



Headquarters
P.O. Box 3000
Johnstown Castle Estate
County Wexford
Ireland

**WASTE LICENCE
Recommended Decision**

Licence Register Number:	W0289-01
Applicant:	The Minister for the Department of Agriculture, Food and the Marine, Agriculture House, Kildare Street, Dublin 2
Location of facility:	The East Tip, Haulbowline Island, Cork

INTRODUCTION

This introduction is not part of the licence and does not purport to be a legal interpretation of the licence.

Haulbowline Island is located in Cork Harbour. From the 1930s to 2001, part of the island was occupied by a steel works. Waste from the steel works, from the 1960s onwards, was disposed of by depositing it on shallow mudflats (the Spit Bank) to the east of the island. Over time, the waste deposits formed a landmass that is now known as the East Tip. The East Tip is some 9 hectares in size with a coastal perimeter of approximately 900 metres. The western boundary of the East Tip (approximately 350 metres) is delineated by the old seawall that was completed in 1894 as part of an infilling of the Spit Bank using local stone to construct the Naval dockyard that is still in use today.

No steel works waste was deposited in the East Tip since closure of the works in 2001. When the steel works was demolished in 2005-6, some demolition waste was deposited at the East Tip. The East Tip is constructed mostly of steel slag waste (64%) but also contains significant quantities of millscale, refractory and scrap metal. Smaller quantities of sludge, furnace dust, asbestos, demolition waste, refuse and topsoil are also present.

Under the ECJ ruling on case C494/01 (Commission v Ireland, 2005), the State agreed to remediate the site to ensure compliance with the Waste Framework Directive. The State agreed that the site would be regularised by way of waste licence application, planning application and, if needed, foreshore consents. Planning permission was granted with conditions by An Bord Pleanála on 1 May 2014.

The State has conducted a number of extensive site investigations and environmental assessments at the East Tip to determine the nature of its contents and their environmental impact. The most recent investigations and assessments were carried out in 2012-13 to provide additional data for the waste licence application made to the Agency in November 2013 and to set the objectives and limitations for remediation works to be undertaken at the East Tip such that environmental pollution will not be caused during or after construction works.

The waste licence boundary includes the area of the East Tip and its foreshore and this waste licence covers all works – investigative, pre-construction, construction and aftercare management – to be carried out from the date of grant of the licence.

This licence implements the requirements of the relevant provisions of the Landfill Directive. As the project involves only the remediation of a disused landfill, there will no construction of a new landfill or operational phase as a landfill. Paragraph 3.4 of Annex I of the Directive allows for derogation from the Directive's basic requirements for landfill liners and leachate collection systems if it is decided, on the basis of an assessment of environmental risks, that collection and treatment of leachate is not necessary and the landfill poses no potential hazard to soil, groundwater or surface water. The assessment carried out prior to grant of this licence has demonstrated that, based on environmental risk, there is no technical justification for requiring the installation of a landfill liner or leachate collection system at the East Tip.

The licence sets out in detail the conditions under which the Minister for the Department of Agriculture, Food and the Marine will operate and manage this facility.

Table of Contents

	Page No
Glossary of Terms	1
Decision & Reasons for the Decision	4
Part I Schedule of Activities Licensed.....	6
Part II Schedule of Activities Refused.....	6
Part III Conditions	7
Condition 1. Scope	7
Condition 2. Management of the Facility.....	8
Condition 3. Infrastructure and Operation	10
Condition 4. Interpretation	13
Condition 5. Emissions	13
Condition 6. Control and Monitoring.....	14
Condition 7. Resource Use and Energy Efficiency	15
Condition 8. Materials Handling	15
Condition 9. Accident Prevention and Emergency Response	16
Condition 10. Closure, Restoration and Aftercare Management	17
Condition 11. Notification, Records and Reports	18
Condition 12. Financial Charges and Provisions	19
SCHEDULE A: Limitations.....	21
SCHEDULE B: Emission Limits	21
SCHEDULE C: Control & Monitoring	22
SCHEDULE D: Specified Engineering Works	27
SCHEDULE E: Annual Environmental Report	27

Glossary of Terms

All terms in this licence should be interpreted in accordance with the definitions in the Environmental Protection Agency Acts 1992 as amended / Waste Management Acts 1996 as amended, unless otherwise defined in the section.

AER	Annual Environmental Report.
Agreement	Agreement in writing.
Annually	At approximately twelve-monthly intervals.
Application	The application by the licensee for this licence.
Appropriate facility	A waste management facility, duly authorised under relevant law and technically suitable.
Attachment	Any reference to Attachments in this licence refers to attachments submitted as part of this licence application.
BAT	Best Available Techniques.
Biannually	At approximately six – monthly intervals.
Biennially	Once every two years.
BOD	5 day Biochemical Oxygen Demand (without nitrification suppression).
CEN	Comité Européen De Normalisation – European Committee for Standardisation.
COD	Chemical Oxygen Demand.
Construction works	Includes preparatory investigations.
Containment boom	A boom that can contain spillages and prevent them from entering drains or watercourses or from further contaminating watercourses.
Daily	During all days of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement on any one day.
Day	Any 24 hour period.
Daytime	0700 hrs to 1900 hrs.
dB(A)	Decibels (A weighted).
DO	Dissolved oxygen.
Documentation	Any report, record, results, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this licence.
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this licence.
EIS	The Environmental Impact Statement dated October 2013 and submitted with the licence application including addenda provided to An Bord Pleanála as part of the planning application.
Emission limits	Those limits, including concentration limits and deposition rates, established in <i>Schedule B: Emission Limits</i> , of this licence.

EMP	Environmental Management Programme.
Environmental damage	As defined in Directive 2004/35/EC.
EPA	Environmental Protection Agency.
European Waste Catalogue (EWC)	A harmonised, non-exhaustive list of wastes drawn up by the European Commission and published as Commission Decision 2000/532/EC and any subsequent amendment published in the Official Journal of the European Community.
Evening Time	1900hrs to 2300hrs.
Facility	Any site or premises used for the purpose of the recovery or disposal of waste.
Fortnightly	A minimum of 24 times per year, at approximately two week intervals.
Heavy metals	This term is to be interpreted as set out in “Parameters of Water Quality, Interpretation and Standards” published by the Agency in 2001. ISBN 1-84095-015-3.
Hours of operation	The hours during which the facility is authorised to be operational.
Incident	The following shall constitute as incident for the purposes of this licence: <ul style="list-style-type: none"> (i) an emergency; (ii) any emission which does not comply with the requirements of this licence; (iii) any trigger level specified in this licence which is attained or exceeded; and, (iv) any indication that environmental pollution has, or may have, taken place.
$L_{Aeq,T}$	This is the equivalent continuous sound level. It is a type of average and is used to describe a fluctuating noise in terms of a single noise level over the sample period (T).
Landfill Directive	Council Directive 1999/31/EC.
$L_{Ar,T}$	The Rated Noise Level, equal to the L_{Aeq} during a specified time interval (T), plus specified adjustments for tonal character and/or impulsiveness of the sound.
Licensee	Minister for the Department of Agriculture, Food and the Marine, Agriculture House, Kildare Street, Dublin 2.
List I	As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.
List II	As listed in the EC Directives 2006/11/EC and 80/68/EEC and amendments.
Local authority	Cork County Council.
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function adequately.
Mass flow limit	An emission limit value expressed as the maximum mass of a substance that can be emitted per unit time.
Mass flow threshold	A mass flow rate above which a concentration limit applies.
Monthly	A minimum of 12 times per year, at intervals of approximately one month.

