# Aberdeen Harbour Expansion Project

## Environmental Plan

21 October 2019

AHEP-DRA-APP-0001 Rev 3

DRAGADOS

# Glossary and Abbreviations

| Term | Description |
|---|---|
| AHB | Aberdeen Harbour Board |
| AHEP | Aberdeen Harbour Expansion Project |
| CEMD | Construction Environmental Management Document |
| CEMP | Construction Environmental Management Plan |
| Competence | Demonstrated ability to apply knowledge and skills |
| Compliance Obligation | Legal and other requirements that must be adhered to as part of the EMS. |
| Continual Improvement | Recurring process of enhancing the environmental management system in order to achieve improvements in overall environmental performance consistent with the organization's environmental policy |
| Corrective Action | Action to eliminate the cause of a detected nonconformity |
| DMCP | Detailed Mitigation Compensation Plan |
| Document | Information and its supporting medium |
| EMS | Environmental Management System |
| Environment | The surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation. |
| Environmental aspect | An element of an organization's activities or products or services that can interact with the environment. |
| Environmental impact | Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects. |
| Environmental Management System | Part of an organization's management system used to develop and implement its environmental policy and manage its environmental aspects. |
| Environmental Objective | Overall environmental goal, consistent with the environmental policy, that an organization sets itself to achieve. |
| Environmental Performance | Measurable results of an organization's management of its environmental aspects |
| Environmental Policy | Overall intentions and direction of an organization related to its environmental performance as formally expressed by top management |
| Environmental Target | Detailed performance requirement, applicable to the organization or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives |
| ES | Environmental Statement |
| HRO | Harbour Revision Order |
| Interested Party | Person or group concerned with or affected by the environmental performance of an organisation. |
| Internal Audit | Systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to |

| | |
|---|---|
| | which the environmental management system audit criteria set by the organization are fulfilled |
| ISO 14001 | The International Office for Standardisation management standard for Environmental Management Systems |
| Legal Requirements | Laws, regulations, licence conditions, and any other requirement that would result in legal enforcement action if not adhered to. |
| LNR | Local Nature Reserve |
| MMMP | Marine Mammal Mitigation Plan |
| Non-conformity | Non-fulfilment of a requirement, target or objective of the EMS |
| Other Requirements | Requirements that do not need to be complied with under law, but have been agreed to by the AHEP, and therefore if these are not complied with could result in a non-conformity during EMS audit. |
| PPP | Pollution Prevention Plan |
| Preventative Action | Action to eliminate the cause of a potential nonconformity or other undesirable potential situation |
| Prevention of pollution | Use of processes, practices, techniques, materials, products, services or energy to avoid, reduce or control (separately or in combination) the creation, emission or discharge of any type of pollutant or waste, in order to reduce adverse environmental impacts. |
| Procedure | Specified way to carry out an activity or process |
| Process | Set of interrelated or interacting activities which transforms inputs into outputs |
| RAMSAR | A Ramsar Site is a wetland site designated of international importance under the Ramsar Convention. The Convention on Wetlands, known as the Ramsar Convention, is an intergovernmental environmental treaty established in 1971 by UNESCO, and coming into force in 1975 |
| Record | Document stating results achieved or providing evidence of activities performed. Examples of documents that could be classed as Records are included within Section 6.4. |
| SAC | Special Area of Conservation |
| SPA | Special Protection Area |
| SSSI | Site of Special Scientific Interest |
| VMP | Vessel Management Plan |
| Vessel Manager | The individual responsible for operations on vessels working on the AHEP. |
| WMP | Waste Management Plan |

# Revision Log

Minor updates to formatting have been made throughout the document. The main/significant changes are listed in the table below.

| Revision Number | Date | Location of Revision | Revision Details |
|---|---|---|---|
| Rev 2 | 16/05/2018 | Section 1.3, Table 1.1 | Update of Table to remove individuals names |
| | | Figure 3.1 | Updated to remove individuals names |
| | | Section 1.3 Table 1.1 | Update to R&D, Quality and Environment Manager Title |
| | | Figure 2.3 | Update to flow chart job titles |
| Rev 3 | 21/10/2019 | Throughout the document | Formatted the alignment |
| | | | Changed the word “disposal” to “deposit” when in reference to marine dredging activities. |

# Contents

# 1 Introduction

## 1.1 Scope

This Environmental Plan has been developed to cover the construction phase of the Aberdeen Harbour Expansion Project (AHEP). The Plan takes into account the specific requirements applicable to the project, covering all activities with environmental impacts relating to the implementation of the works.

## 1.2 Requirements

This Plan has been developed in line with the existing Dragados Environmental Management System (EMS) which is ISO 14001:2004 accredited, and meets the following criteria:

- Responds to legal and other requirements;
- Responds to a detailed analysis of the environmental aspects that may occur as a result of the project, in line with the Environmental Statement (ES) and Additional Environmental Information Report; and
- It places the focus on the prevention, rather than control, of negative environmental impacts relating to the development.

## 1.3 Roles and Responsibilities

The following individuals are responsible for ensuring that the requirements of this Environmental Plan are implemented at the AHEP site.

Table 1.1: Roles and Responsibilities

| Job Title | Responsibilities |
|---|---|
| Project Director | Responsible for project management and client liaison at the AHEP site. |
| R&D, Quality and Environment Manager | Provide the Environmental Manager with a list of the legal requirements for the Project. |
| Environmental Manager | Establishing, implementing and maintaining the Environmental Plan at the AHEP site, in accordance with the requirements of the Dragados EMS;<br>Monitoring of environmental compliance, ensuring appropriate environmental management is carried out on site and ensuring environmental objectives are achieved;<br>Updating the AHEP legal and other requirements on a monthly basis;<br>Providing relevant training to contractors and sub-contractors;<br>Managing internal and external communications relating to environmental management;<br>Reporting to the Quality and Environmental Directorate on a monthly basis; and |

| Job Title | Responsibilities |
|---|---|
| | Reporting on the performance of the Environmental Plan. |
| Construction Manager | Ensuring environmental compliance relating to construction activities, including monitoring and provision of training;<br>Ensuring staff, contractors and sub-contractors are suitably qualified to work on the AHEP;<br>Ensuring staff, contractors and sub-contractors have attended the inductions, talks and training required prior to starting work at the AHEP site;<br>Ensuring that staff, contractors and sub-contractors who are responsible for carrying out tasks that have the potential to adversely affect the environment, are aware of the precautionary actions to take to reduce risk; and<br>Ensuring that staff, contractors and sub-contractors who are responsible for carrying out tasks that have the potential to adversely affect the environment are trained in incident response procedures. |
| Health and Safety Manager | Monitoring of health and safety compliance and practice and recording environmental risks reported by members of staff at the AHEP staff. |
| Environmental Clerk of Works | Monitoring construction activities to ensure appropriate mitigation measures are applied;<br>Provide site supervision of construction works, ensuring safe working practices and compliance with the Dragados Environmental Plan and CEMPS's; and<br>Report anomalies, incidents, and general environmental issuers to the Environmental Manager. |
| Community Liaison Manager | Main point of contact for all community engagement activities and discussion. |

