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Shannon Foynes
PORT COMPANY

Capacity Extension at Shannon Foynes

High Level Construction Environmental Management Plan (CEMP)

Contents

1. INTRODUCTION

This document comprises a High Level Construction Environmental Management Plan (CEMP) for the Capacity Extension at Shannon Foynes. It is a 'live' document and will be updated as the project progresses, and as details of specific operational methods and plant of the preferred Contractor(s) become available.

Shannon Foynes Port Company (SFPC) is the promoter of the Capacity Extension at Shannon Foynes. SFPC seeks to achieve the highest possible standards of environmental management during both the construction and operation of the proposed port infrastructure development.

The CEMP comprises three main parts

Project Description (Chapter 2)

The objective of this part of the CEMP is to provide a summary description of the Project and its key construction elements.

Summary of Construction Phase Mitigation Measures (Chapter 3)

The objective of this part of the CEMP is to capture all mitigation measures and monitoring put forward within the Environmental Impact Assessment Report (EIAR). All mitigation measures proposed within the Natura Impact Statement (NIS) have already been incorporated into the EIAR.

All conditions imposed by An Bord Pleanála (ABP) will be added to the CEMP should ABP decide to grant planning permission. Additional conditions imposed by the Department of Housing, Planning and Local Government (DHPLG) will also be added to the CEMP should DHPLG decide to grant permission for a Foreshore Lease.

There is no dredging required for the Project so a Dumping at Sea Permit from the EPA is not required. There is no handling or re-use of contaminated material required for the Project so an Industrial Emissions Licence from the EPA is not required.

This element of the CEMP will form part of the specification of the Contract Documents for the construction stage to enable suitably qualified Contractors to price the works required to implement the mitigation measures.

Management of Environmental Impact (Chapter 4)

The objective of this part of the CEMP is to develop a suite of Construction Phase Management Plans which will be prepared in association with the preferred Contractor(s). These Management Plans will be agreed with SFPC and the relevant competent authorities in advance of the final Contract being signed.

2. PROJECT DESCRIPTION

This chapter sets out a description of the proposed development and information on the project site, the design, size and other relevant features of the project.

2.1 THE LOCATION OF THE PROJECT

2.1.1 Site Location

The subject site is located within and adjacent to the settlement of Foynes, Co. Limerick and comprises the existing 'Port of Foynes' and undeveloped lands to the immediate east of the existing Port estate. The northern boundary of the subject site adjoins the Shannon Estuary. Foynes village is situated to the south (behind) the existing port estate and extends along the National Secondary (N69) Limerick – Tarbert Road. Limerick City is located circa 38km to the east (upstream), whilst the mouth of the Shannon Estuary where it meets the Atlantic Ocean (between Loop Head and Kerry Head) is located circa 56km to the west (downstream).

Situated on the Shannon Estuary, the Port of Foynes is a 'Tier 1 Port'. It is the second largest Port in Ireland and is the principle general purpose terminal on the Estuary routinely catering for cargo vessels. Due to its favourable location on the west coast of Ireland and its modern deepwater facilities, Foynes Port is ideally positioned for additional European trading as well as for further increases in ocean energy resources.

Figures 2.1 and 2.2(a) and 2.2(b) show the location of Foynes Port and the extent of the project boundary and area of proposed development works.

2.1.2 Development Area

The project site is defined by the red line planning application site boundary as illustrated on the planning application drawings. This area which measures 62.10 hectares (ha) extends to include specific areas in which the proposed development will occur within the existing Port estate and, on lands directly adjacent to it. The proposed development works are concentrated in two specific locations – (i) adjacent to the existing quay walls within the existing Port estate (measuring 0.51ha or 5,142m^2), and (ii) undeveloped lands adjacent to the east of the existing Port estate referred to for the purpose of this CEMP as 'Durnish' or the 'Durnish lands' (measuring 33.95ha or 339,559m^2).