Night-time	2300 hrs to 0700 hrs.
Noise-sensitive location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
PRTR	Pollutant Release and Transfer Register.
Quarterly	At approximately three – monthly intervals.
Sample(s)	Unless the context of this licence indicates to the contrary, the term samples shall include measurements taken by electronic instruments.
SOP	Standard operating procedure.
Specified emissions	Those emissions listed in <i>Schedule B: Emission Limits</i> , of this licence.
Standard method	A National, European or internationally recognised procedure (e.g. I.S. EN, ISO, CEN, BS or equivalent); or an in-house documented procedure based on the above references; a procedure as detailed in the current edition of “Standard Methods for the Examination of Water and Wastewater” (prepared and published jointly by A.P.H.A., A.W.W.A. & W.E.F.), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or an alternative method as may be agreed by the Agency.
Storm water	Rain water run-off from roof and non-process areas.
The Agency	Environmental Protection Agency.
TOC	Total organic carbon.
Trigger level	A parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee.
Water Services Authority	Cork County Council.
Weekly	During all weeks of plant operation and, in the case of emissions, when emissions are taking place; with at least one measurement in any one week.

Decision & Reasons for the Decision

The Environmental Protection Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this licence, any emissions from the activity will comply with and will not contravene any of the requirements of Section 40(4) of the Waste Management Acts 1996 as amended.

In reaching this decision the Environmental Protection Agency has considered the documentation relating to licence application Register Number W0289-01. This includes supporting documentation received from the applicant, all submissions **and information** received from other parties, the report of the Licensing Inspector and the Environmental Impact Assessment (EIA) report contained therein.

It is considered that the Environmental Impact Assessment Report (as included in the Inspectors Report dated 4/6/2014) contains a fair and reasonable assessment of the likely significant effects of the licensed activity on the environment. The assessment as reported is adopted as the assessment of the Agency. Having regard to this assessment, it is considered that the proposed activity, if managed, operated and controlled in accordance with the licence will not result in the contravention of any relevant environmental quality standards or cause environmental pollution.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the proposed activity, individually or in combination with other plans or projects is likely to have a significant effect on a European Site(s). In this context, particular attention was paid to the European sites at Cork Harbour Special Protection Area [site code 004030] and Great Island Channel candidate Special Area of Conservation [site code 001058] and the Agency considered, for the reasons set out below, that the proposed activity is not directly connected with or necessary to the management of those sites as European Sites and that it cannot be excluded, on the basis of objective scientific information following screening under this Regulation, that the proposed activity, individually or in combination with other plans or projects, will have a significant effect on a European site and accordingly determined that an Appropriate Assessment of the proposed activity is required. Whilst there will be no direct impacts on European sites as a result of the proposed works, there may be indirect impacts during construction work at the East Tip on Cork Harbour SPA affecting birds that are the qualifying features of the SPA, and these are the reasons why an Appropriate Assessment is required:

- contamination of Harbour water during construction work by the release of harmful substances from disturbed waste and/or sediments:
 - contaminating food chains outside the SPA boundary but having effects within the SPA, and
 - contaminating habitats within the SPA.
- combination of the potential contamination of Harbour water from the proposed works and other potential release of contaminants from the densely populated and heavily industrialised periphery of Cork Harbour as well as the potential for increased sedimentation as a result of Port of Cork maintenance dredging.

In accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), pursuant to Article 6(3) of the Habitats Directive, the proposed activity will not adversely affect the integrity of a European Site(s) in particular Cork Harbour Special Protection Area [site code 004030] and Great Island Channel candidate Special Area of Conservation [site code 001058], having regard to its conservation objectives and will not affect the preservation of those sites at favourable conservation status.

In coming to this conclusion, the Agency is satisfied that it has identified all aspects of the proposed activity which can, by themselves or in combination with other plans or projects, affect the conservation objectives of a European Site in particular Cork Harbour Special Protection Area [site code 004030] and Great Island Channel candidate Special Area of Conservation [site code 001058], and is certain, in the light of the best scientific knowledge in the field, that the proposed activity will not, if carried out in accordance with this Licence and the conditions attached hereto, have lasting adverse effects on the integrity of those sites, will not hinder the preservation of those sites at a favourable conservation status, and will not hinder the lasting preservation of the constitutive characteristics of those sites that are connected to the presence of the habitat types, flora and fauna,

whose preservation was the objective justifying the designation of those sites, will respect the strict protection of animal types and plant types listed in Annex IV of Council Directive 92/43/EEC, in particular the following animal and plant types: otter, common pipistrelle, soprano pipistrelle, leisler's bat, dauberton's bat, harbour porpoise, bottle-nosed dolphin, and will not cause any disturbance to those species or any deterioration in their conservation status.

The Agency is satisfied that no reasonable scientific doubt remains as to the absence of such effects for the following reasons:

- despite there being a theoretical presence of manganese and chromium VI in the waters of Cork Harbour at concentrations above surface water quality standards and distances of 10m and 25m respectively from the shoreline, neither of these contaminants has actually been detected in water samples at concentrations above surface water quality standards;
- the proposed option of leaving waste on the foreshore outside the Perimeter Engineered Structure, as opposed to its excavation, will ensure that the suspension/re-suspension of sediment will be minimised and controlled during the works. Any suspension/re-suspension of sediment, in a worst case scenario, will be redistributed locally within the site environs;
- to the extent possible, dredging activities at the Port of Cork will not be scheduled to occur concurrently with the proposed works at the East Tip;
- as mitigation, the following is proposed by the applicant:
 - piling operations will be subject to detailed method statements to be agreed by NPWS;
 - areas of foreshore construction will be protected from sediment re-suspension by suitable abatement techniques;
 - water and sediment quality will be monitored periodically;
 - an ecologist will be employed by the contractor to monitor for any negative effects on wildlife.

Part I Schedule of Activities Licensed

In pursuance of the powers conferred on it by the Waste Management Act 1996 as amended, the Environmental Protection Agency (the Agency) proposes, under Section 40(1) of the said Acts to grant this Waste Licence to **the Minister for the Department of Agriculture, Food and the Marine, Agriculture House, Kildare St, Dublin 2** to carry on the waste activities listed below at **The East Tip, Haulbowline Island, Cork** subject to conditions, with the reasons therefor and the associated schedules attached thereto set out in the licence. For the purposes of Article 48 of the Waste Management (Licensing) Regulations, 2004, this facility is classed as **a hazardous waste landfill**.