# 2 Environmental Conditions

## 2.1 Environmental Setting of the Project

Nigg Bay, Aberdeen, has been chosen as the preferred location for the AHEP. A brief overview of the key environmental conditions specific to the site are summarised in Sections 2.2.1 to 2.4.1, in addition to the environmental and ecological features with the potential to be significantly affected by the AHEP and associated works as detailed within the AHEP ES. More detailed information on each of these topics is provided in the ES, which should be reviewed by all staff responsible for managing the AHEP EMS.

## 2.2 Physical Environment

### 2.2.1 Marine Physical Environment

Nigg Bay is a high-energy coastal environment, and construction of the AHEP will significantly reduce wave and current activity within the bay. There will also be temporary, but significant, increases in suspended sediments related to dredging and reclamation activities within the bay.

The Nigg Bay Site of Special Scientific Interest (SSSI) is located within the development area.

### 2.2.2 Water and Sediment Quality

Water quality in the Nigg Bay area is generally good, although a number of pollutants have been detected in samples from burns and outfalls discharging into the bay or in its vicinity.

The effects arising from potential releases or spills of contaminants could have a potentially significant effect on the environmental conditions at the site.

### 2.2.3 Ground Conditions and Contamination

The Ness Farm registered landfill is adjacent to the AHEP site, which dealt with a number of special wastes, including asbestos and industrial wastes. Made ground was found at six sample locations to the southwest of Nigg Bay.

The majority of the construction activities at the site will have a negligible impact on ground conditions and contamination, however impacts relating to dust, leaks and spills could be significant without mitigation.

## 2.3 Biological Environment

### 2.3.1 Nature Conservation

A number of designated nature conservation sites were considered as part of the ES, including the River Dee and Moray Firth Special Areas of Conservation (SAC), the Ythan Estuary, Sands of Forvie and Meikle Loch SPA, the Fowlsheugh Special Protection Area (SPA), the Montrose Basin RAMSAR site, the Donmouth Local Nature Reserve (LNR) and the Nigg Bay SSSI.

Although the ES found that these sites would not be significantly affected by development associated with the AHEP, the development does have the potential to adversely affect these sites if not managed in line with the mitigation agreed within the AHEP Construction Environmental Management Document (CEMD), and adherence to the CEMD is essential for the conservation of these sites.

In order to achieve the management objectives for the Nigg Bay SSSI a management programme has been developed in consultation with SNH, which can be found in Chapter 16 of the AHEP CEMD.

### 2.3.2 Terrestrial Ecology

The area surrounding Nigg Bay supports a population of marsh orchid *(Dactylorhiza purpurella)* which are listed in Appendix II of the Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES). The Preliminary Ecological Assessment[1] conducted for the ES submission noted the presence of curved sedge *(Carex maritime)*, oyster plant *(Mertensia maritima)*, and sea pea *(Lathyrus japonicas*) at the AHEP site, all species of importance for conservation. However, the Ecology Update Survey Report, commissioned in 2016[2], found no evidence of these three species. The presence of otters *(Lutra lutra)*, marine birds and breeding birds have also been recorded at the site; without mitigation these species have the potential to be negatively affected from disturbance and loss of habitat due to construction activities.

### 2.3.3 Fish and Shellfish Ecology

The coastal area surrounding Nigg Bay is regarded as a fish spawning and nursery area for various fish species including herring *(Clupea harengus)*, sandeel, cod *(Gadus morhua)* and whiting *(Merlangius merlangus)* and is part of a much wider fish habitat across the region. Other seasonal residents include haddock *(Melanogrammus aeglefinus)*, plaice *(Pleuronectes platessa)* and dab *(Limanda limanda)*.

Permanent resident fish in Nigg Bay include sand goby *(Pomatoschistus minutus)*, blennies and dragonets, together with crabs and whelks. Brown crabs *(Cancer*

[1] Aberdeen Harbour Expansion Project, Preliminary Ecological Assessment (2014) Waterman Energy, Environment & Design Limited, Third Floor, South Suite, 8 Nelson Mandela Place, Glasgow, G2 1BT
[2] Ecology Update Survey Report for Aberdeen Harbour Expansion Project, Nigg Bay, Aberdeen (2016) Biocensus, The Malt House, 17-20 Sydney Buildings, Bath, BA2 6BZ

*pagurus)* inhabit local rocky areas and are commercially fished. Brown shrimp *(Crangon crangon)* occupy areas of sandy seabed within the outer bay.

Migratory species such as Atlantic salmon *(Salmo salar)*, sea trout *(Salmo trutta)*, lamprey and eel are present within Nigg Bay and the wider area, particularly during migration to and from Scotland's east coast rivers, the closest being the River Dee. Atlantic salmon and other salmonids such as sea trout are host to the protected fresh water pearl mussels *(Margaritifera margaritifera)* found in the River Dee.

### 2.3.4 Marine Mammals

A number of marine mammals are present around the development area. Species of particular concern that could be significantly affected by activities associated with the development (without mitigation) include the Bottlenose dolphin *(Tursiops truncatus)*, Harbour porpoise *(Phocoena phocoena)* and the Harbour seal *(Phoca vitulina)*.

Other species that may be affected, depending on their presence at Nigg Bay, include the White-beaked dolphin *(Lagenorhynchus albirostris)*, Minke whale *(Balaenoptera acutorostrata)*, Risso's dolphin *(Grampus griseus)* and the Grey seal *(Halichoerus grypus)*.

