructions:
 - a. SEPA (Tel: 0800 80 70 60); and
 - b. Fire Brigade - 999 (emergencies) 0131 228 2401 (non-emergencies).
- iv. Where possible, undertake damage control measures to prevent dispersion of gases or pollution from entering drains or water courses. For example, create containment sumps, pump liquid to temporary storage areas such as lined skips and block or clear drains as appropriate.

Documentation

A log of environmental incidents and remedial actions taken will be maintained on site and held by the Contractor.

26.3.3 Written Scheme of Investigation Protocol for Archaeological Discovery

In instances where avoidance of archaeological features is not possible, a programme of archaeological works will be established in the form of a Written Scheme of Investigation (WSI). The WSI would be agreed with the relevant authorities such as Aberdeen City Council and Historic Scotland and would cover both the onshore and offshore elements of the development.

A Protocol for Archaeological Discovery (PAD) will be developed and included within the CEMP. This will detail the procedures that will need to be followed, in the event of an archaeological discovery during construction or operation of the development. This will be developed in consultation with contractors and Historic Scotland, Aberdeen City Council, and Marine Scotland.

The WSI and PAD will be developed in line with Cowrie guidance and include:

- The respective responsibilities of AHB, main contractors, and archaeological contractors/consultants, to include contact details and formal lines of communication between the parties and with archaeological Curators;

- Ensure that any further geophysical and geotechnical investigations associated with the project are subject to archaeological input, review, recording and sampling;
- Provide for archaeological involvement in any diver and/or ROV obstruction surveys conducted for the development;
- Establish the exact position and extent of archaeological exclusion zones (if future studies reveal that these are required), and methodologies for their monitoring, modification and/or removal;
- Propose measures for mitigating effects upon any archaeological material encountered during the operation of the scheme; and
- Establish the reporting, publication, conservation and archiving requirements for the archaeological works undertaken in the course of the scheme.

26.3.4 Marine Mammal Protection Programme

A Marine Mammal Protection Programme (MMPP) will be included as part of the CEMP. The MMPP will include all mitigation measures that have been identified for marine mammals in Chapter 15: Marine Mammals. The Aberdeen Harbour Dolphin Protection Code will also be integrated in to the MMPP.

The mitigation measures identified in this ES to ameliorate noise effects are:

- Blasting operations will only be undertaken during daylight hours, under normal conditions. (Blasting may need to be done at other times for safety reasons.) All other noisy activities will be halted during blasting.
- Where practical, vibropiling to be used instead of percussive piling;
- Impact piling will be restricted to day-time hours only (Monday to Friday 0700 to 1900; Saturday 0900 to 1600; no impact piling on Sunday).
- Use of Marine Mammal Observers or Passive Acoustic Monitoring during hours of darkness, and 1 km mitigation zone for impact piling and blasting, and 500 m mitigation zone for drilling;
- Impact piling and blasting operations may only commence after marine mammals have been outside the exclusion zone for 30 minutes;
- Soft-start procedures over a duration of 30 minutes to displace individuals from areas where injury may occur; and
- Bubble curtains, foam sheeting or mattresses to be investigated to establish their suitability and effectiveness in reducing propagation of underwater noise.

The MMPP will follow the 'JNCC guidelines on statutory nature conservation agency protocol for minimising risk of injury to marine mammals from piling noise' and the 'JNCC guidelines for minimising the risk of injury to marine mammals from using explosives'. The MMPP shall cross reference to the Piling Management Protocol (PMP) (see Section 26.3.7) and the relevant CMS to ensure compliance in all instances.

The MMPP will include a Seal Injury Avoidance Scheme (SIAS), Marine Mammal Observation Protocol (MMOP) and Marine Mammal Monitoring Programme (MMMP). The aim of these plans and protocols will be to ensure vessels are aware of and comply with best practice to limit direct injury of marine mammals. Observation protocol will be used to standardise observation techniques in line with guidance from SNH and Marine Scotland. The MMMP will create a framework that will monitor the effectiveness of the implemented mitigation measures and identify any unforeseen effects. Again it is important that the MMMP is created in consultation with SNH and Marine Scotland.