Licensed Waste Disposal Activities, in accordance with the Third Schedule of the Waste Management Acts 1996 as amended

Class D1	Deposit into or on to land (e.g. including landfill, etc.). [Principal Activity]
Class D4	Surface impoundment (e.g. placement of liquid or sludgy discards into pits, ponds or lagoons, etc.).
Class D7	Release to seas/oceans including sea-bed insertion.
Class D13	Blending or mixing prior to submission to any of the operations numbered D1 to D12 (if there is no other D code appropriate, this can include preliminary operations prior to disposal including pre-processing such as, amongst others, sorting, crushing, compacting, pelletising, drying, shredding, conditioning or separating prior to submission to any of the operations numbered D1 to D12).
Class D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced).

Licensed Waste Recovery Activities, in accordance with the Fourth Schedule of the Waste Management Acts 1996 as amended

Class R4	Recycling/reclamation of metals and metal compounds.
Class R5	Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials.
Class R12	Exchange of waste for submission to any of the operations numbered R1 to R11 (if there is no other R code appropriate, this can include preliminary operations prior to recovery including pre-processing such as, amongst others, dismantling, sorting, crushing, compacting, pelletising, drying, shredding, conditioning, repackaging, separating, blending or mixing prior to submission to any of the operations numbered R1 to R11).
Class R13	Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced).

Part II Schedule of Activities Refused

None of the proposed activities as set out in the licence application have been refused.

Part III Conditions

Condition 1. Scope

- 1.1 Waste activities at this facility shall be restricted to those listed and described in *Part I Schedule of Activities Licensed*, and shall be as set out in the licence application or as modified under Condition 1.4 of this licence and subject to the conditions of this licence.
- 1.2 Activities at this facility shall be limited as set out in *Schedule A: Limitations*, of this licence.
- 1.3 For the purposes of this licence, the facility authorised by this licence is the area of land outlined in red on **drawing no. DG1002** of the application. Any reference in this licence to “facility” shall mean the area thus outlined in red. The licensed activities shall be carried on only within the area outlined.
- 1.4 No alteration to, or reconstruction in respect of, the activity, or any part thereof, that would, or is likely to, result in
- (i) a material change or increase in:
- the nature or quantity of any emission;
 - the abatement/treatment or recovery systems;
 - the range of processes to be carried out;
 - the fuels, raw materials, intermediates, products or wastes generated, or
- (ii) any changes in:
- site management, infrastructure or control with adverse environmental significance;
- shall be carried out or commenced without prior notice to, and without the agreement of, the Agency.
- 1.5 The facility shall be controlled, operated and maintained, and emissions shall take place as set out in the licence. All programmes required to be carried out under the terms of this licence become part of this licence.
- 1.6 Operating hours during construction**
- Unless otherwise agreed by the Agency, the facility shall be operated only:**
- **07.00 to 19.00 Monday to Friday; and**
 - **09.00 to 16.00 Saturdays.**
- 1.7 **This licence is for the remediation and aftercare of the facility and covers all phases of works following grant of this licence including site and foreshore preparatory investigations, pre-construction works, main construction works and maintenance and aftercare activities.**
- 1.8 **The licensee shall liaise with the Port of Cork regarding the scheduling of:**
- **dredging activities by Port of Cork, and**
 - **foreshore activities under this licence,**
- in order to minimise the potential for cumulative adverse impacts on the marine environment.**
- 1.9 This licence is for purposes of waste licensing under the Waste Management Acts 1996, as amended, only and nothing in this licence shall be construed as negating the licensee’s statutory obligations, or requirements under any other enactments or regulations.

Reason: *To clarify the scope of this licence.*

Condition 2. Management of the Facility

2.1 Facility Management

- 2.1.1 The licensee shall employ a suitably qualified and experienced facility manager who shall be designated as the person in charge. The facility manager or a nominated, suitably qualified and experienced deputy shall be present on the facility at all times during its operation or as otherwise required by the Agency.
- 2.1.2 The licensee shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience as required and shall be aware of the requirements of this licence.

2.2 Environmental Management System (EMS)

2.2.1 The licensee shall establish and maintain an Environmental Management System (EMS) in advance of the commencement of the activity. The EMS shall be updated on an annual basis.

2.2.2 The EMS shall include, as a minimum, the following elements:

2.2.2.1 Management and Reporting Structure.

2.2.2.2 Schedule of Environmental Objectives and Targets.

The licensee shall **prepare and maintain** a Schedule of Environmental Objectives and Targets. The schedule shall, as a minimum, provide for a review of all operations and processes, including an evaluation of practicable options for energy and resource efficiency, the use of cleaner technology, cleaner production and the prevention, reduction and minimisation of waste and shall include waste reduction targets. The schedule shall include time frames for the achievement of set targets and shall address a five-year period as a minimum. The schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report (AER).

2.2.2.3 Environmental Management Programme (EMP)

The licensee shall, **prior to the commencement of construction works**, submit to the Agency for agreement an EMP. **The EMP shall include:**

- **Operating procedures for the remediated facility (post-construction), including maintenance and inspection programmes.**
- A time schedule for achieving the Environmental Objectives and Targets prepared under condition 2.2.2.2 and shall include:
 - designation of responsibility for targets;
 - the means by which they may be achieved;
 - the time within which they may be achieved.
- **Monitoring and auditing programme (for construction works and post-construction)**
- **Closure, Restoration and Aftercare Management Plan**
- **Construction Environmental Management Programme (CEMP) to be implemented during construction works which shall include:**
 - **Surface Water Management Plan**
 - **Dust Emissions Minimisation and Management Plan**
 - **Odour Emissions Minimisation and Management Plan**
 - **Noise and Vibration Minimisation and Management Plan**

- **Man-made Marine Noise Minimisation and Management Plan**
- **Foreshore Construction Environmental Management Plan**
- **Asbestos Management Plan**
- **Unexpected Waste Arisings Management Plan**
- **Waste Treatment Procedures**
- **Criteria Governing the Use of Recovered Slag and Other Waste**
- **Measures for mitigation of environmental impact caused by delays/changes to the construction programme.**

2.2.2.4 The EMP shall be reviewed **as necessary** and amendments thereto notified to the Agency as part of the Annual Environmental Report (AER).

2.2.2.5 A report on the EMP, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the AER. Such reports shall be retained on-site **for the duration of construction works and at an appropriate location thereafter** and shall be available for inspection by authorised persons of the Agency.

2.2.2.6 Documentation

- (i) The licensee shall establish and maintain an environmental management documentation system which shall be to the satisfaction of the Agency.
- (ii) The licensee shall issue a copy of this licence to all relevant personnel whose duties relate to any condition of this licence.

2.2.2.7 Corrective Action

The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this licence not be fulfilled. The responsibility and authority for persons initiating further investigation and corrective action in the event of a reported non-conformity with this licence shall be defined.

2.2.2.8 Awareness and Training

The licensee shall establish and maintain procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

2.2.2.9 Communications Programme

The licensee shall establish and maintain a Public Awareness and Communications Programme to ensure that members of the public are informed, and can obtain information at the facility **or an alternative location and on a public website**, at all reasonable times, concerning the environmental performance of the facility.