Adherence to the mitigation measures detailed within the Marine Mammal Mitigation Plan, which can be found in Chapter 11 of the CEMD, is required to mitigate significant negative impacts on species of particular concern, and to reduce the risk to other species.

## 2.4 Human Environment

### 2.4.1 Seascape, Landscape and Visual Effects

The AHEP is a major infrastructure development and as such, will significantly alter the character of Nigg Bay. A Detailed Mitigation and Compensation Plan (DMCP) has been developed to minimise/offset these impacts by improving the quality of the surrounding areas. Full details are provided within the Habitat Management Plan and Otter Protection Plan, and the Landscape Management Plan which can be found in Chapters 9 and 10 of the CEMD respectively.

# 3 Project Organisation

An organisational chart illustrating the roles and responsibilities for individuals with a direct responsibility for environmental management at the AHEP site is provided in Figure 3.1 below.

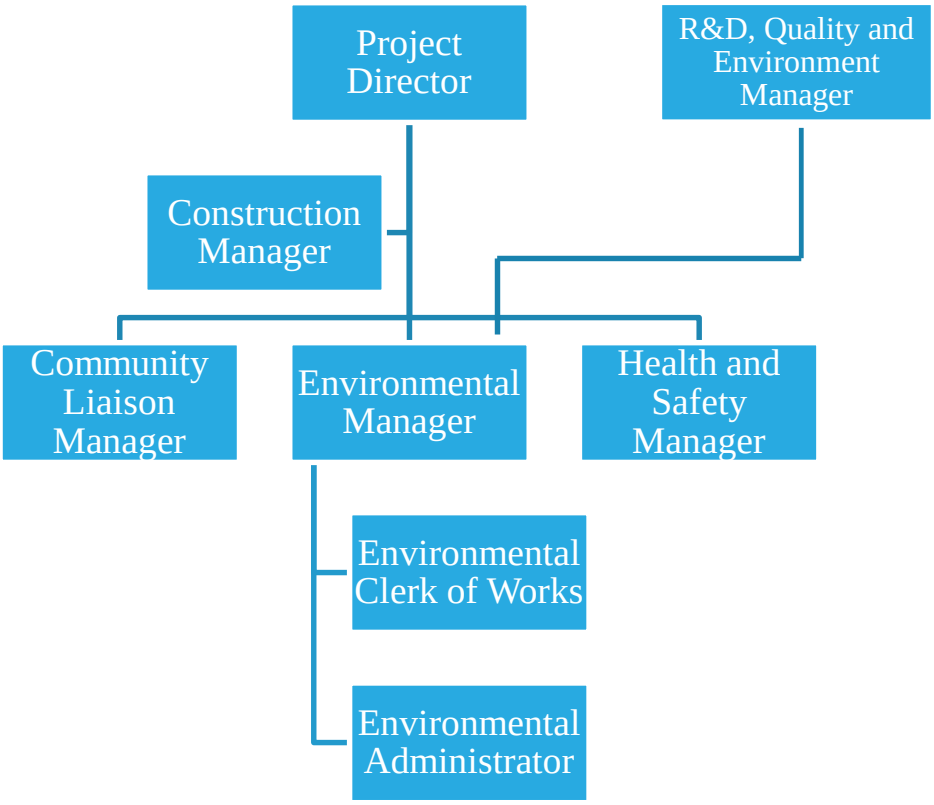


Figure 3.1: AHEP Environmental Management Organisational Chart.

# 4 Planning

## 4.1 Environmental Aspects

A review of the AHEP ES, additional submitted information relating to the ES, Dragados Construction Method Statement and the CEMD has been carried out in order to identify the environmental aspects associated with the construction phase of the AHEP.

Within the AHEP ES, any aspect which is considered to be of moderate or greater significance in terms of its effect on the environment, is considered to be a significant environmental impact requiring mitigation. Therefore, any aspect that is expected to have a moderate effect, or greater, prior to mitigation is considered to be a significant environmental aspect for the purpose of this Environmental Plan.

Additionally, a number of aspects relating to nature conservation have been included as significant environmental aspects, due to the requirement to carry out the agreed mitigation to protect sensitive features as part of the CEMD.

The significant environmental aspects associated with the AHEP along with their corresponding Operational Controls to mitigate their environmental impact are listed within Table 4.1.

For each of the significant environmental aspects, appropriate operating criteria have been identified which describe the environmental actions of a preventative and regulatory nature to be considered when performing each activity. These operating criteria are described in more detail in the individual Construction Environmental Management Plans (CEMPs) for each topic area. High level monitoring and measurement criteria are also listed within Table 4.1, with guidance on which CEMP document to consult for more detailed monitoring information.

Where environmental aspects are not significant, but do have corresponding operation criteria and monitoring requirements to manage environmental impacts, these have been considered within the CEMD, and any operational and monitoring requirements should be adhered to as “Other Requirements”.

Table 4.1: Summary of significant environmental aspects for the AHEP

| ES Topic | Significant Environmental Aspect | Description | Operational Control | Monitoring Required |
|---|---|---|---|---|
| Air quality | Dust emissions | Construction activities, earthworks, construction and trackout activities resulting in dust emissions. | Adherence to CEMD – in particular the Pollution Prevention Plan (PPP) which can be found in Chapter 15 of the CEMD. | Monitoring of mitigation activities as detailed within the PPP. |
| Archaeology and cultural heritage | All construction activities | All excavation and construction activities – loss of archaeological and cultural assets both known and unknown. | Written Scheme of Investigation, watching briefs, historic buildings report and supplementary heritage statement. | Monitoring requirements as detailed in the Written Scheme of Investigation, which can be found within the Archaeology Plan, in Chapter 4 of the CEMD. |
| Consumption of raw materials and natural resources | Use of fuels | Use of fuels for the running of plant and other machinery on site. | Inform staff operating plant and other machinery of the need to use fuel efficiently via a site briefing. | Monitor the use of fuels on site. The Environmental Manager will develop a baseline of fuel use once operations commence and review this at regular intervals, decided by the Environmental Manager, to suggest methods to increase fuel efficiency. |
| Consumption of raw materials and natural resources | Use of soil and rocks for construction | Importing of soils and rocks to the AHEP site for construction activities. | Use materials excavated on site for construction works to reduce the requirement to use virgin materials. | Monitor the transfer of construction materials taking place on site, including quantities against estimates. The Environmental Manager will review the efficiency of operations every 6 months. |