26.3.5 Vessel Management Plan

The Vessel Management Plan (VMP) will be based upon best practice on reducing marine mammal injury and cross reference to the SIAS. The VMP shall include, but is not limited to:

- Individual vessel details;
- Number of vessels;
- How vessel management will be co-ordinated during construction;
- All construction and operational vessels will follow the Aberdeen Harbour Dolphin Code: <http://www.aberdeen-harbour.co.uk/operations/information-for-port-users/information-for-mariners/>.

Vessel movements will be co-ordinated through the Marine Co-ordinator and AHB's Vessel Traffic Services (VTS) – see Chapter 21: Shipping and Navigation for further details. The Marine Co-ordinator will also advise vessel skippers of any aggregations of birds and temporary avoidance areas may be put in place where possible, marked with navigation buoys as required.

26.3.6 Otter Protection Plan

An Otter Protection Plan will be developed after further surveys have established the territories and range of the resident otters, and how they are using the site. Further surveys will be made prior to construction commencing to establish that there are no holts, natal dens or couches within agreed otter exclusion zones.

The Otter Protection Plan will be informed by best practice guidelines including:

- Otters – Best Practice (SNH). Available from: <http://www.snh.gov.uk/about-scotlands-nature/wildlife-and-you/otters/best-practice/> [Accessed on 23/10/2015];
- Otters – Mitigation (SNH). Available from: <http://www.snh.gov.uk/about-scotlands-nature/wildlife-and-you/otters/mitigation/> [Accessed on 23/10/2015];
- Effects of Developments on Otters (SNH). Available from: <http://www.snh.org.uk/publications/on-line/wildlife/otters/effects.asp> [Accessed on 23/10/2015];
- Otters: surveys and mitigation for development projects (Natural England). Available from: <https://www.gov.uk/guidance/otters-protection-surveys-and-licences> [Accessed on 23/10/2015];
- Otter Breeding Sites - Conservation and management (Liles, 2003). Conserving Natura 2000 Rivers Conservation Techniques Series No. 5. English Nature, Peterborough;

- Otters & Development (Northern Ireland Development Agency); and
- Nature Conservation Advice In Relation To Otters. (Highways Agency, 2007). Design Manual for Roads and Bridges, Vol. 10, Section 4, Part 4: HA 81/99.

Appropriate best practice measures to take a due regard for the potential for otter to pass through the site during construction including:

- Soil materials stockpiled in the site for an extended period of time would be inspected weekly to ensure no mammal burrows are present;
- Construction compounds will be fenced off to which will help to prevent otter for entering them; and
- Proposed limited planting schemes as discussed in the HMP, where appropriate may provide more cover for otter moving through the site, although given the nature of the proposals, the extent of additional planting will be necessarily limited.

Construction of the breakwaters will use large blocks of concrete laid in a manner that will increase the value of the site to otter. It is considered that the completed breakwaters will provide the following opportunity to otter:

- Gaps between the blocks will provide plentiful resting opportunities for otter beside a readily available food source;
- The breakwater is likely to act like an artificial reef, providing shelter to fish, crustacean and shellfish species, attracting them to the breakwater;
- Increased cover across the 'mouth' of Nigg Bay; and
- Increased commuting opportunities across the 'mouth' of Nigg Bay.

26.3.7 Piling Management Protocol

The Piling Management Protocol (PMP) shall include written obligation to minimise impact piling as far as possible in addition to adhering to the 'JNCC guidelines on statutory nature conservation agency protocol for minimising risk of injury to marine mammals from piling noise' and cross referencing with the MMPP and CMS.

The PMP shall define a monitoring scheme to record or impact piling records including start and stop times delays, and mitigation measures / monitoring implement from the MMPP.

The following mitigation measures will apply to piling activities:

- Use of Marine Mammal Observers or Passive Acoustic Monitoring during hours of darkness, and 1 km mitigation zone for impact piling and blasting, and 500 m mitigation zone for drilling;
- Impact piling may only commence after marine mammals have been outside the exclusion zone for 30 minutes;
- Where practical, vibropiling to be used instead of percussive piling;
- Impact piling will be restricted to day-time hours only (Monday to Friday 0700 to 1900; Saturday 0900 to 1600; no impact piling on Sunday).