2.2.2.10 Maintenance Programme

The licensee shall establish and maintain a programme for maintenance of all plant and equipment based on the instructions issued by the manufacturer/supplier or installer of the equipment. Appropriate record keeping and diagnostic testing shall support this maintenance programme. The licensee shall clearly allocate responsibility for the planning, management and execution of all aspects of this programme to appropriate personnel (see Condition 2.1 above).

2.2.2.11 Efficient Process Control

The licensee shall establish and maintain a programme to ensure there is adequate control of processes under all modes of operation. The programme

shall identify the key indicator parameters for process control performance, as well as identifying methods for measuring and controlling these parameters. Abnormal process operating conditions shall be documented, and analysed to identify any necessary corrective action.

Reason: *To make provision for management of the activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the environment.*

Condition 3. Infrastructure and Operation

- 3.1 The licensee shall establish and maintain, for each component of the facility, all infrastructure **and procedures** referred to in this licence or as required by the conditions of this licence. Infrastructure **and procedures** specified in the application that relate to the environmental performance of the facility and **are** not specified in the licence shall be installed/**implemented** in accordance with the schedule submitted in the application.
- 3.2 **Construction works at the facility shall be carried out according to a design and specifications to be set by the licensee that are in accordance with the limitations, mitigation measures and procedures set out in the EIS, the licence application and/or this licence.**
- 3.3 Facility Notice Board
- 3.3.1 The licensee shall, within one month of the date of grant of this licence, provide a Facility Notice Board on the facility so that it is legible to persons outside the main entrance to the facility. The minimum dimensions of the board shall be 1200 mm by 750 mm. The notice board shall be maintained thereafter.
- 3.3.2 The board shall clearly show:
- (i) the name and telephone number of the facility;
 - (ii) the normal hours of opening/operation;
 - (iii) the name of the licence holder;
 - (iv) an emergency out of hours contact telephone number;
 - (v) the licence reference number; and
 - (vi) where environmental information relating to the facility can be obtained.
- 3.3 The licensee shall install on all emission points such sampling points or equipment, including any data-logging or other electronic communication equipment, as may be required by the Agency. All such equipment shall be consistent with the safe operation of all sampling and monitoring systems.
- 3.4 The licensee shall clearly label and provide safe and permanent access to all on-site sampling and monitoring points and to off-site points as required by the Agency. The requirement with regard to off-site points is subject to the prior agreement of the landowners concerned.
- 3.5 Tank, Container and Drum Storage Areas
- 3.5.1 All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds shall be designed having regard to Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (2004).
- 3.5.2 All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:
- (i) 110% of the capacity of the largest tank or drum within the bunded area; or
 - (ii) 25% of the total volume of substance that could be stored within the bunded area.

- 3.5.3 All drainage from bunded areas shall be treated as contaminated unless it can be demonstrated to be otherwise. All drainage from bunded areas shall be diverted for collection and safe disposal, unless it can be deemed uncontaminated and does not exceed the trigger levels set for storm water emissions under **condition 5**.
- 3.5.4 All inlets, outlets, vent pipes, valves and gauges shall be within the bunded area.
- 3.5.5 All tanks, containers and drums shall be labelled to clearly indicate their contents.
- 3.6 The licensee shall have in storage an adequate supply of containment booms and/or suitable absorbent material to contain and absorb any spillage at the facility. Once used, the absorbent material shall be disposed of at an appropriate facility.
- 3.9 All pump sumps, storage tanks, lagoons or other treatment plant chambers from which spillage of environmentally significant materials might occur in such quantities as are likely to breach local or remote containment or separators shall be fitted with high liquid level alarms (or oil detectors as appropriate).
- 3.10 The provision of a catchment system to collect any leaks from flanges and valves of all over-ground pipes used to transport material other than water shall be examined. This shall be incorporated into a Schedule of Environmental Objectives and Targets set out in Condition 2 of this licence for the reduction in fugitive emissions.
- 3.11 All wells & boreholes shall be adequately sealed to prevent surface contamination and, as may be appropriate, decommissioned according to the UK Environment Agency guidelines “Decommissioning Redundant Boreholes and Wells” (or as otherwise may be agreed by the Agency). All wellheads shall be adequately protected to prevent contamination or physical damage.
- 3.12 The licensee shall install in a prominent location on the site a wind sock, or other wind direction indicator, which shall be visible from the public roadway outside the site.
- 3.13 The licensee shall provide and maintain wheel cleaners at the facility that shall be used by all vehicles leaving the facility as required to ensure that no process water or waste is carried off-site. All water from the wheel cleaning area shall be **collected for appropriate treatment, reuse or disposal**.
- 3.14 Perimeter Engineered Structure**

Unless otherwise agreed by the Agency, the Perimeter Engineered Structure shall consist of the following:

On the foreshore:

- (i) **Front-facing natural rock armour to a minimum height of +3.5mOD, suitably founded in the foreshore sediments; on**
- (ii) **Geotextile or similar containment; on**
- (iii) **Imported fill and/or recovered slag to form the underlying structure.**

At the Naval dockyard boundary:

- (i) **Imported fill to an appropriate depth beneath the formation level.**

3.15 The Perimeter Engineered Structure shall have a maximum permeability of 1×10^{-5} m/s.

3.16 Impermeable capping system

Unless otherwise agreed by the Agency, the impermeable capping system shall consist of the following:

- (i) **Top soil (150–300 mm) and subsoil, such that total thickness of top soil and subsoil is at least 1m; on**
- (ii) **300mm depth of rounded drainage stone or a geocomposite drainage layer and a network of field drains; on**

- (iii) **Barrier layer of 600mm compacted clay with a permeability of less than 1×10^{-9} m/s or a low permeability liner (e.g. LLDPE) or a geo-composite clay layer; on**
 - (iv) **300mm regulation layer of fine material (sand, silt or clay).**
- 3.17 No material or object that is incompatible with the proposed restoration of the facility shall be present **in the impermeable capping system** within 1m of the final soil surface levels.
- 3.18 **The licensee shall install sub-surface and top-of-cap surface water drainage systems as part of the impermeable capping system.**
- 3.19 Specified Engineering Works (SEW)
 - 3.19.1 The licensee shall submit proposals for any Specified Engineering Works, as defined in *Schedule D: Specified Engineering Works* of this licence, to the Agency for its agreement at least two months in advance of the intended date of commencement of any such works. No such works shall be carried out without the prior agreement of the Agency.
 - 3.19.2 All specified engineering works shall be supervised by an appropriately qualified person, and that person, or persons, shall be present at all times during which relevant works are being undertaken.
 - 3.19.3 A Quality Assurance Plan shall be in place for all specified engineering works and shall have regard, **as appropriate**, to the guidance set out in the EPA Manual *Landfill Site Design*.
 - 3.19.4 Construction Quality Assurance shall be undertaken by an independent third party on behalf of the licensee.
 - 3.19.5 Following the completion of any specified engineering works, the licensee shall complete a Construction Quality Assurance Validation Report. The validation report shall be made available to the Agency on request. The report shall, as appropriate, include the following information:
 - (i) A description of the works;
 - (ii) As-built drawings of the works;
 - (iii) The Quality Assurance Plan (including the Construction Quality Assurance and Manufacturing Quality Assurance Plans);
 - (iv) The names of the independent contractors/individuals responsible for each aspect of the Construction Quality Assurance and Manufacturing Quality Assurance Plans;
 - (v) Records and results of all tests carried out (including failures);
 - (vi) Drawings and sections showing the location of all samples and tests carried out;
 - (vii) Names of contractors and individuals responsible for undertaking the specified engineering works;
 - (viii) Records of any problems and the remedial works carried out to resolve those problems;
 - (ix) Records of Manufacturing Quality Assurance and Construction Quality Assurance certification; and
 - (x) Any other information requested in writing by the Agency.
- 3.20 The licensee shall have regard, **as appropriate**, to the guidance given in the Environmental Protection Agency Landfill Manuals (Site Design, Operational Practices, Monitoring, Site Investigations, and Restoration and Aftercare), as may be relevant, in the **construction works and aftercare management** of the facility.
- 3.21 All buildings constructed on the facility shall have regard to the guidance given in the Department of Environment 1994 publication "Protection of New Buildings and Occupants from Landfill Gas" and any subsequent revisions.