| ES Topic | Significant Environmental Aspect | Description | Operational Control | Monitoring Required |
|---|---|---|---|---|
| Consumption of raw materials and natural resources | Cement usage | Significant resource usage due to the importation of cement and batching on site. | Ensure resource use is efficient to reduce wastage. Reuse of inert materials on site to reduce the requirement for virgin concrete as detailed within the Waste Management Plan (WMP), which can be found within Chapter 18 of the CEMD. | Monitor the procurement and use of concrete on site, including quantities against estimates. The Environmental Manager will review the efficiency of operations every 6 months. |
| Consumption of raw materials and natural resources | Water use | All water use on site, including staff facilities, process and cleaning wastewater. | Monitoring of usage. | Monitor water use on site to ensure that leaks and unusual water usage are detected. |
| Consumption of raw materials and natural resources | Electricity use | All electricity used on site. | Monitoring and management of electricity use in line with ISO 50001. Use of motion sensors for lighting and automatic controls. Ensure working areas developed to be properly insulated with a high efficiency rating. | Monitoring of energy usage and patterns on site by the Environmental manager. |
| Nature Conservation | Eider duck of the Ythan SPA | Displacement, loss of foraging habitat and behaviour changes due to construction activities. | Adherence to the CEMD – in particular the Habitat Management Plan, Chapter 9, and the Vessel Management Plan, Chapter 17. | Monitoring of the response of eider ducks to the construction activities on site. |
| Fish and shellfish ecology | Underwater noise and vibration | Piling, dredging– underwater noise and vibration | Adherence to CEMD – in particular Chapter 8, the Fish Species Protection Plan and Chapter 14, the Piling Management Plan. | Records relating to piling activities – further details included within the Fish Species Protection Plan and Piling Management Plan. |
| Fish and shellfish ecology | Underwater noise and vibration | Blasting – underwater noise and vibration | Adherence to the CEMD – in particular Chapter 8, the Fish Species Protection Plan, Chapter 7 the Dredging and | Monitoring of blasting activities and the effectiveness of mitigation |

| ES Topic | Significant Environmental Aspect | Description | Operational Control | Monitoring Required |
|---|---|---|---|---|
| | | | Dredge Spoil Disposal and Management Plan, and Chapter 11 the Marine Mammal Mitigation Plan. | measures as detailed within the Marine Mammal Mitigation Plan. |
| Fish and shellfish ecology | Pollution incident | Accidental aquatic pollution incident | Adherence to the CEMD – in particular Chapter 15, the Pollution Prevention Plan, and Chapter 8, the Fish Species Protection Plan. | Monitoring of general site conditions as detailed within the Pollution Prevention Plan. |
| Ground conditions and contamination | Release of pollutants into the environment | Concrete pouring, the release of suspended sediment, storage of fuels and chemicals and leaks and spills of fuel and oil from construction vehicles. | Adherence to CEMD – in particular the PPP, Chapter 15. | Records relating to plant checks and maintenance and site walkovers will be retained. Records of any spills will be retained and operational reviews will be conducted in the case of any spills. |
| Ground conditions and contamination | Release of pollutants into the environment | There is a potential that accidental releases, leaks or spills could occur leading to migration beyond the construction area and potential effects on animal and plant receptors of the Balnagask to Cove Local Nature Conservation Site (LNCS). | Adherence to CEMD – in particular Chapter 15, the PPP. | Records relating to plant checks and maintenance and site walkovers will be retained. Records of any spills will be retained and operational reviews will be conducted in the case of any spills. |
| Marine water and sediment quality | Water pollution | Construction – releases of contaminants due to construction activities causing changes to classification of River Basin Management Plan (RBMP) water bodies. | Adherence to CEMD – in particular Chapter 15, the PPP. | Water quality will be monitored throughout the development, this is discussed in further detail in the Dredging and Dredge Spoil Disposal Management Plan, Chapter 7 of the CEMD. |

| ES Topic | Significant Environmental Aspect | Description | Operational Control | Monitoring Required |
|---|---|---|---|---|
| Land contamination | Leaks of oil, fuel and other hazardous chemicals | Contamination due to leaks from pipes, fuel and chemical stores or plant, vandalism or other unforeseen circumstances. | Follow the requirements listed in the PPP, Chapter 15 of the CEMD, regarding the maintenance and storage of oil, fuels and chemicals. Follow the emergency plan in case of a pollution incident. | Regular inspections of pipes, stores and plant to be carried out by the Environmental Manger to ensure these are not leaking and are secure and records of checks retained. |
| Land contamination | Cleaning of gutters on concrete tanks | Contamination from gutters and concrete tanks contaminating the terrestrial environment. | Plant cleaning to be managed in line with the PPP, Chapter 15 of the CEMD, to reduce pollution risk. | Inspections of plant cleaning activities to be conducted by the Construction Manager or Environmental Manager to ensure the PPP is implemented. |
| Land contamination | Residue of agglomerate and asphalt products | Waste generated via the works to widen roads on site including excess asphalt and scalpings. | Controlled wastes to be taken to a licenced waste deposit site via a licenced waste contractor in line with the requirements detailed in the WMP, Chapter 18 of the CEMD. | Monitoring of rates of controlled waste to deposit site. |
| Marine mammals | Noise | Rotary piling, drilling, blasting causing increased levels of underwater noise. | Adherence to CEMD – in particular the Marine Mammal Mitigation Plan (MMMP), Chapter 11. | Monitoring requirements are detailed within the MMPP, and the Piling Plan. |
| Marine mammals | Water pollution | Accidental spills of oil and fuels etc. into the marine environment during construction. | Adherence to CEMD – in particular the PPP, Chapter 15. | Monitoring of the conditions on site in line with the MMPP and PPP. |
| Nigg Bay SSSI | Degradation of the Nigg Bay SSSI | Degradation of the Nigg Bay SSSI due to construction activities. | Adherence to the CEMD – in particular Chapter 16, the SSSI Management Plan. | Monitoring of construction activities in line with the requirements of the SSSI Management Plan. |
| Noise and vibration | Noise | Construction and dredging activities – elevated notes levels. | Adherence to CEMD – in particular the Noise and Vibration Management Plan, Chapter 13. | Follow the monitoring guidance within the Noise and Vibration Management Plan |