- Soft-start procedures over a duration of 30 minutes to displace individuals from areas where injury may occur; and
- Bubble curtains, foam sheeting or mattresses to be investigated to establish their suitability and effectiveness in reducing propagation of underwater noise.

26.3.8 Noise and Vibration Management Plan

This procedure applies to the management of noise and vibration during the construction works. All staff are responsible for complying with the requirements of the procedure. This plan will cross reference with the PMP where percussive piling techniques are the source of noise and vibration.

Procedures

Liaison with Aberdeen City Council

Discussions will take place between Aberdeen City Council, AHB and the Contractor to confirm the:

- Noise and vibration Action Levels;
- Noise and vibration monitoring regime;
- Internal sound pressure levels at nearby residential properties; and
- Proposed mitigation measures.

These will be detailed in the CMS.

Proposed Mitigation Measures

The following general mitigation measures should be implemented by all contractors at all times to minimise noise and vibration generated from site activities and disruption to any sensitive receptors:

- Noise and vibration monitoring on-site, where necessary, which would assist in controlling levels at sensitive receptors;
- The occupants of nearby residential properties potentially most affected by noise or vibration from on-site activities will be informed when specific noisy and vibration borne activities are likely to take place over a long period of time. A 24 hour contact telephone number for the public will be provided to allow identification of any noise problems and enabling concerns to be resolved at an early stage;
- Impact piling will be restricted to day-time hours only (Monday to Friday 0700 to 1900; Saturday 0900 to 1600; no impact piling on Sunday);
- At all times, where possible, static items such as generators shall be sited away from sensitive receptors and, where practical, noise control means, such as barriers, enclosures or silencers, will be utilised to further reduce noise;
- Reviewing construction techniques as required, especially in response to exceedances of the Noise Action Level and/or complaints;
- Regular communications held between the contractors, AHB and Aberdeen City Council officers;
- Implementing specific mitigation measures such as:

- Using efficient, well maintained plant and equipment; and
- Switching-off plant and equipment when not in use.

In addition, Contractors will be required to use Best Practicable Means (BPM) throughout the duration of the Site works and will register with the Considerate Contractors Scheme.

Development of a Transport Management Plan (TMP) would be agreed with Aberdeen City Council to minimise the temporary and intermittent adverse impacts that may arise from construction traffic.

Monitoring

Locations for any noise and vibration monitoring will be agreed with Aberdeen City Council prior to works commencing.

26.3.9 Fish Species Protection Plan

A Fish Species Protection Plan will be produced and shall include measures to limit noise impacts on fish as a result of piling and vessel movements. It shall cross reference the effects as described in Chapter 13: Fish and Shellfish Ecology as well as the PMP, VMP and CMS.

Proposed mitigation measures for piling operations include:

- Impact piling will be restricted to day-time hours only (Monday to Friday 0700 to 1900; Saturday 0900 to 1600).
- Application of soft start procedures prior to full energy impact and following JNCC guidance (JNCC, 2010);
- Where practical, vibro-piling will be used instead of hammer piling (pile driving by vibration is often implemented to mitigate adverse noise (van den Akker & van der Veen, 2013);
- Bubble curtains, foam sheeting or mattresses to be investigated to establish their suitability and effectiveness in reducing propagation of underwater noise; and
- Contribution to relevant salmon monitoring efforts to inform mitigation, where appropriate.

The period of peak sensitivity is April – July, within which no impact piling will take place during the night. This period covers the timing of the peak emergence of salmon smolts, the peak return of spring MSW salmon and the peak occurrence of returning autumn grilse in local coastal waters.

26.3.10 Habitat Management Plan

A Habitat Management Plan (HMP) would be prepared to provide mitigation to the loss of habitats within the site. The HMP would be incorporated into the finalised CEMP.