Reason: *To provide for appropriate operation of the facility to ensure protection of the environment.*

Condition 4. Interpretation

- 4.1 Noise from the facility shall not give rise to sound pressure levels ($L_{Aeq, T}$) measured at **noise sensitive locations** which exceed the limit values.
- 4.2 Dust and particulate matters from the activity shall not give rise to deposition levels which exceed the limit values.

Reason: *To clarify the interpretation of limit values fixed under the licence.*

Condition 5. Emissions

- 5.1 No specified emission from the facility shall exceed the limit values set out in *Schedule B: Emission Limits* of this licence. There shall be no other emissions of environmental significance.
- 5.2 No emissions, including odours, from the activities carried on at the site shall result in an impairment of, or an interference with amenities or the environment beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary.
- 5.3 No substance shall be discharged in a manner, or at a concentration, that, following initial dilution, causes tainting of fish or shellfish.
- 5.4 **The exceedence of Environmental Quality Standards for marine water at monitoring points SW1, SW2, SW3, SW4, SW5 and SW6 shall be treated as an incident.**
- 5.5 **The following trigger level shall apply in relation to storm water discharges at SW7 and SW8: suspended solids 50mg/l.**
- 5.6 **The licensee shall, as part of the Surface Water Management Plan required under condition 2 of this licence, establish trigger levels for the discharge by pumping to Cork Harbour of ponded water resulting from tidal inundation that occurs during construction works. No water shall be so discharged if the trigger levels are exceeded.**
- 5.7 **The licensee shall, as part of the Dust Prevention and Minimisation Management Plan required under condition 2 of this licence, establish alarm/trigger levels for continuous (real-time) PM₁₀ and metals monitoring in ambient air.**
- 5.8 In relation to **ground gases occurring at the facility during construction works**, the following shall constitute a trigger level:
- methane greater than 1% v/v, or
 - carbon dioxide greater than 1.5% v/v,
- measured in any monitoring borehole or building on or adjacent to the facility, service duct, manhole or other point as may be specified, located external to the body of waste. **A continuous monitoring system shall be installed in any buildings on the facility.**
- 5.9 The licensee shall ensure that all or any of the following:
- dust
 - **vibration**
 - vermin
 - birds
 - flies
 - mud

- dust
- litter

associated with the activity do not result in an impairment of, or an interference with, amenities or the environment at the facility or beyond the facility boundary or any other legitimate uses of the environment beyond the facility boundary. Any method used by the licensee to control or prevent any such impairment/interference shall not cause environmental pollution.

Reason: *To provide for the protection of the environment by way of control and limitation of emissions.*

Condition 6. Control and Monitoring

- 6.1 The licensee shall carry out such sampling, analyses, measurements, examinations, maintenance and calibrations as set out below and as in accordance with *Schedule C: Control & Monitoring*, of this licence.
- 6.1.1 Analyses shall be undertaken by competent staff in accordance with documented operating procedures.
- 6.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics shall be determined.
- 6.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.
- 6.1.4 Where any analysis is sub-contracted it shall be to a competent laboratory.
- 6.2 The licensee shall ensure that:
- (i) sampling and analysis for all parameters listed in the Schedules to this licence; and
- (ii) any reference measurements for the calibration of automated measurement systems;
- shall be carried out in accordance with CEN-standards. If CEN standards are not available, ISO, national or international standards that will ensure the provision of data of an equivalent scientific quality shall apply.
- 6.3 All automatic monitors and samplers shall be functioning at all times (except during maintenance and calibration) when the activity is being carried on unless alternative sampling or monitoring has been agreed in writing by the Agency for a limited period. In the event of the malfunction of any continuous monitor, the licensee shall contact the Agency as soon as practicable, and alternative sampling and monitoring facilities shall be put in place. The use of alternative equipment, other than in emergency situations, shall be as agreed by the Agency.
- 6.4 Monitoring and analysis equipment shall be operated and maintained as necessary so that monitoring accurately reflects the emission/discharge (or ambient conditions where that is the monitoring objective).
- 6.5 The licensee shall ensure that groundwater monitoring well sampling equipment is available and is fit for purpose at all times. The sampling equipment shall be to Agency specifications.
- 6.6 All treatment/abatement and emission control equipment shall be calibrated and maintained in accordance with the instructions issued by the manufacturer/supplier or installer.
- 6.7 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this licence, may be amended with the agreement of the Agency following evaluation of test results.
- 6.8 During construction works, the licensee shall take all reasonable steps, as set out in the EIS or otherwise as necessary, to prevent or, where this is not possible, minimise:**

- **emissions (including waste, marine sediment and light) into Cork Harbour;**
 - **noise and vibration emissions; and**
 - **dust emissions.**
- 6.9 The Perimeter Engineered Structure and engineered cap, including surface water drainage systems (top-of-cap and sub-surface), shall be properly maintained at all times and shall be inspected at a frequency to be specified in the EMP.**
- 6.10 Noise
- 6.10.1 The licensee shall carry out a noise survey of the site operations quarterly during construction works at the monitoring locations identified in Figure 10.1 of the EIS and denoted N1, N2A, N2B, N3, N4 and N5.**
- 6.10.2 The licensee shall, unless otherwise agreed by the Agency, carry out a noise survey during night-time operations at relevant monitoring locations.**
- 6.10.3 The survey programmes shall be undertaken in accordance with the methodology specified in the 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' as published by the Agency.
- 6.10.4 The emission of noise to the marine environment shall be minimised and controlled as set out in the EIS.**
- 6.11 Pollutant Release and Transfer Register (PRTR)
- The licensee shall prepare and report a PRTR for the site. The substance and/or wastes to be included in the PRTR shall be as agreed by the Agency each year by reference to EC Regulations No. 166/2006 concerning the establishment of the European Pollutant Release and Transfer Register. The PRTR shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted electronically in specified format and as part of the AER.
- 6.12 The licensee shall develop and establish a Data Management System for collation, archiving, assessing and graphically presenting the monitoring data generated as a result of this licence.