| ES Topic | Significant Environmental Aspect | Description | Operational Control | Monitoring Required |
|---|---|---|---|---|
| | | | | |
| Noise and vibration | Noise | Construction traffic – elevated noise levels | Adherence to CEMD – in particular the Noise and Vibration Management Plan, Chapter 13, and Construction Traffic Management Plan, Chapter 6. | Follow the monitoring guidance within the Noise and Vibration and Traffic and Transport Management CEMPs. |
| Seascape, landscape and visual effects | Landscape and visual | Change in the landscape character and changes to viewpoints. | Mitigate impacts by adhering to the requirements of the Habitat Management Plan and Otter Protection Plan, and the Landscape Management Plan, Chapters 9 and 10 of the CEMD respectively. Adherence to the DMCP is also required. | Consent monitoring to ensure the requirements of the Section 69 agreement are adhered to, and adherence to the monitoring requirements detailed within the Landscape Management Plan. |
| Traffic and Transport | Access | Construction vehicles - Site traffic would be routed to the south along the Coast Road. There are no footways adjacent to the site and the road is narrow to the south of the railway bridge. | Adherence to CEMD – in particular the Construction Traffic Management Plan, Chapter 6. | Follow monitoring requirements detailed within the Traffic and Transport CEMP. |
| Water pollution | Discharges of solid materials (silt and sediment). | Transfer of silt and suspended solids from site activities to the water environment. | Follow the requirements listed in the PPP, Chapter 15 of the CEMD, to reduce the risk of transfer of silt and suspended solids into the water environment. | Regular inspections of stockpiles and silt capture facilities, particularly in wet conditions to reduce the transfer of sediment. |
| Water pollution | Discharges of concrete materials | Transfer of concrete materials from site activities into the water environment due to a failure of containment facilities. | Follow the requirements listed in the PPP, Chapter 15 of the CEMD, for the reduction of risk of concrete pollution. Cleaning and washing of plant to be | Regular inspections of plant washing facilities, batching plant, and wastewater treatment facilities to ensure concrete runoff is contained. |

| ES Topic | Significant Environmental Aspect | Description | Operational Control | Monitoring Required |
|---|---|---|---|---|
| | | | carried out in an enclosed areas and wastewater to be treated on site. | |
| Water pollution | Oil, fuel and other chemical spills or leaks. | Water pollution due to leaks or spills from storage facilities, pipes or vessels, or due to acts of vandalism. | Follow the requirements listed in the PPP, Chapter 15 of the CEMD, regarding the maintenance and storage of oil, fuels and chemicals. Follow the Vessel Management Plan (VMP) for actions to prevent pollution from vessels. Follow the emergency plan in case of a pollution incident. | Regular inspections of pipes, stores and plant to be carried out by the Environmental Manger and Vessel Managers on board vessels to ensure these are not leaking and are secure and records of checks retained. |
| Waste | General waste | Disposal of general waste. | Dispose in line with the requirements of the WMP, Chapter 18 of the CEMD, including re-using or recycling of general waste where possible. | Records of waste transfers to be retained, records of waste carriers licences to be retained. |
| Waste | Inert waste (excavation and construction activities) | Disposal of inert waste from construction activities | Action to be taken to re-use as much inert waste from site operations as possible onsite, remaining waste to be disposed of in line with the WMP, Chapter 18 of the CEMD. | Records of quantities of materials re-used on site to be retained, along with records of waste transfers and copies of waste carrier's licences. |
| Waste | Dredged materials | Deposit of dredged materials | Deposit in line with the requirements of the marine licences and Harbour Revision Order (HRO) as detailed within the WMP, Chapter 18 of the CEMD. | Records of amounts disposed of to be retained and monitored to ensure compliance with the licence conditions. |
| Waste | Special waste:<br>Used industrial oil, batteries and | Disposal of special waste | Disposal to be carried out via a licenced contractor in line with the requirements of the WMP, Chapter 18 of the CEMD. | Records of waste transfers to be retained, copies of waste carriers licences to be retained. |

| ES Topic | Significant Environmental Aspect | Description | Operational Control | Monitoring Required |
|---|---|---|---|---|
| | accumulators, WEEE. | | | |
| Waste | Tyre waste | Disposal of waste tyres from plant | No tyres to be stored on site. Ensure a licenced contractor disposes of waste tyres in line with the Waste Management Licensing (Scotland) Amendment Regulations 2016. | Records of waste transfers to be retained, copies of waste carriers licences to be retained. |

A complete list of the non-significant environmental aspects associated with the AHEP together with their required operational and monitoring requirements, where required, are listed within the individual CEMPs.

## 4.2 Legal and Other Requirements

The following documents have been consulted to identify the legislative requirements applicable to the AHEP:

- The AHEP ES; and
- The licences and consents applicable to the development.

The licences and consents applicable to the project include the Planning Permission in Principle, The Harbour Revision Order (HRO): The Marine Licences for dredging and construction.

Additional legal provisions applicable to the AHEP will be identified by the Health, Safety, Environment and Quality Director and provided to the Environmental Manager prior to the commencement of works on site. The Environmental Manager has responsibility for ensuring that staff with responsibilities that are linked in any way to legislative compliance, are sufficiently qualified to carry out their tasks, and have had sufficient information.

Any changes or deviations from the agreed programme of works must be reviewed and agreed by the Environmental Manager to ensure that any changes that may have an influence on the legislative compliance of the AHEP are recorded and that the AHEP continues to achieve full compliance with legal requirements.

### 4.2.1 Legal Requirements

The Health, Safety, Environment and Quality Director of Dragados will provide the AHEP work centre with a list of the requirements directly applicable to the construction activities to be carried out as part of the Project. This will be provided prior to the commencement of works on site and updated every two months throughout the project.

The legal requirements highlighted within the ES and the individual CEMPs will be reviewed by the Environmental Manager on a bi-monthly basis, in conjunction with the receipt of the monthly legislative update, to ensure that all legal requirements are recorded and adhered to.