Where the loss of more valuable habitats (neutral grassland, dry dwarf shrub heath and coastal heathland) cannot be avoided, translocation of the seedbank should be considered (preferably to a suitable location of low value within or nearby the site and ideally connected to similar existing habitat within the site).

Soft landscaping may include species of tree, shrub and species-rich seed mixes of local provenance that have high nectar or berry resources. Scrub species lost as part of the development should be considered for replacement.

Where possible, the site would be prepared (vegetation clearance) out-with the bird breeding season (i.e. clearance would be between August and late March) to avoid impact on breeding birds. The ECoW should be present to ensure that no breeding is disrupted and the Wildlife and Countryside Act 1981 is adhered to.

It is recommended the ECoW is available to undertake regular monitoring of the site, especially should works be carried out through the breeding period (April to July). Clearance work would proceed only after the area for clearance has been inspected by the ECoW to determine if any breeding birds or dependent young are present. If any are found then preparation of that area would have to be placed on hold until the birds have finished their breeding cycle, or appropriate protective measures (i.e. restriction of working within 25 m of active nests and or dependent young) be put in place to keep within the law.

The working corridor for any works associated with the access roads would be marked out with pegs at the earliest opportunity, and the areas then mapped to identify the location of curved sedge, oyster plant and sea pea. This would allow such nationally scarce species to be conserved. The perimeter of the development area (including access tracks) within the site boundary would be delineated with fencing, and all contractors briefed that they may not track or operate out-with that fencing. This would ensure plant species and habitats are not affected unnecessarily.

A targeted survey will be undertaken pre-construction to identify the location of all sea pea, oyster plant and curved sedge within the site. If the plants lie out-with the proposed development land, the location should be marked (including buffer zone) prior to site clearance. If the plants are recorded within the land of the proposed development, the location of these plants should be marked in preparation of translocation to suitable habitat elsewhere within the site. Post-translocation management and monitoring of these species would be undertaken as recommended in the HMP.

26.3.11 Transport Management Plan

This procedure applies to the management of vehicles accessing the site during the works and vehicle circulation within the site. The Transport Co-ordinator, as nominated by the Contractor is responsible for managing traffic and ensuring that drivers adhere to the transport protocols. All staff are responsible for complying with this procedure.

Procedure

Public Safety

Operational areas will be properly separated from publicly accessible areas using hoardings, barriers, fences or other appropriate equipment. High quality hoardings will be used where the general public could be exposed.

The diverted coastal path will be designed appropriately and will incorporate appropriate signage to inform the public of the altered route. If partial road closure is required at any time, appropriate safety measures will be installed and signs and barriers erected.

Audits will be undertaken by the Construction, Design and Management (CDM) Co-ordinator at regular intervals during the site works. Any non-conformances will be rectified as soon as possible.

Transport Route

All construction traffic must access the site via designated traffic routes agreed with the Aberdeen City Council Roads Department before the commencement of works.

The designated route for all construction HGV trips would be via Coast Road and Hareness Road to the south of the site and on to Wellington Road. Abnormal loads up to 25 m long could negotiate Coast Road rail bridge, subject to approval of swept path analysis. Longer vehicles would need to go via an alternative route. Within Altens there would also be potential to use Crawpeel Road or Blackness Road to reach Wellington Road via Souter Head Road.

Once confirmed, it will be ensured that construction vehicles will not be permitted to use any other route. Responsibility would be placed on the appointed contractor to ensure that this construction traffic routing requirement is adhered to.

A detailed Traffic Management Plan (TMP) would be produced once the detailed construction methodology and therefore traffic movements are known. At this stage, the following bullet points are provided to inform the establishment of the TMP by the appointed contractor for the construction of the development, in order to assist in the control of traffic and minimisation of associated effects:

- Appropriate routing of excavation and construction vehicles;
- Proposed measures for temporary speed limit reductions on Coast Road: reduction to 40 mph from the Hareness Road Junction, reducing to 30 mph approaching site entrances;
- Routing of vehicles to consider material origin/destination and seek access to strategic road network by direct routes;
- Introduction of signage on Coast Road at the Hareness Road junction directing all traffic leaving the harbour onto Hareness Road and not through Cove;
- Details of links to the strategic road network to be provided to all personnel, subcontractors and delivery companies;
- Direct access arrangements to the site (which may require plans and phasing details);
- Any particular information on abnormal vehicle requirements;
- Established policy for reversing if turning is not possible (use of banksmen);
- The estimated number of vehicles per day/week (including the type of vehicles anticipated e.g. HGVs, vans, cars, minibuses);
- Staff compound locations and arrangements for staff parking;