Reason: *To provide for the protection of the environment by way of treatment and monitoring of emissions.*

Condition 7. Resource Use and Energy Efficiency

- 7.1 The licensee shall identify opportunities for reduction in the quantity of **material resources, energy and** water used on site **during construction works** including **renewable energy, recycling and reuse initiatives**, wherever possible. Reductions in **material resources, energy and** water usage shall be incorporated into the Schedule of Environmental Objectives and Targets.

Reason: *To provide for the efficient use of resources and energy in all site operations.*

Condition 8. Materials Handling

- 8.1 No waste shall be accepted at the facility except natural materials comprising, for example, clay, silt, sand, gravel or stone that come within the meaning of inert waste and are required as fill or for other construction purposes.

- 8.2 The loading and unloading of materials shall be carried out in designated areas protected against spillage and leachate run-off.
- 8.3 The treatment of slag for the purposes of recovery and use shall take place according to:**
- **waste treatment procedures to be established in accordance with condition 2;**
 - **treatment objectives to render the waste useful as engineered fill; and**
 - **the limitations set out in the EIS for the prevention and minimisation of dust emissions.**
- 8.4 **Slag and other non-hazardous waste recovered at the facility shall be used in construction activities only in accordance with the engineering and environmental criteria governing the use of recovered slag and other waste prepared in accordance with condition 2 of this licence.**
- 8.5 **Stockpiles of excavated and recovered waste shall be stored in designated areas, clearly labelled, appropriately segregated and appropriately protected against erosion and dust generation.**
- 8.6 Disposal or recovery of waste on-site shall only take place in accordance with the conditions of this licence and in accordance with the appropriate National and European legislation and protocols.
- 8.7 **Waste generated or excavated at the facility and destined for off-site recovery or disposal shall be stored in designated areas, protected as may be appropriate against spillage, leachate run-off and dust generation.** The waste shall be clearly labelled and appropriately segregated.
- 8.8 Waste sent off-site for recovery or disposal shall be transported only by an authorised waste contractor. The waste shall be transported from the site of the activity to the site of recovery/disposal only in a manner that will not adversely affect the environment and in accordance with the appropriate National and European legislation and protocols.
- 8.9 The licensee shall export waste out of the State only in accordance with the relevant provisions of Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14th June 2006 on shipments of waste and associated national regulations. No waste classified as green list waste in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended) shall be consigned for recovery without the agreement of the Agency.
- 8.10 Waste for disposal/recovery off-site shall be analysed in accordance with *Schedule C: Control & Monitoring*, of this licence.
- 8.11 The licensee shall ensure that, in advance of transfer to another person, waste shall be classified, packaged and labelled in accordance with National, European and any other standards which are in force in relation to such labelling.
- 8.12 **Hazardous waste generated or excavated at the facility and destined for off-site recovery or disposal shall not be mixed with hazardous waste of a different category or with non-hazardous waste unless approved in writing, in advance, by the Agency.**

Reason: *To provide for the appropriate handling of material and the protection of the environment.*

Condition 9. Accident Prevention and Emergency Response

- 9.1 The licensee shall, **in advance of the commencement of construction works**, ensure that a documented Accident Prevention Procedure is in place that addresses the hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the

environment. This procedure shall, **unless otherwise agreed by the Agency**, be reviewed annually and updated as necessary.

9.2 The licensee shall, **in advance of the commencement of construction works**, ensure that a documented Emergency Response Procedure is in place that addresses any emergency situation which may originate on-site. This procedure shall include provision for minimising the effects of any emergency on the environment. This procedure shall, **unless otherwise agreed by the Agency**, be reviewed annually and updated as necessary.

9.3 Incidents

9.3.1 In the event of an incident the licensee shall immediately:

- (i) carry out an investigation to identify the nature, source and cause of the incident and any emission arising therefrom;
- (ii) isolate the source of any such emission;
- (iii) evaluate the environmental pollution, if any, caused by the incident;
- (iv) identify and execute measures to minimise the emissions/malfunction and the effects thereof;
- (v) identify the date, time and place of the incident;
- (vi) notify the Agency and other relevant authorities.

9.3.2 The licensee shall provide a proposal to the Agency for its agreement within one month of the incident occurring or as otherwise agreed by the Agency, to:

- (i) identify and put in place measures to avoid recurrence of the incident; and
- (ii) identify and put in place any other appropriate remedial actions.

Reason: *To provide for the protection of the environment.*

Condition 10. Closure, Restoration and Aftercare Management

10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery any soil, subsoil, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

10.2 Closure, Restoration and Aftercare Management Plan (CRAMP)

10.2.1 The licensee shall prepare, to the satisfaction of the Agency, a fully detailed plan for the **closure, restoration and aftercare management** of the site or part thereof. This plan shall be submitted to the Agency for agreement in advance of the commencement of **construction works**.

10.2.2 The plan shall, **unless otherwise agreed by the Agency**, be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the agreement of the Agency.

10.2.3 The licensee shall have regard to the Environmental Protection Agency Guidance on Assessing and Costing Environmental Liabilities (2014) when implementing Condition 10.2.1 above.

10.3 The CRAMP shall include, as a minimum, the following:

- (i) a scope statement for the plan;
- (ii) the criteria that define the successful decommissioning of the activity or part thereof, which ensures minimum impact on the environment; and
- (iii) a programme to achieve the stated criteria.

- 10.4 A final validation report to include a certificate of completion for the CRAMP shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

Reason: *To make provision for the proper closure of the activity ensuring protection of the environment.*

Condition 11. Notification, Records and Reports

- 11.1 The licensee shall notify the Agency, in writing, one month in advance of the intended date of **construction works**.
- 11.2 The licensee shall notify the Agency of the date when construction works were completed and the maintenance and aftercare phase commenced.**
- 11.3 The licensee shall notify the Agency by both telephone and either email or webform, to the Agency's headquarters in Wexford, or to such other Agency office as may be specified by the Agency, as soon as practicable after the occurrence of any of the following:
- (i) any release of environmental significance to atmosphere from any potential emissions point including bypasses;
 - (ii) any emission that does not comply with the requirements of this licence;
 - (iii) any malfunction or breakdown of key control equipment or monitoring equipment set out in *Schedule C: Control and Monitoring* of this licence which is likely to lead to loss of control of the abatement system; and
 - (iv) any incident with the potential for environmental contamination of surface water or groundwater, or posing an environment threat to air or land, or requiring an emergency response by the local authority.
- The licensee shall include as part of the notification the date and time of the incident, summary details of the occurrence and, where available, the steps taken to minimise any emissions.
- 11.4 The licensee shall make a record of any incident. This record shall include details of the nature, extent and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to manage the incident, minimise wastes generated and the effect on the environment, and avoid recurrence. The licensee shall, as soon as practicable following incident notification, submit to the Agency the incident record.
- 11.5 The licensee shall record all complaints of an environmental nature related to the operation of the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant (if provided) and the nature of the complaint. A record shall also be kept of the response made in the case of each complaint.
- 11.6 The licensee shall record all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility.
- 11.7 The licensee shall as a minimum ensure that the following documents are accessible at the site **or an alternative location, including a website, as may be agreed by the Agency:**
- (i) the licences relating to the facility;
 - (ii) the current EMS for the facility;
 - (iii) the previous year's AER for the facility;
 - (iv) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this licence and all other such monitoring which relates to the environmental performance of the facility;
 - (v) relevant correspondence with the Agency;
 - (vi) up-to-date site drawings/plans showing the location of key process and environmental infrastructure, including monitoring locations and emission points;

- (vii) up-to-date Standard Operational Procedures for all processes, plant and equipment necessary to give effect to this licence or otherwise to ensure that standard operation of such processes, plant or equipment does not result in unauthorised emissions to the environment;
- (viii) the current Environmental Management Plan (EMP); and
- (ix) any elements of the licence application or EIS documentation referenced in this licence.