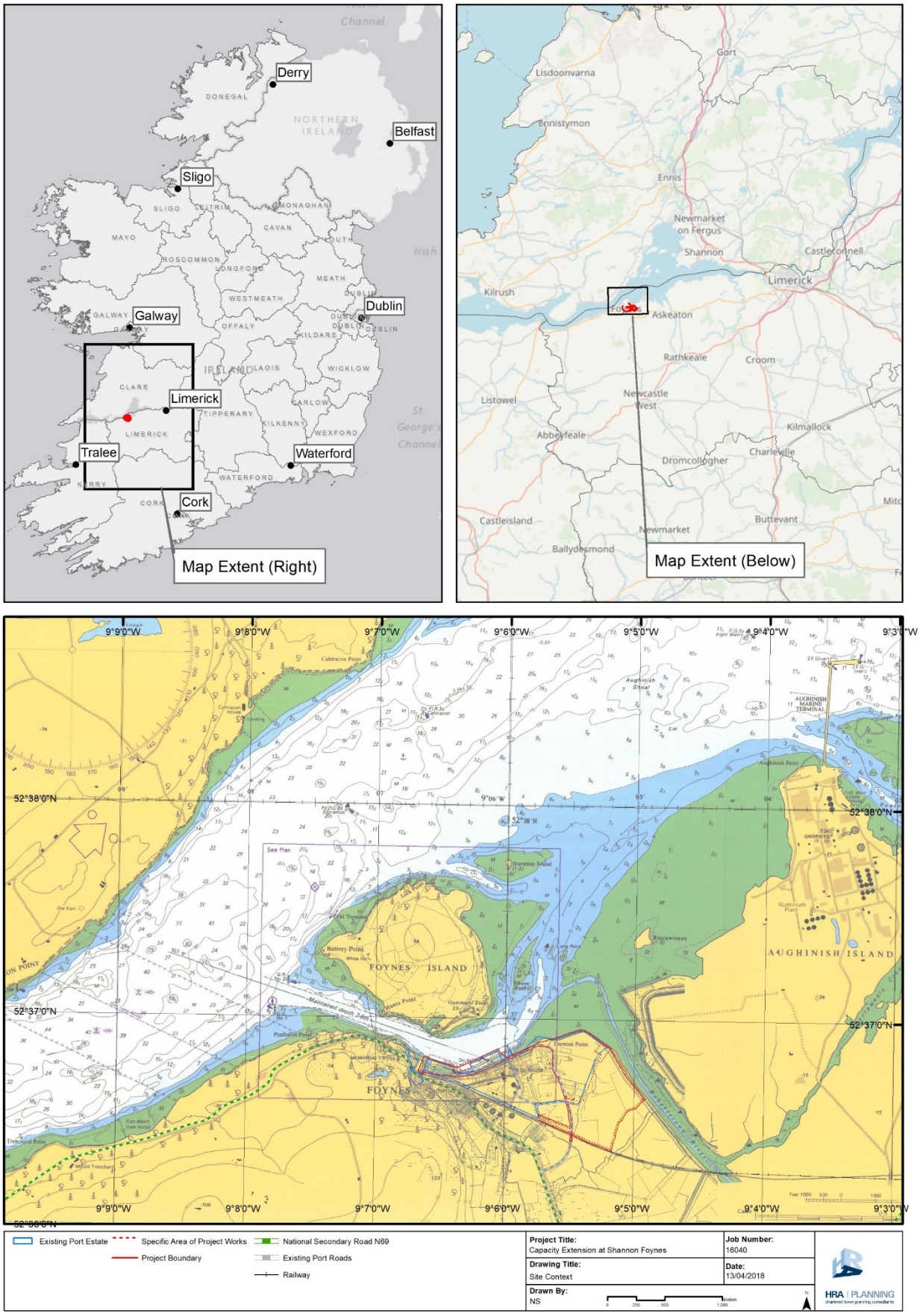

Figure 2.1 Project Location

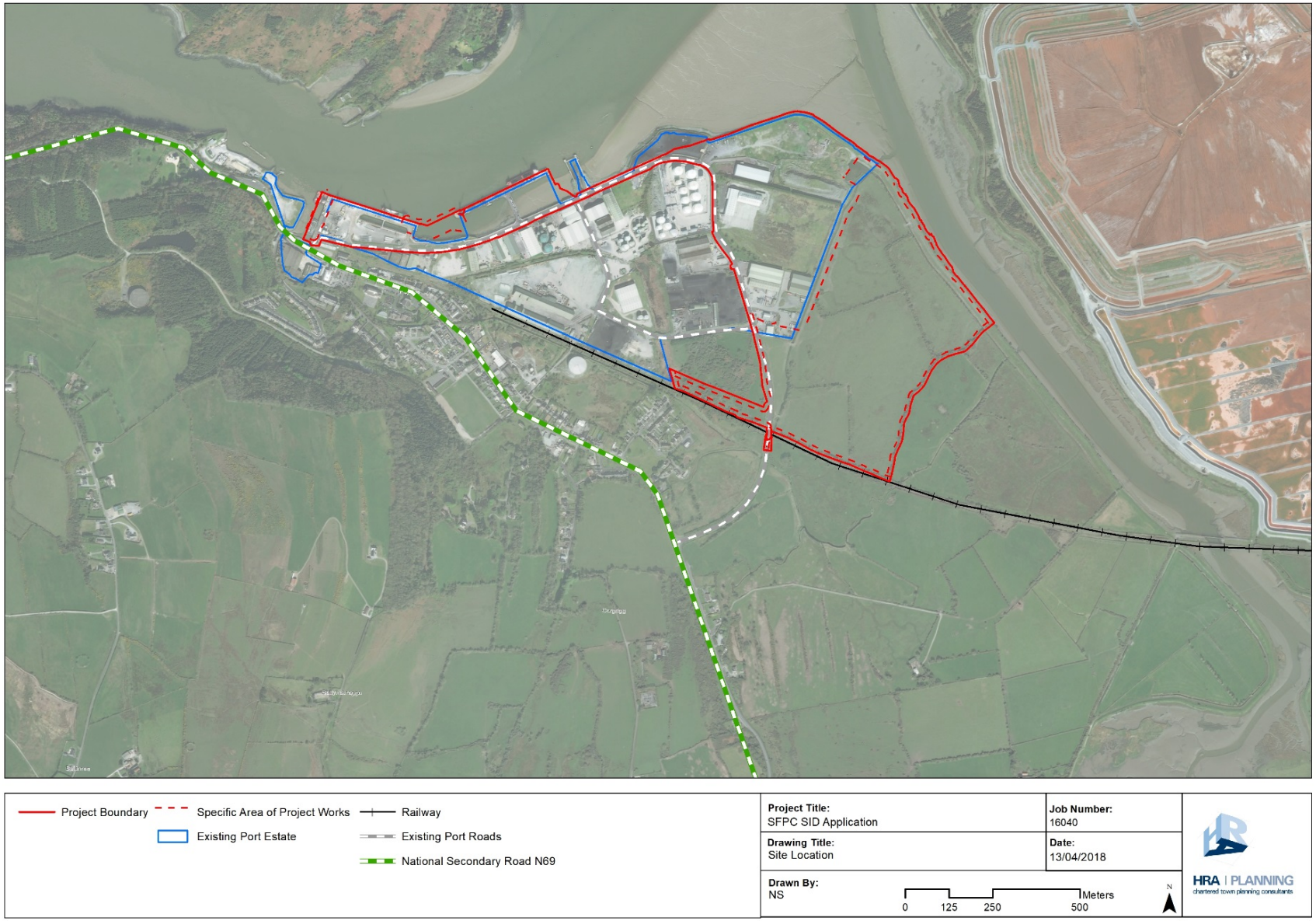

Figure 2.2a Project Location

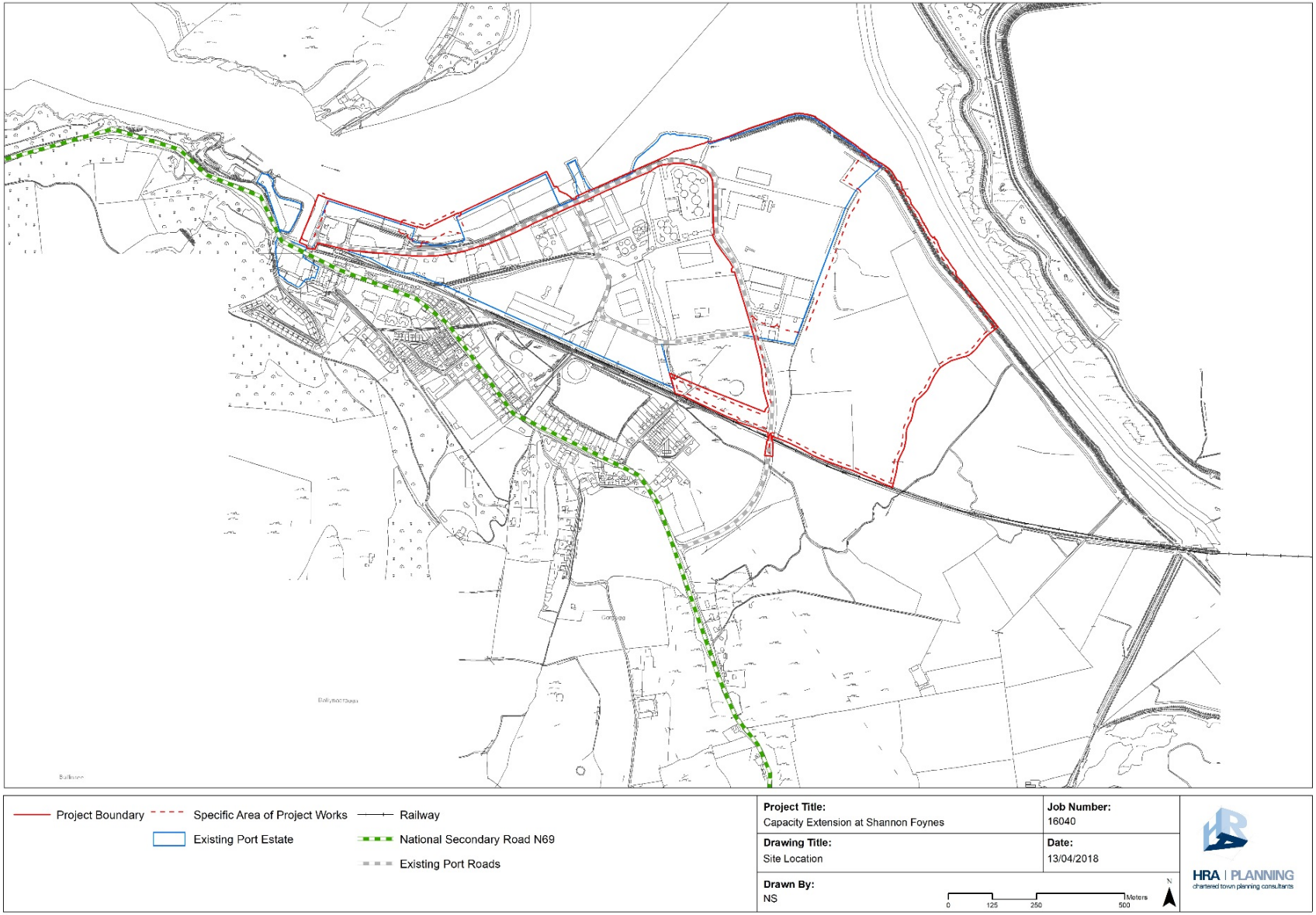

Figure 2.2b Project Location

2.1.3 Adjacent Land Uses

The Shannon Estuary provides a commercial function for SFPC extending over an area encompassing circa 500km^2 (between Limerick City and Loop Head / Kerry Head) with its naturally occurring deep-waters, accommodating some of the largest vessels entering Irish Waters. Vessel movements occur along the entirety of the estuary between the Ocean and Limerick City in order to gain access to other port facilities at Moneypoint, Tarbert, Aughnish, Shannon Airport, and Ted Russell Dock at eastern extremity of the estuary at Limerick City. The existing Port estate is positioned to the immediate west and includes industrial activities and uses associated with access to the port.

2.1.4 Existing Port Operations

The port is accessed from two points from the N69 National Secondary Route which are accessed by controlled barrier. These access points are situated circa 1.4km apart and at opposite sides of the village and port access is controlled by barrier access.

From an operational Ports perspective, the Port of Foynes, specialises in the berthing primarily of commercial cargo vessels (occasional berthing of cruise ships occur), and, the handling and storage of bulk cargoes imported and exported by shipment through the Port. Typical cargo types through the Port of Foynes include; dry bulk fertilisers, animal feeds, salt, coal and alumina hydrate; Break bulk including timber, construction materials, machinery and materials for the offshore industry; Liquids – primarily oils but also chemicals; Project cargoes including materials for the renewable wind energy industry; and, Cruise vessels. The storage demands for these types of cargo are typically greater than container and/or ferry ports because of the sizes of each shipment and the duration that these types of cargos are stored in port.

The landside port operations at Foynes are maintained through a series of jetties, cargo handling equipment and storage facilities. Portside handling equipment includes various mobile harbour cranes and grabs, mobile hoppers, a variety of forklifts and handling equipment, and stevedores. Currently, there are four general cargo berths totalling 657m. The West jetty is 271 meters long, the East jetty 295 meters long, and the Tanker jetty is 91 meters long. The current configuration of quay allows the port to manage four 10,000 dwt vessels at any one time or two 50,000 dwt vessels and one 5,000 dwt vessel at any one time. In this configuration, berth occupancy percentage is at 40% on an annualised average and 78% on a peak seasonal average. The length of the existing quay wall and the current berthing provision is proving unsustainable in the context of predicted tonnage growth rates[1] as it will inevitably lead to longer wait times for ships, leading predictably, to increased costs to the receiver and a loss of competitiveness for SFPC and the mid-west region.