### 4.2.2 Other Requirements

The following documents have been reviewed in order to identify non-legal requirements that Dragados have agreed to adhere to during the course of the AHEP:

- The AHEP ES to identify legislation and voluntary agreements applicable to the environmental aspects of the Project; and
- The Dragados Environmental Policy

Voluntary requirements subscribed to by Dragados will be identified by the Quality and Environmental Directorate along with the list of legal requirements, and

included in the list of requirements provided to the Environmental Manager prior to the start of works.

### 4.2.3 Compliance Responsibilities

An update providing information about legislative changes applicable to the project will be sent to the AHEP Environmental Manager by the Dragados Quality and Environmental Directorate. The Environmental Manager has responsibility for reviewing this information and cascading relevant information to staff working on the AHEP.

Information relating to other, non-legislative, and requirements will be updated by the Environmental Manager on a monthly basis.

The Environmental Manager is responsible for ensuring that staff on site, contractors and sub-contractors, where applicable, are made aware of their obligations relating to Legal and Other Requirements and understand the actions they need to take to manage their compliance.

Further details about the actions the Environmental Manager must take to ensure compliance is achieved at the AHEP site are listed in Section 5.1.

## 4.3 Objectives, Targets and Programmes

Dragados commit to meet the following objectives over the course of the AHEP:

- To take action to prevent environmental pollution
- To comply with the mitigation measures detailed within the CEMD, additional legal requirements, and other requirements as identified in Section 4.2.2 of this Environmental Plan
- To manage the Environmental Plan in such a way as to achieve continual improvement

The Environmental Manager is responsible for ensuring, or where applicable designating responsibility for, the achievement of these objectives and setting the timescales for the achievement of these objectives.

# 5 Implementation and Operation

## 5.1 Resources, Roles, Responsibilities and Authority

The Dragados Quality and Environmental Directorate will ensure that the Environmental Manager has the resources to establish, implement, maintain and improve the Environmental Plan, in line with the requirements of the Dragados EMS.

The Environmental Manager has responsibility for:

a) Ensuring that this Environmental Plan is established, implemented and maintained at the AHEP site, in accordance with the requirements of the Dragados EMS; and

b) Reporting on the performance of the Environmental Plan to the Dragados Quality and Environmental Directorate for review, and providing recommendations for the continual improvement of the plan.

The Environmental Clerk of Works (ECoW) has responsibility for:

a) To provide site supervision of construction works, ensuring safe working practices and ensuring compliance with the Dragados Environmental Plan and the detailed CEMP's;

b) Report anomalies, incidents, and general environmental issuers to the Environmental Manager; and

The Construction Manager has responsibility for:

a) Ensuring staff, contractors and sub-contractors under his or her management are suitably qualified to work on the AHEP;

b) Ensuring staff, contractors and sub-contractors have attended the inductions, talks and training required prior to starting work at the AHEP site;

c) Ensuring that staff, contractors and sub-contractors who are responsible for carrying out tasks that have the potential to adversely affect the environment, are aware of the precautionary actions to take to reduce risk; and

d) Ensuring that staff, contractors and sub-contractors who are responsible for carrying out tasks that have the potential to adversely affect the environment are trained in incident response procedures.

The Environmental Manager, ECoW and Construction Manager all have the authority to stop works if necessary.

Although individual job titles are used to allocate responsibilities throughout this Environmental Plan, individuals with responsibilities will be identified by name at the site level, and this information, including contact details, will be made available to all staff at the AHEP site.

## 5.2 Competence, Training and Awareness

### 5.2.1 Competence

The Environmental Manager shall identify training needs associated with the identified environmental aspects, and the Environmental Plan for the AHEP site. The Environmental Manager shall provide training or take other action to meet these needs, and shall retain associated records.

The Environmental Manager shall ensure that all staff, contractors, sub-contractors and vessel masters working on the AHEP understand the requirements that apply to them under the AHEP licences and the CEMD, and that a copy of the relevant licences and the CEMD are displayed in any office areas, and on-board vessels.

The Construction Manager will ensure that staff, supervisors and sub-contractors have provided evidence of their competency to carry out works associated with the AHEP.

The Construction Manager will ensure that all staff, contractors and sub-contractors attend all required training, as identified by the Environmental Manager. Staff, contractors and sub-contractors will not be permitted to work on site without attending the required training.

The Construction Manager and Environmental Manager must ensure that personnel working for the company, or on behalf of the company, such as contractors or sub-contractors, are aware of the following:

a) The importance of understanding, and conforming to the requirements of the following:
    - The Dragados Environmental Policy;
    - Legal and other requirements relevant to the AHEP;
    - Environmental procedures relevant to their role;
    - The requirements of this Environmental Plan; and
    - The AHEP CEMD.

b) The significant environmental aspects relevant to their role including:
    - The actual and potential environmental impacts associated with their work;
    - Mitigation measures for environmental protection; and
    - The environmental benefits of improved personal performance.

c) Their roles and responsibilities in adhering to the requirements of this Environmental Plan; and

d) The potential consequences of departure from specified procedures to ensure environmental protection.

These requirements will be communicated in a number of formats, to ensure the information is delivered to, and understood by, all staff.

### 5.2.2 Training

## Induction

All staff, regardless of their position or level of responsibility, will receive a site induction which will cover the following:

- The existing environmental sensitivities at the AHEP site;
- The information relating to environmental requirements as listed in Section 4.2.1;
- The need to maintain compliance with legal requirements to ensure that operations on site can continue;
- The correct management and handling of waste on site, including an introduction to the Waste Management Plan;
- The potential for the cessation of works if activities on site do not comply with legal requirements;
- Reporting environmental risks;
- Actions to take in the event of an environmental incident, including contacting the AHEP site emergency phone; and
- The location of the AHEP site Incident Response Plan, which contains emergency contact details.

### 5.2.3 Toolbox Talks

In order to supplement the information provided as part of the induction process, Toolbox Talks will be delivered to provide further information about the following topics.

## The AHEP CEMD

This Toolbox Talk will cover the requirements of the AHEP CEMD, including the requirement to mitigate environmental impacts, and the legal obligation to comply with the measures set out within the CEMD under the project licences.

All staff will be required to confirm that they understand the purpose of the CEMD, and their requirements for environmental management to ensure the successful and compliant completion of the project.

## The Legal Requirements Applicable to the AHEP

This Toolbox Talk will cover the legal requirements of the AHEP, including the Marine Licence, the Harbour Revision Order, and the Planning Permission in Principle. It will also cover the legal significance of the CEMD, as part of the conditions of the aforementioned licences.