- Arrangements for waiting vehicles;
- Details of the vehicle call up procedure if any;
- A named person with responsibility for supervising and controlling vehicle movements to and from the site;
- Estimates for the number and type of parking suspensions and Temporary Traffic Regulation Orders that may be required;
- Details of any diversion, disruption or other abnormal use of the public road during excavation and construction works;
- Potential impacts on vulnerable road users in particular, including cyclists, and details of mitigation strategies;
- Measures to protect pedestrian and cyclist safety from adjacent works;
- Details of safety, signage and accessibility (by mobility impaired) measures for footway diversions;
- Evidence of contact with the utility companies to determine whether they have works programmed for the area around the site and their responses;
- Work programme and/or timescale for each phase of the excavation and construction works;
- Details regarding vehicle sheeting/wheel cleaning etc.
- Procedures for monitoring and reviewing the Construction Traffic Management Plan throughout the construction period;
- Coordination of arrangements with other existing or planned development sites in the area; and
- Procedure for dealing with any direct or indirect complaints from local residents, businesses etc. regarding the construction traffic.

Site Access

Prior permission from Aberdeen City Council and Police Scotland would be required for the delivery/collection of loads likely to cause major disruption or that require a police escort.

Where practical, vehicle movement areas within the site will be kept as hardstanding to minimise the transfer of mud onto the local highway. However, vehicles leaving the site will be clean and if necessary, pressure washing of the wheels and chassis will be carried out before the vehicle leaves the site.

Road sweeping measures will be employed by the Contractor, when required, to ensure that highways are kept clean.

The public highway will not be used for the loading or unloading of materials. Vehicles waiting to leave the site will be required to switch off their engines. All vehicles will be booked in and out of site at the security point.

Dedicated access gates for pedestrians and vehicles will be provided, which will be manned by Contractor's transport co-ordinator or a representative to ensure pedestrian safety during arrival or departure of vehicles.

Site management should encourage the use of public transport wherever possible. This can be achieved through the inclusion of the subject in toolbox talks and site inductions.

26.3.11.1 Vehicle Maintenance and Emissions

All vehicles should be regularly maintained in accordance with the manufacturer's specifications and CO₂ emissions from, or energy use of, transport during construction will be monitored.

All commercial road vehicles used must meet European Emission Standards pursuant to EC Directive 98/69/EC (commonly known as Euro standards) of Euro 4.

All non-road mobile vehicles with compression ignition engines used within the site must comply with emission standards set in EC Directive 97/68/EC. Vehicles must meet Stage III limits from commencements of works.

Exemptions to the standards set out above for road and non-road vehicles may be granted for specialist equipment with alternative emission reduction equipment or run on alternative fuels. Such exemptions shall be applied for in writing to Aberdeen City Council in advance of use.

Vehicles or equipment not complying with these standards must not be used on site without prior written approval from Aberdeen City Council.

Any diesel-powered machines used on site must be run on low sulphur diesel, which is a fuel meeting the specification within BS EN 90.

Documentation

- Copies of vehicle maintenance records must be held in a designated file and made accessible if requested;
- Travel Plans will be held onsite and made available on request; and
- A log of correspondence with Aberdeen City Council regarding non-conformance/complaints.

26.3.12 Waste Management Plan

This procedure applies to the minimisation, storage and disposal of all waste generated during the demolition, construction and fitting out works. It is also concerned with the establishment of procedures for complying with statutory and good practice requirements for waste management. The contractor is responsible for ensuring that the relevant documentation is completed and held on site. In addition, all staff are responsible for adhering to the requirements of the procedure.