[1] Established under the Port Company Economic and Spatial Masterplan 'Vision 2041'

Port side operations are used for covered (warehouse or tank) and uncovered open storage of liquid, break bulk and dry bulk cargos. The existing Port Estate, in terms of open and covered storage is operating at full operational capacity with no residual or undeveloped property occurring within the estate.

2.1.5 Amenity Designations

The Shannon Estuary is subject to two natural amenity sites designated under the EU Habitats Directive[2] 92/43/EEC. These are: *The Lower River Shannon Special Area of Conservation* (SAC) site code 002165 and, *the River Shannon and Fergus Estuaries Special Protection Area* (SPA) site code 004077. There are no archaeological or features of built heritage occurring with the area of the proposed development.

2.2 CHARACTERISTICS OF THE PROJECT

The project includes specific site development works, and operational activities, the characteristics of which are discussed in detail.

2.2.1 Nature of the Proposed Development

The project is to facilitate capacity extension at Shannon Foynes Port. This requirement to extend Port capacity is responsive to a historic pattern of commercial growth through the Port of Foynes consistent with the projections envisaged in the Port Company's spatial and commercial masterplan – 'Vision 2041' and the resultant fruition of those projections experienced to date. This capacity extension is provided in two interrelated ways – increased capacity of the quay wall, and, increased capacity of supporting landside storage facilities and logistics. Consequently, the project includes two specific elements of development and operational activities as follows:

- JETTY EXTENSION
  The joining of the existing 'West Quay' and the 'East Jetty'
  And;
- DURNISH LAND DEVELOPMENT
  To provide for increased port related storage and port-centric logistics

The description of development for which the EIAR has been undertaken is as follows:

The proposed development seeks to provide for Port Capacity Extension that will consist of the following:

[2] *Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora*

(1) **Modifications to the existing jetties and quays to include:** connection of the existing West Quay to the existing East Jetty for the purpose of extending the length of the existing quay to facilitate the mooring of vessels and Port related operations. Development works consist of; (i) Construction of an open piled jetty structure with suspended 116.5 metre concrete deck connecting the West Quay to the East Jetty; (ii) quayside furniture including quay fenders, mooring bollards, safety ladders, toe rail, and lighting columns, (iii) construction and remedial works to the both existing West Quay and East Jetty ends to facilitate structural 'tie-in' of the proposed new jetty structure, (iv) removal of the existing small craft landing pontoon and walkway from its current position affixed to the shore between the West Quay and the East Jetty, and provision of a new small craft landing pontoon and walkway affixed to the western side of the West Quay wall, and, (v) all associated site development works; and

(2) **Phased expansion of the Port Estate** on 33.95 hectares of land immediately adjacent to the east of the existing port estate to provide serviced industrial land, and, to accommodate marine related industry, port centric logistics and associated infrastructure that will be provided in accordance with a development framework programme prepared for the overall 'expansion' area and which is lodged with the planning application. The development includes:

(I) Site development and infrastructure works to the entire expansion lands on a phased basis including (a) raising of ground levels with fill material to a typical height of +4.44m OD Malin; (b) provision of all associated services including storm water infrastructure and modification to the existing OPW drainage attenuation system; (c) provision of 2.4m high perimeter fencing, (d) landscaping berms and treatments, and (e) all associated site development works; all to be delivered on a phased basis; and

(II) Implementation and use of 'Phase 1' of port expansion works including: (a) modification and realignment to part of the existing port estate access road including provision of new roundabout and junction arrangements on that road, and associated lighting, and storm water drainage; (b) provision of new internal Port access road (with associated footpath and combined cycle path) including the provision of bridge structures to facilitate access across existing drainage channels; (c) construction of three covered industrial type warehouse units (with typical maximum ridge height of 15.1m above raised ground level) with associated external storage, parking and circulation areas; (d) the provision of separate dedicated uncovered 'open' storage area/ container storage area and associated circulation and service area (with maximum container stacking height of 8m if/when container storage required); (e) provision of Klargester BE model (or similar) package foul water treatment system with polishing filter and discharge to ground to serve the Phase 1a expansion area; (f) modifications to existing 'Foynes Engineering' industrial building which involves the removal of the 'lean-to' structure affixed to the main building and remedial building

and site development works; (g) provision of an ESB electrical substation; (h) provision of lighting columns within the 'Phase 1' expansion area; (i) provision of a new security kiosk and access control barrier on the existing Port access road; (j) provision of noise attenuation measures along parts of the southern and western boundary of 'Phase 1' expansion area; (k) provision of a 'bus-stop' on the existing Port access road; (l) landscaping; and (m) all associated site development works.

2.2.2 Planning Permission and Environmental Assessment - Clarification

For the avoidance of doubt, all works proposed as part of the planning application for which planning permission is being sought, and described in the statutory notices, have been subject to environmental assessment. It is proposed to seek the development of the Durnish lands in a phased approach and this phasing has been considered as part of the environmental assessment. In order to ensure an effective and conclusive environmental impact assessment consistent with best practise, the effects of the development for which planning permission is being sought, and, where necessary, the collective cumulative effects of the overall development scheme are examined for the Durnish lands if all development phases were implemented. The examination of the 'all phase' development scenario for Durnish is consistent with best practice in order to examine a 'worst-case' scenario of the project effects. Examination of this 'worst-case' scenario is based on the likely effects of the proposed development and proposed uses as part of Phase 1, and, the anticipated landuses that will occur from subsequent operational use of Phase 2 and Phase 3 based on the information known and available at this time in respect to those subsequent Phases. Despite the consideration of those subsequent development phases as part of this environmental assessment, the future uses shall be subject to the necessary and separate planning consent in due course.