This talk will introduce the “Know your consent” document, and support staff in their understanding of the complex legal requirements of the AHEP.

### Environmental Risks and Risk Reporting

This Toolbox Talk will cover the environmental risks associated with the project, including the significant environmental aspects as detailed within this Environmental Plan, and the requirements of the PPP. Staff will be briefed on the need to manage environmental risks, and report anything potentially significant relating to environmental risk, such as a deviation from the CEMD, faulty machinery or any small leaks or spills. Staff are able to report any risks anonymously to the Health and Safety manager using observation cards on site.

### Actions to Take in the Event of an Environmental or Pollution Incident

This Toolbox Talk will discuss the environmental incident response procedure, and the actions to take in the event of an environmental incident. All staff will be made aware of the location of the AHEP incident response plan, and be provided with the details of the responsible person(s) they should contact in the event of an environmental incident. Staff will also receive training on how and when to use a spill kit, including in the event of a marine spill, and where these are located across the AHEP site.

### Waste Handling and Management

This Toolbox Talk will provide onsite instruction of appropriate segregation, handling, recycling, reuse and return methods to be utilised by all parties at appropriate stages of the Project.

### Protected Species and Sites

This Toolbox Talk will cover the protected species and sites that have the potential to be negatively affected as a result of the activities associated with the AHEP. This will also cover the legal requirements related to protected habitats and species as listed within the “Know Your Consent” document.

### Additional Briefings

When a new phase of work begins, all staff will receive a task briefing to provide information about the environmental risks associated with the phase of work, and their responsibilities for environmental protection. At all other times, all staff will attend a daily briefing, which will include details relating to environmental issues.

## 5.3 Communication

The Environmental Manager is responsible for managing internal and external communications in line with the requirements of the Dragados EMS.

### 5.3.1 Internal Communications

Internal communications are communications relating to environmental management at the AHEP site that exist between different levels of the organisation, including communications from AHEP to the Quality and Environmental Directorate at Dragados.

The Environmental Manager must ensure that all staff, contractors and sub-contractors working on the AHEP receive briefings on the Dragados Environmental Policy, the CEMD, and the environmental sensitivities at the AHEP site, via an initial induction and toolbox talks prior to the commencement of works on site.

Other methods that may be used to deliver internal communications can include information leaflets, awareness videos, interactive self-training and computer based courses, where it is appropriate to do so. However, all communications relating to significant environmental aspects, environmental compliance or pollution prevention measures should be delivered face to face by the Environmental Manager or the Construction Manager.

AHEP staff may make written suggestions relating to environmental management via their direct Manager, or the Environmental Manager and these will be submitted to the Quality and Environmental Directorate for review.

The Environmental Manager is responsible for providing a report containing the following information via email to the Quality and Environmental Directorate on a monthly basis:

- Reports providing details of any non-conformities identified at the AHEP site;
- Monitoring information relating to the significant environmental aspects at the AHEP site;
- Preventative action reports; and
- External environmental communication reports.

The Health, Safety, Environment and Quality Director will provide a communications matrix to the AHEP site which will provide the details of key individuals working at the AHEP site, their job roles and contact details. This document will also clarify the communication channels that should be followed at the AHEP site, including who has responsibility for informing other parties at the AHEP site, and how to respond, particularly in the event of an environmental incident.

### 5.3.2 External Communications

External communications are defined as any communication established with a person or group that is external to the AHEP and is affected by the environmental performance of the AHEP.

All communications will be recorded by the Environmental Manager, in particular the following details will be noted:

- Date of receipt

- Issue
- Actions required
- Closing date
- Whether there is a non-conformity report

A non-conformity report will be opened if the communication indicates that there has been a deviation from the requirements, objectives and targets of this Environmental Plan.

If repetitive external communications on the same subject are received, a non-conformity report will be opened.

If any correspondence is received relating to environmental compliance, resulting in a fine, claim or sanction, this must be communicated to the Project Director, and copies forwarded to the Legal Directorate and the Quality and Environmental Directorate.

The Environmental Manager is responsible for documenting and responding to external communications. In sensitive cases, the response should be discussed with the Project Director, and if deemed necessary, with the Dragados Quality and Environmental Directorate.

## 5.4 Documentation

The Environmental Manager is required to manage and maintain documentation in line with the requirements of the Dragados EMS, including the appropriate distribution and version control of documents.

Examples of documents for the purposes of this Environmental Plan may include:

- Statements of policy, objectives and targets;
- Information on significant environmental aspects;
- Procedures;
- Process information;
- Organisational charts;
- Internal and external standards;
- Site emergency plans; and
- Records (examples of records are listed in Section 6.4).

Decisions to document procedures should be based on considerations such as the consequences, including to the environment, of not doing so, the need to demonstrate compliance with Legal and Other Requirements, the need to ensure that an activity is undertaken consistently, and the advantages of doing so, for example when providing staff training on processes.

All documents should be version controlled, and the author and date of creation and distribution clearly stated.

Documents will be retained within the Document Control System at the AHEP.

## 5.5 Operational Control

Operational control involves identifying environmental aspects that have the potential to have adverse environmental impacts, and ensuring they are conducted in a way so as to reduce the risk of adverse environmental impacts occurring.

Operational control criteria for significant environmental aspects have been identified for the AHEP and are detailed in Table 4.1 of this Environmental Plan. Preventative measures and monitoring required for non-significant environmental aspects are detailed within the AHEP CEMD.

Legal Compliance involves meeting the General Legal Requirements, carrying out Regulatory Control of Facilities or activities and obtaining the necessary Permits. This also includes meeting the voluntary compliance obligations laid out in the Dragados Environmental Policy, and the goals and targets set for the Project.

It is necessary follow the legislative requirements relating to waste management legislation regardless of the treatment laid down for an environmental aspect present on site. Detailed guidance for waste management is provided within the Waste Management Plan, which can be found in Chapter 18 of the AHEP CEMD.

## 5.6 Emergency Preparedness and Response

Emergency Plans define the actions to be performed in case of an emergency so as to prevent and reduce the environmental impacts that may occur.

An Emergency Plan will be prepared for significant environmental aspects, or non-significant aspects where the potential for an emergency situation to have an environmental impact has been identified.