Procedure

Waste material from the demolition and construction works will be segregated into individual waste streams retained in clearly labelled stockpiles, skips or drums in designated areas. A detailed Site

Waste Management Plan (SWMP) will be developed by the contractor and will identify: methods of waste minimisation and recycling; information that will require recording; and monitoring information to be produced.

It is proposed to recycle the following materials, as a minimum:

- Plasterboard;
- Timber, where practicable;
- Hardcore; and
- Metal.

Where possible, materials to be recycled will be sorted on-site and stockpiled ready for collection. However, it may be necessary for some wastes to be taken off-site for segregation by a specialist contractor. The amount of construction waste reused, recycled or sent to landfill will be recorded by the contractor.

All potentially hazardous materials, such as waste oil and batteries require additional handling, storage and disposal precautions. They will be clearly labelled and removed by a specialist, licensed Waste Contractor and appropriate measures made for their disposal in accordance with all applicable environmental and health and safety legislation.

Where suspected contaminated or hazardous material or ground is encountered, that has not previously been identified by site investigations, the contractor is responsible for commissioning testing on samples to classify the extent and nature of these substances. This shall be undertaken by a Nationally Appropriate Mitigation Actions (NAMAs) / United Kingdom Accreditation Service (UKAS) accredited testing facility.

All waste will be stored in an appropriate container to prevent escape of material.

The site will be left in a clean and tidy condition at the end of each day. Areas around any canteen, offices and skips will be clean and tidy. Food waste will be collected regularly to avoid attracting vermin to the site.

All roads, pavements, construction equipment, temporary structures, materials and machines will be kept clean and tidy at all times with litter and rubbish removed promptly.

When leaving the site, appropriate measures will be taken to prevent waste escaping onto the public highways, for example containers must be secured and open skips must be covered by sheeting.

Documentation

The following documentation must be completed and held on-site by the Contractor in a designated file:

- Details of any targets for waste minimisation and recycling;

- Details regarding quantities of waste produced, reused, recycled and sent to landfill;
- Waste Transfer Notes (Controlled Waste);
- Special Waste Consignment Notes;
- Waste carrier's registration licences; and
- Other relevant Environmental Permits and licenses for disposal sites.

Transfer notes for controlled waste and consignment notes for special waste must include, amongst other information, an accurate description of the type, quantity and containment of waste; the European Waste Catalogue Number; SIC Code; and details of the waste carrier, who must be licensed. Sufficient information must be provided to ensure that the waste disposal operator is aware of the potential hazards of the substance. The Contractor should also ensure that returns for consignment notes are collected and retained. All documentation must be retained for a minimum of 2 years for transfer notes and three years for consignment notes and be available for inspection.

26.4 Operational Environmental Management Plan

The OEMP will make reference to:

- Mitigation measures set out in the ES;
- Conditions attached to the statutory consents
- Further mitigation measures agreed post publication with consultees including Marine Scotland, SEPA and SNH;
- Conditions and commitments agreed between AHB and landowners/occupiers; and
- Environmental best practice measures including those set out by statutory agencies such as Marine Scotland, SEPA and SNH (some of which are also included in the ES mitigation).

The OEMP will be live document, updated throughout the operational phase of the development. The document will be controlled by the Environmental Manager employed by AHB. Considering the timescale of the operational phase it will be important to update the document as scientific knowledge and technological advancements are made.

26.4.1 Marine Non-native Invasive Species Plan

A Marine Non-native Invasive Species Plan will be developed to cover the operational phase of the development. The plan will include mitigation measures to prevent or reduce the potential for the introduction of marine non-native species into the marine environment. This will be developed in consultation with contractors/vessel operators and agreed with MS.

26.4.2 Marine Mammal Protection Programme

The MMPP will include a Marine Mammal Observation Protocol (MMOP) and Marine Mammal Monitoring Programme (MMMP). Post-construction monitoring is proposed to be undertaken, which will monitor marine mammal presence. The monitoring will be used to record bird and marine mammal usage of the bay and the immediate vicinity. A monitoring report will be submitted to the regulatory authorities on its completion. The Aberdeen Harbour Dolphin Code will also be integrated in to the MMPP.