2.2.3 Physical Characteristics

2.2.3.1 Jetty Extension

The proposed extension to the existing Port berths will facilitate opportunity for the docking of larger vessels (with increased loads) in response to the increasing international trend toward larger vessel sizes or alternatively, the docking of increased smaller vessels at the same time.
Under either scenario, tonnage throughput will rise as predicted in the Port Company's strategic masterplan ('Vision 2041').

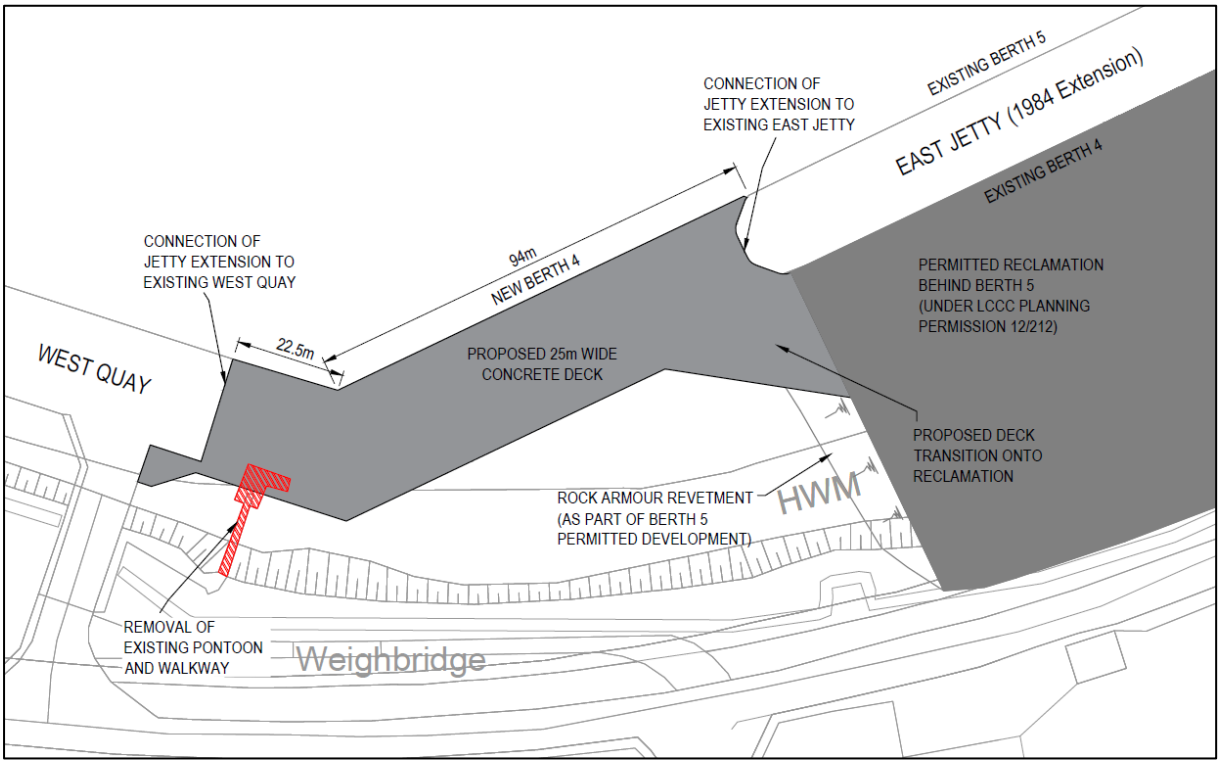

Figure 2.3 Jetty Extension connecting West Quay and East Jetty (removal of existing pontoon also shown)

Connection of the existing West Quay to the existing East Jetty will involve the construction of an open piled jetty structure with suspended reinforced concrete deck tying into; the existing jetty and quay wall structures; and, the land reclaimed to the rear of the East Jetty (and Berth 5 of same) which already has planning consent.

A 25m wide suspended reinforced concrete deck will span between the West Quay and the East Jetty, though will be wider at its eastern end to facilitate transition of the proposed deck into the reclaimed land behind the East Jetty. The proposed deck shall extend a distance of 116.5m between the West Quay and the East Wall with the loads carried by tubular steel piles driven to provide approximately 3m deep penetration into rock.

Similar methodology will be equally applicable for the foundation piles that will accommodate the relocated small craft floating pontoon on the western side of the West Quay wall.