This documentation shall be available to the Agency for inspection at all reasonable times.

- 11.8 The licensee shall submit to the Agency, by the 31st March of each year, an AER covering the previous calendar year. This report, which shall be to the satisfaction of the Agency, shall include as a minimum the information specified in *Schedule D: Annual Environmental Report*, of this licence and shall be prepared in accordance with any relevant guidelines issued by the Agency.
- 11.9 A full record, which shall be open to inspection by authorised persons of the Agency at all times, shall be kept by the licensee on matters relating to the waste management operations and practices at this site. This record shall be maintained on a monthly basis and shall as a minimum contain details of the following:
- (i) the tonnages and EWC code for waste imported onto and sent off-site for disposal/recovery;
 - (ii) the names of the agent and carrier of the waste, and their waste collection permit details, if required (to include issuing authority and vehicle registration number);
 - (iii) details of the ultimate disposal/recovery destination facility for the waste and its appropriateness to accept the consigned waste stream, to include its permit/licence details and issuing authority, if required;
 - (iv) written confirmation of the acceptance and disposal/recovery of any hazardous waste consignments sent off-site;
 - (v) details of all waste consigned abroad for recovery and classified as 'Green' in accordance with the EU Shipment of Waste Regulations (Council Regulation EEC No. 1013/2006, as may be amended). The rationale for the classification must form part of the record;
 - (vi) details of any rejected consignments;
 - (vii) details of any approved waste mixing; and
 - (viii) the results of any waste analyses required under *Schedule C: Control & Monitoring*, of this licence.
- 11.10 The licensee shall submit reports as required by the conditions of this licence to the Agency's Headquarters in Wexford, or to such other Agency office as may be specified by the Agency.
- 11.11 All reports shall be certified accurate and representative by the facility manager or a nominated, suitably qualified and experienced deputy.

Reason: *To provide for the collection and reporting of adequate information on the activity.*

Condition 12. Financial Charges and Provisions

12.1 Agency Charges

- 12.1.1 The licensee shall pay to the Agency an annual contribution of **€23,794**, or such sum as the Agency from time to time determines, having regard to variations in the extent of reporting, auditing, inspection, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activity as the Agency considers necessary for the performance of its functions under the Waste Management Acts 1996 as amended. The first payment shall be a pro-rata amount for the period from the date of grant of this licence to the 31st day of December, and shall be paid to the Agency within one month from the date of grant of the licence.

In subsequent years the licensee shall pay to the Agency such revised annual contribution as the Agency shall from time to time consider necessary to enable performance by the Agency of its relevant functions under the Waste Management Acts 1996 as amended, and all such payments shall be made within one month of the date upon which demanded by the Agency.

12.1.2 In the event that the frequency or extent of monitoring or other functions carried out by the Agency needs to be increased, the licensee shall contribute such sums as determined by the Agency to defray its costs in regard to items not covered by the said annual contribution.

12.2 Contribution to Biomarkers Monitoring

Unless otherwise agreed by the Agency, the licensee shall make a contribution annually to the costs incurred by Cork County Council in operating the Cork Animal Health Surveillance Scheme. The contribution will be based on an annual determination by the Agency and shall be levied as part of the annual enforcement charge.

Reason: To provide for adequate financing for monitoring and financial provisions for measures to protect the environment.

SCHEDULE A: Limitations

The following waste related processes are authorised:

- **Re-grading and re-profiling (movement) of waste stockpiles**
- **Excavation and re-deposit of waste**
- **Treatment of waste, e.g. crushing, grading, washing, mixing and stabilising**
- **Construction of perimeter engineered structure to contain waste, including use of waste in construction**
- **Construction of impermeable cap and installation of drainage network**
- **Use of imported inert waste in construction**
- **Maintenance and aftercare activities post-construction**

No additions to these processes are permitted unless agreed in advance with the Agency.



SCHEDULE B: Emission Limits

B.1 Noise Emissions

Daytime dB L _{Ar,T} (30 minutes)	Evening time dB L _{Ar,T} (30 minutes)	Night-time dB L _{Aeq,T} (15-30 minutes)
55	50	45 ^{Note 1}

Note 1: There shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise-sensitive location.



B.2 Dust and Metal Deposition

Monitoring Locations: AA1 Naval Base Dockyard
AA2 Naval Base Church
AA3 Cobh Town Hall
AA4 Cobh West (White Point Road)
AA5 Ringaskiddy village
AA6 Shanbally village

Drawing no. 1012a of Attachment F of the application form (also shown on Figure 9.2 (Rev. F02, Feb 2014) of the EIS). AA6 is only shown on Figure 9.2 (Rev. F02, Feb 2014) of the EIS.

Parameter	Level ^{Note 1, 2}	Averaging period
Dust	350 mg/m ² /day	Monthly
Arsenic	4 µg/m ² /day	1 year
Lead	100 µg/m ² /day	1 year
Cadmium	2 µg/m ² /day	1 year
Nickel	15 µg/m ² /day	1 year
Mercury	1 µg/m ² /day	1 year
Thallium	2 µg/m ² /day	1 year

Note 1: 30 day composite sample.

Note 2: Metal levels refer to levels in deposited dust.



SCHEDULE C: Control & Monitoring

C.1. Control of Emissions to Air

Description of Treatment: Dust prevention and minimisation practices and procedures during construction works

Control Parameter	Monitoring	Key Equipment ^{Note 1}
Dust prevention and minimisation practices and procedures as set out in the EIS and this licence	<p>Daily visual observation of adherence to documented procedures</p> <p>Daily log of inspections with statement of compliance/non-compliance</p>	<p>Wind direction indicator</p> <p>Wind speed meter or real-time (frequent update) data from other source</p> <p>Water bowsers</p> <p>Water sprayers/misters</p> <p>Wheel cleaners</p> <p>Vehicle speed limit indicators</p>

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.



C.2. Control of Emissions to Water

Description of Treatment: Practices and procedures to minimise suspension and dispersion of sediment in the marine environment during construction works

Control Parameter	Monitoring	Key Equipment ^{Note 1}
During foreshore works: Practices and procedures to minimise suspension and dispersion of sediment as set out in the EIS and this licence	<p>Daily visual observation of adherence to documented procedures</p> <p>Daily log of inspections with statement of compliance/non-compliance</p>	<p>Temporary containment structures/screens as required on foreshore</p> <p>Appropriate excavation and construction equipment</p>

Note 1: The licensee shall maintain appropriate access to standby and/or spares to ensure the operation of the abatement system.