Possible emergencies will be identified, taking into consideration the causes, risks, locations or point sources related to the type of emergency referred to in the Plan. To do so, the following aspects will be considered:

- The activities to be performed and the construction methods used;
- Raw and ancillary materials, including their characteristics, storage conditions, and the quantities stored;
- Equipment and facilities involved, including consideration of the risk of leaks and spills, systems for the transfer and handling of products, and the potential for the malfunction of detection systems;
- The products and waste generated; and
- The services affected by the centre or the site.

Potential emergency situations and potential accidents relating to the AHEP that could have a negative environmental impact, along with mitigation and contingency response measures must be developed in line with the guidance provided in the AHEP PPP, which can be found in Chapter 15 of the AHEP CEMD.

Information relating to emergency response, provision of emergency contact details, the frequency that emergency plans will be reviewed and revised, is also provided within the PPP.

# 6 Checking

## 6.1 Monitoring and Measurement

Monitoring and measurement of environmental aspects will be carried out in line with the individual guidance provided in each CEMP developed for the AHEP, and in line with the conditions stated within the licences and consents for the AHEP.

The data collected during monitoring and measurement activities will be analysed by the Environmental Manager, where appropriate, to identify patterns and obtain information relevant to the environmental performance of the AHEP. Knowledge obtained from these activities will be used to implement corrective and preventative action.

Monitoring and measuring equipment will be calibrated and verified at specified intervals, or prior to use, in line with the manufacturers standards, international or national measurement standards.

Monitoring and measurement activities will be overseen by the Environmental Manager, but individual activities will be carried out by the responsible persons named in the individual CEMPs. Where the responsible person is not the Environmental Manager, they must report data relevant to the Environmental Plan to the Environmental Manager.

## 6.2 Evaluation of Compliance

The Environmental Manager must demonstrate, to the Quality and Environmental Directorate, that compliance with Legal and Other Requirements has been achieved in line with the AHEP licences and consents, and additional documents detailed in Section 4.2 of this Environmental Plan. This will be achieved by keeping records of actions taken to achieve compliance with the requirements detailed in Section 4.2.

## 6.3 Non-conformity, Corrective and Preventative Action

A non-conformity will occur where there is a deviation from the agreed procedures for the management of the AHEP environmental aspects. Examples could include a failure to carry out the required checks on oil or chemical storage facilities, failure to provide training as detailed within this Environmental Plan, or a severe pollution incident due to the failure of a containment facility.

Actions taken to correct a non-conformity will be dependent on the nature of the non-conformity and its seriousness. The Environmental Manager has responsibility for making decisions regarding actions to take in the case of a non-conformity, but in the case of a serious non-conformity this must be decided in consultation with the Quality and Environmental Directorate.

Where a non-conformity relates to a pollution incident, the AHEP Incident Response Plan must be followed in the first instance, before additional actions are taken.

Preventative actions relate to the measures set out within the CEMD for the protection of the environment, environmental receptors, and the prevention of pollution.

## 6.4 Control of Records

Environmental records that may be retained to evidence compliance with the requirements of this Environmental Plan may include, but are not limited to, the following:

- Training records;
- Process monitoring records;
- Inspection, maintenance and calibration records;
- Pertinent contractor and supplier records;
- Incident reports;
- Records of tests for emergency preparedness;
- Audit results;
- Management review results;
- Decisions relating to external communications;
- Records of applicable legal requirements;
- Records of significant environmental aspects;
- Records of environmental meetings;
- Environmental performance information;
- Legal compliance records; and
- Communication with interested parties.

Proper account should be taken of confidential information.

## 6.5 Internal Audit

The Quality and Environmental Directorate of Dragados will ensure that the Internal Audit of the AHEP is conducted by personnel who are competent and in a position to conduct the Audits impartially and objectively. An internal audit of the AHEP site will be conducted every 6 months during the project.

## 6.6 Management Review

The Quality and Environmental Directorate are responsible for reviewing the environmental performance of the AHEP, including the management of environmental aspects and impacts, operational controls, nonconformities and corrective actions, to ensure this is being managed effectively.

Environmental Objectives and Targets will be reviewed with the Environmental Manager, in order to ensure these are effectively improving the environmental progress of the AHEP, and delivering continual improvement.

# 7 Review Processes

## 7.1 Change Management

The Dragados AHEP Change Management Procedure has been agreed between the Project Director and the Project Management Team, including the Construction Manager and Environmental Manager, in line with the requirements of Schedule 2 of the HRO and condition 3.2.4(d) of the Marine Licences for Construction and Dredging.

The purpose of the Change Management Procedure is to ensure that the potential effects of a deviation from the agreed design, methodology or processes are reviewed by senior members of the Project Team, and that changes are communicated and recorded effectively. A list of actions may be raised and shall be followed to successful conclusion. Senior management are responsible for communicating the changes to the relevant personnel within their team.

Where a change to the agreed plans is implemented, the Environmental Manager will be responsible for updating all relevant CEMPs to reflect these changes, and ensuring that all relevant interested parties and consultees are made aware of any changes that are within their remit. It is imperative that any proposed changes to the CEMD must be submitted in writing to the statutory consultees no later than one month prior to the planned implementation of the proposed update or amendment.

The Change Management procedure should be followed where a deviation from the agreed scheme of works is proposed, including, but not limited to the following:

- A change in the agreed design of the project footprint;
- A change in the agreed construction methodology for the works;
- A change in the agreed schedule of mitigation;
- A change in the agreed on-site management processes; and
- A change in monitoring and measurement methodologies.

## 7.2 Environmental Plan Updates

This Environmental Plan is a working document and should be updated, as a minimum, every six months by the Environmental Manager during construction works to reflect any changes to the environmental conditions or compliance obligations at the AHEP site.

Where substantial changes are required to update the Environmental Plan, a new version of the document should be created by the Environmental Manager, this will be version controlled, detailing the version number, the date of the update, and the name of the individuals to develop and approve the update.

The Environmental Manager will be responsible for updating the Environmental Plan. This will involve the re-assessment of environmental aspects and impacts, and a resulting change to the operational controls and monitoring and measurement to be carried out.

Where a new version of the Environmental Plan is created, only activities that have not yet begun will be taken into account, however all assessments of Environmental Aspects that have been completed will be kept in the project archive as records of previous versions.