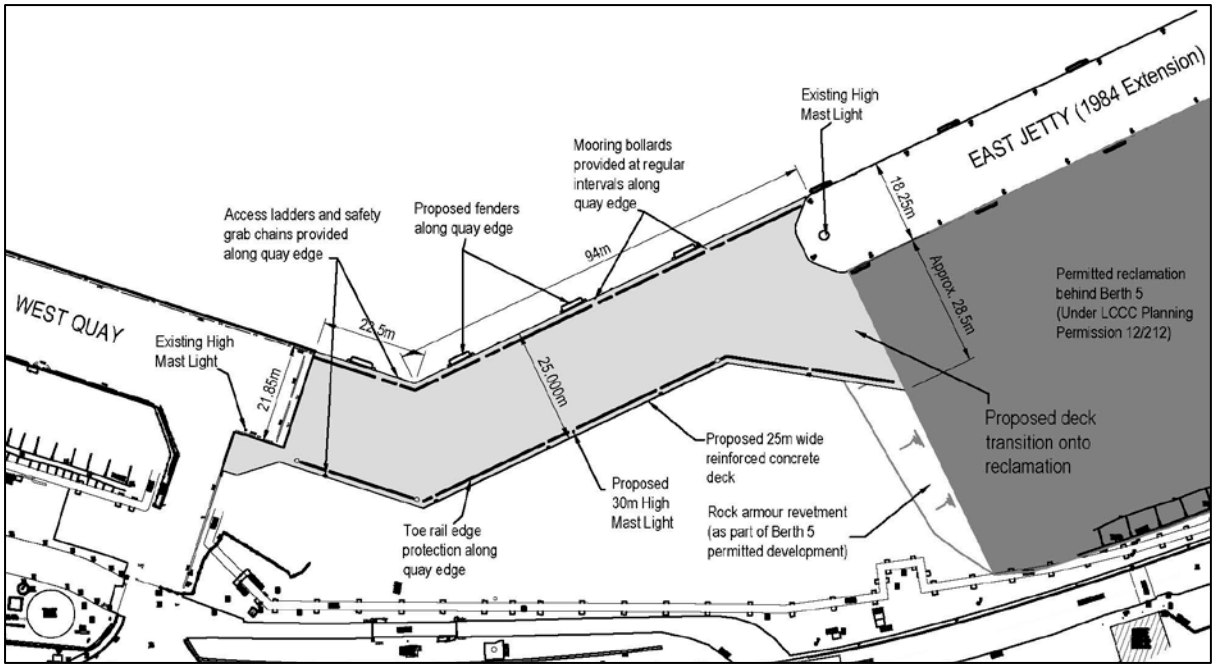

Figure 2.4 Planned layout of proposed jetty

No storm water runoff shall be permitted from the jetty connection structure but shall be collected in a dedicated storm water drainage system.

2.2.3.1.1 Quay Furniture

The proposed suspended deck will include berthing fenders and mooring bollards placed at regular intervals along the outside (northern) quay edge to accommodate mooring vessels for the purpose of loading and unloading of goods. Mooring bollards will also be placed at regular intervals along the inside (southern) quay edge. The suspended deck will facilitate port traffic and infrastructure which would typically expect to include; loading and unloading vehicles, mobile loading hoppers and craneage, and, associate port traffic and personnel. All existing jetty structures will be retained during the works and will continue to be used for berthing.

2.2.3.1.2 Safety Equipment

Fire hydrants will be provided at regular intervals along the jetty structure. Access ladders and safety chains shall be provided at regular intervals along both faces of the jetty connection structure.

2.2.3.1.3 Dredging

No capital dredging is required as part of the proposed works. The location of the proposed jetty extension is currently dredged to a declared depth of -10.5mCD as part of SFPC's current maintenance dredging campaign.

2.2.3.1.4 Mechanical and Electrical Services

The proposed lighting for the jetty connection working area will comprise 30.0m high; base hinged raising and lowering masts with multiple floodlight arrangements and light cowls for light pollution control. Low energy LED lighting will provide an average lighting level of 30-50 lux for storage and operational areas, and an average of 20 lux in circulation areas. The lighting will be designed to prevent direct glare into surrounding properties and illumination of the night sky.

Power supply will be by connection to the local electricity grid system.

2.2.3.1.5 Water Supply

Water supply will be by connection to the existing water supplies on the existing East and West Jetty structures.

2.2.3.1.6 Fencing and Security

The site of the proposed works is wholly contained within the existing port operational (ISPS) area and as such no additional security fencing will be required.

2.2.3.1.7 General Construction Sequence

The general sequence of the construction of the jetty connection works are anticipated to include:

1. Removal and relocation of the existing small craft landing pontoon to an area identified at the west side of West Quay. Two locating piles will be installed at the new location to accommodate the relocated landing pontoon.
2. Driving of steel tubular piles to the required depth using a vibrating hammer and hydraulic impact hammer to achieve the required toe level. Piles to support a suspended concrete deck, connecting the existing West Quay to the existing East jetty to create New Berth No. 4.
3. Localised demolition of existing jetty structures and structural connection between new structure and existing jetty structures.
4. Installation of pre-cast concrete deck elements using suitable plant.
5. Pouring of in-situ concrete deck on jetty extension using concrete pump/skip.
6. Installation of drainage, services, quay furniture and lighting.

2.2.3.1.8 Landing Pontoon Relocation

Prior to commencement of the jetty extension works, the existing small craft landing pontoon located behind the proposed jetty extension shall be removed and relocated to an area identified at the west side of West Quay. Two locating piles shall be installed at the new location and a landing platform shall be constructed to tie in with the existing quay structure, along with a landing structure and concrete bankseat to accommodate the pontoon walkway.