C.3. Monitoring of Storm Water Emissions Post-Construction Works

Emission Points Description: Diffuse outfalls and associated emergency overflow discharge points

Emission Points Reference No: SW7
SW8
Drawing no. 1012b of Attachment F of the application form

Parameter	Monitoring Frequency	Analysis Method/Technique
Visual inspection	When site is visited by responsible staff, with log maintained	-
Suspended solids	Quarterly	Standard methods



C.4 Waste Monitoring

Waste Class	Frequency	Parameter	Method
Recovered slag and other waste ready for re-use as fill	Every 500m ³ produced	Chemical and geotechnical properties to be set under condition 2.2.2.3 of this licence (establishing criteria governing the use of recovered slag and other waste).	To be set under condition 2.2.2.3 of this licence (establishing criteria governing the use of recovered slag and other waste).
Other ^{Note 1}			

Note 1: Analytical requirements to be determined on a case by case basis.



C.5 Noise Monitoring

No additional noise monitoring is required in this schedule.



C.6 Ambient Monitoring

C.6.1 Air monitoring during construction works

Monitoring Locations: AA1 Naval Base Dockyard
 AA2 Naval Base Church
 AA3 Cobh Town Hall
 AA4 Cobh West (White Point Road)
 AA5 Ringaskiddy village
 AA6 Shanbally village

Drawing no. 1012a of Attachment F of the application form (also shown on Figure 9.2 (Rev. F02, Feb 2014) of the EIS). AA6 is only shown on Figure 9.2 (Rev. F02, Feb 2014) of the EIS.

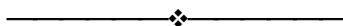
Parameter	Monitoring Frequency	Location	Analysis Method/Technique
Dust deposition ^{Note 1}	Monthly	AA1, AA2, AA3, AA4, AA5, AA6	Bergerhoff
Metals in deposited dust ^{Note 1}	Monthly	AA4, AA5	To be agreed
PM ₁₀ ^{Note 2, 3}	Daily	AA1, AA2, AA3	To be agreed
PM ₁₀ ^{Note 4}	Continuous	AA1	Real time analyser
Metals ^{Note 4}	Continuous	AA1	Real time analyser

Note 1: For comparison against deposition limit values in Schedule B.2 of this licence.

Note 2: For comparison against statutory limits presented in Air Quality Standards Regulations, S.I. No. 180 of 2011.

Note 3: During dry weather (<0.2mm rainfall) and for the duration of construction works involving the movement, treatment and manipulation of waste, the PM₁₀ filters shall be analysed for metal content with results to be compared against deposition limit values in Schedule B.2 of this licence.

Note 4: Alarm/trigger levels to be set at an appropriate level in accordance with condition 5.7 of this licence.



C.6.2 Groundwater Monitoring

- Monitoring Locations:**
- Groundwater – waste:
 - BH301
 - BH306A
 - BH310A
 - BH312A
 - BH311
 - Groundwater – silt/alluvium
 - BH306D
 - BH310B
 - BH312B
 - BH304
 - Groundwater – gravel and limestone
 - BH125R
 - BH117R
 - BH313
 - BH306C
 - BH312C
 - BH310C

Drawing no. 1012b of Attachment F of the application form (also shown on Figure 13.11 of the EIS)

Parameter	Monitoring Frequency	Analysis Method/Techniques
<p>Metals:</p> <ul style="list-style-type: none"> Arsenic Cadmium Chromium (total) Chromium VI Copper Zinc Lead Manganese Nickel Mercury Aluminium <p>Speciated polyaromatic hydrocarbons (PAHs)</p> <p>Petroleum hydrocarbons ^{Note 1}</p> <p>pH</p> <p>Redox (Eh)</p> <p>Dissolved oxygen</p> <p>Electrical conductivity</p>	<p>During construction works:</p> <ul style="list-style-type: none"> • Biannually <p>After construction works:</p> <ul style="list-style-type: none"> • Biannually for 12 months, and • Annually thereafter 	<p>Standard methods</p>

Note 1: During construction works only.



C.6.3 Marine Water and Marine Sediment Monitoring in Cork Harbour

Monitoring Locations: SW1
SW2
SW3
SW4
SW5
SW6

Drawings no. 1012a and 1012b of Attachment F of the application form (also shown on Figure 13.12 of the EIS)

Parameter	Monitoring Frequency	Analysis Method/Techniques
Metals: Arsenic Cadmium Chromium (total) Chromium VI Copper Zinc Lead Manganese Nickel Mercury Aluminium Speciated polyaromatic hydrocarbons (PAHs) Petroleum hydrocarbons ^{Note 1}	During construction works: <ul style="list-style-type: none"> • Marine water <ul style="list-style-type: none"> ○ Every two months • Marine sediment <ul style="list-style-type: none"> ○ Biannually After construction works: <ul style="list-style-type: none"> • Marine water <ul style="list-style-type: none"> ○ Quarterly for 12 months, and ○ Annually thereafter. • Marine sediment <ul style="list-style-type: none"> ○ Biannually for 12 months, ○ Annually for 24 months thereafter, and ○ Biennially thereafter. 	Standard methods

Note 1: During construction works only.



C.6.4 Meteorological monitoring during construction works

Location: At the facility (daily visual observation and record) and/or an agreed alternative station **or source of data.**

Parameter	Monitoring Frequency	Analysis Method/Technique
Visual observation and record at facility	Daily	
Precipitation volume	Daily	Standard Method
Temperature (min/max)	Daily	Standard Method
Wind direction	Daily ^{Note 1}	Standard Method
Wind force/speed	Daily ^{Note 1}	Standard Method

Note 1: If not measured at the facility, the licensee shall have real-time (frequent updates) access at the facility to available information from another source or sources.



SCHEDULE D: Specified Engineering Works

Specified Engineering Works
<p>Installation of:</p> <ul style="list-style-type: none"> • engineered cap, • perimeter engineered structure, and • associated works including surface water management structures. <p>Any other works notified in writing by the Agency.</p>



SCHEDULE E: Annual Environmental Report

Annual Environmental Report Content ^{Note 1}
<p>Emissions from the facility</p> <p>Waste management record.</p> <p>Resource consumption summary.</p> <p>Complaints summary.</p> <p>Schedule of Environmental Objectives and Targets.</p> <p>Environmental management programme – report for previous year.</p> <p>Environmental management programme – proposal for current year.</p> <p>Pollutant Release and Transfer Register – report for previous year.</p> <p>Pollutant Release and transfer Register – proposal for current year.</p> <p>Noise monitoring report summary.</p>

Ambient monitoring summary.
Tank and pipeline testing and inspection report.
Reported incidents summary.
Energy efficiency audit report summary.
Remediation works summary (completed in previous year or prepared for current year).
Reports on management and staffing structure of the facility and a programme for public information.
Review of closure, restoration & aftercare management plan.
Any other items specified by the Agency.

Note 1: Content may be revised subject to the agreement of the Agency.

Signed on behalf of the said Agency _____
On the xx day of xxxxx, 200X xxxxxxxxxxxx **Authorised Person**