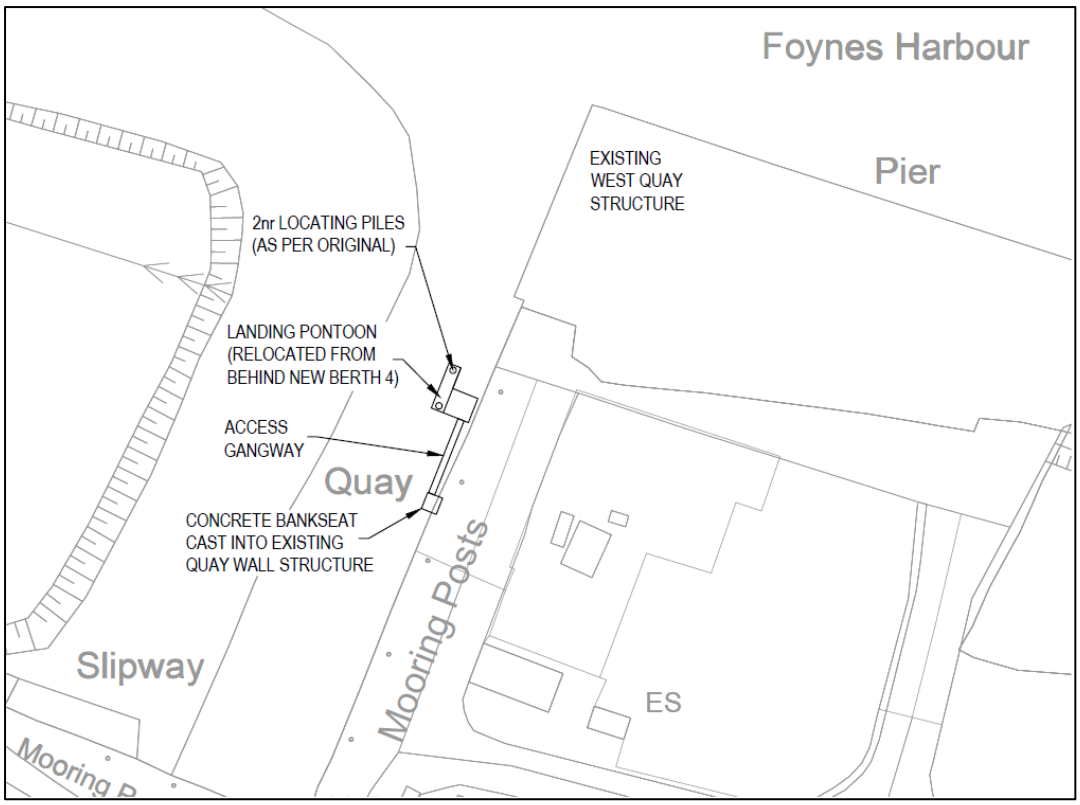

Figure 2.5 Proposed Location of Relocated Pontoon

2.2.3.1.9 Proposed Operations at East Jetty

Port operations on the jetty extension will be as per the existing jetties, and will generally comprise the loading and unloading of vessels using Harbour Mobile Cranes consistent with existing quay operations. Materials handled will vary depending on trade requirements but the following is anticipated;

- Construction materials including timber, steel sections reinforcement etc.
- Project cargoes such as wind turbine components, steel pipes etc.
- All types of dry and liquid bulk cargoes

It is intended that hours of operation on the jetty extension will be the same as the existing.

2.2.3.1.10 Equipment

Handling operations on the existing jetty will continue as is the current practice with vessels generally being loaded or unloaded by the use of the Port's existing harbour mobile cranes. Other types of port handling equipment such as mobile hoppers, mobile cranes, mobile weighbridges, loading shovels, reach stackers, mast lift trucks or similar will be used as and when required.

2.2.3.1.11 Operational Access

Access to the jetty extension will be via the existing entrances onto the East and West jetty access structures.

2.2.3.2 Durnish Lands Development

The developed lands will be used for open storage and warehousing and will be used primarily for the handling and storage of general cargo. In addition, the lands will also be used for port-centric processing operations such as bulk raw material being graded, mixed or sorted before being bagged or put into tankers. It is intended that hours of operation on the proposed developed lands will be 24/7, 364 days per year. The breakdown of uses across the Durnish lands has been calculated at;

- Covered storage Approx. 5.2ha
- Open storage Approx. 15.5ha

Materials handled will vary depending on trade requirements but the following is anticipated;

- Construction materials including timber, steel sections reinforcement etc.
- Scrap metal
- Project cargoes such as wind turbine components, steel pipes etc.
- All types of dry and liquid bulk cargoes
- Storage of containers

To provide for the development of the Durnish lands, certain site development and preparatory works are necessary to ensure the proper planning and sustainable development of this previously undeveloped land for Port and marine related industrial uses consistent with current landuse planning provisions and National Planning Guidelines. This includes the raising of the ground levels of the Durnish Lands to a level of +4.44m OD Malin to ensure that proposed uses can be carried out at an appropriate level which has been designed and are responsive to best practice and current flood risk management requirements in order to minimise flood risk to people, property, the economy and the environment. The design of ground levels adopts a precautionary approach to allow for uncertainties in data and risk assessment procedures taking account of climate change.

2.2.3.2.1 Phased Approach and Development Framework

It is proposed to provide for land based on forecasted tonnage requirements consistent with the Port's medium (mid-line) growth scenario established in their strategic masterplan document 'Vision 2041'. Tonnage throughput at the Port of Foynes is anticipated to reach 2,770,000 tonnes by 2025. The current throughput is 1,778,126 tonnes.

Based on this tonnage projection (mid-line growth scenario set out in Vision 2041), it is projected that the tonnage growth at Foynes Port over the next 10 years, and the life of this planning permission, will reach 3,280,000 tons by 2029. If it is a case that the high growth scenario is realised,

then additional land will be required to accommodate such growth prior to the expiration of planning permission in ten years'.

Responsive to tonnage forecast, it is proposed to implement the operational use of the Durnish land in three phases in line with economic growth and customer demand. However, to ensure the effective and timely availability of the Durnish lands for operational use as the needs arise, the proposed development includes the filling of all of the Durnish land as part of the initial phase of development (Phase 1) to make them serviceable. Phasing is proposed in the following manner:

Phase 1 – Proposed Development and Operational Uses (subject of the planning application)

- Jetty Extension (including relocation of pontoon);
- Filling of entire Durnish lands, provision of infrastructure and landscaping over the entire site (phased over a 10-year period);
- Development and operation use of 8.2 hectares of filled and serviced land for marine related industry to accommodate existing tonnage throughput through the Port of 1,778,126 tonnes.

Phase 1 – Activities

- Covered storage 1.2ha
- Open storage 7ha
  - Warehousing (up to 15m height)
  - Breakbulk and project cargo such as steel sections/reinforcement, timber, palletised fuel/fertiliser, wind turbine blades etc. (stored 10m high)
  - Loose cargoes such as woodchip biomass fuel (stored 6m high)
  - Storage of containers (up to 3nr high) approx. 8m high with handling equipment up to 17m height

Phase 1 – Implementation

The implementation of Phase 1 is envisaged in sub-phases as follows:

- Phase 1A

~ Stripping of Topsoil over entire Durnish Lands and seeding with clover mix
~ Boundary treatment around entire site (South, East and Northern perimeters)
~ Access road improvements and roundabout construction
~ Provision of port security kiosk
~ Filling of Phase 1 extent of lands to a level 0f +4.44mOD
~ Provision of security fencing around raised lands
~ Provision of storm drainage infrastructure and attenuation pond extension
~ Removal of existing "lean to" shed

~ Construction of internal road network and drainage channel crossing structures
~ Construction of warehousing and open storage areas
~ Provision of foul water infrastructure
~ Provision of lighting and services

- Phase 1B

~ Filling of "Phase 2" extent of lands
~ Provision of storm drainage system
~ Provision of security fencing

- Phase 1C

~ Filling of "Phase 3" extent of lands
~ Provision of storm drainage system
~ Provision of security fencing

The proposed phasing regime (Phase 1A – 1C) is illustrated in Figure 2.6.

These sub-phases seek to ensure the orderly development of the expansion area. Having said that, the proposed phasing regime does not, nor cannot preclude the possibility of all Phase 1 works being carried out simultaneously if/where market conditions support that.

In the meantime, the upfront capital cost of undertaking site development works and specifically the raising of ground levels across the entire of the Durnish lands is unviable in the absence of supporting market conditions or, one specific user for the lands.

Furthermore, the timescale for implementation of that specific measure (raising the ground levels across the entire site prior to any operational use) will delay the opportunity to provide for immediate storage requirements with the potential effects on maintaining Port competitiveness.

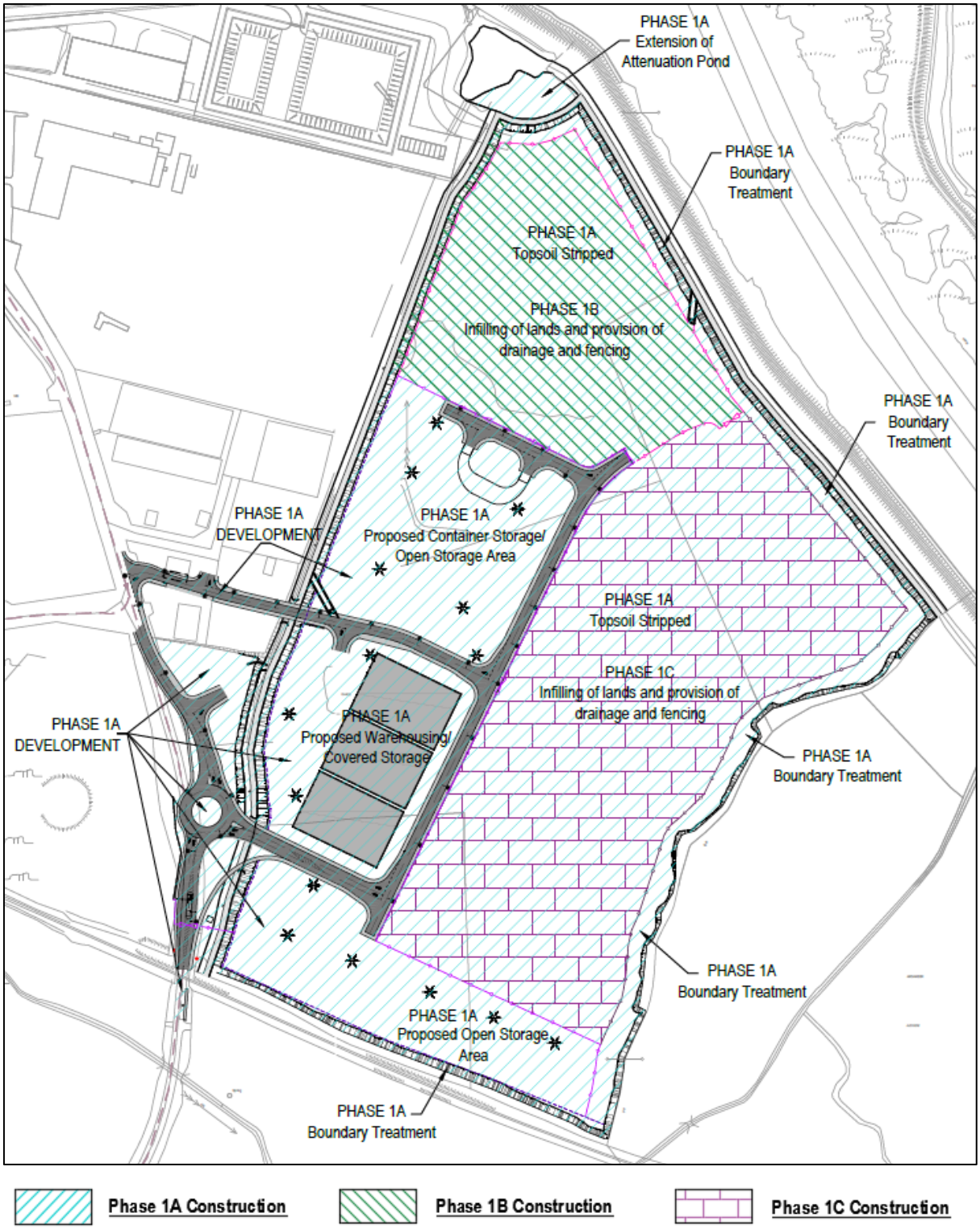

Figure 2.6 Proposed Phasing Plan for Construction

Phases 2 and 3

The operational uses of Phase 2 and Phase 3 are unknown at this time and therefore there are no further site-specific details in terms uses that can be provided. However, for the purpose of this assessment and specifically, a cumulative consideration of proposed and likely anticipated uses

(based on existing and proposed port uses), the likely operational scenarios for Phase 2 and Phase 3 are as follows;

Phase 2 – Likely Operational Scenario (Subject to future planning consent)

Accommodation of additional (predicted) 991,874 tonnes of cargo throughput to deliver total Port tonnage throughput of 2,770,000 tonnes by 2025. Anticipated delivery consisting of:

- Covered storage of circa 1.2ha
- Open storage of circa 2.4ha
  - Construction of warehousing and open storage areas for marine related industrial use and port centric activities
  - Construction of internal road network
  - Provision of foul water infrastructure
  - Provision of lighting and services
  - Provision of security fencing

Phase 3 – Likely Operational Scenario (Subject to future planning consent)

Accommodation of additional (predicted) 510,000 tonnes of cargo throughput to deliver total Port tonnage throughput of 3,280,000tonnes by 2029. Anticipated delivery consisting of:

- Covered storage 2.8ha
- Open storage 6.1ha
  - Construction of warehousing and open storage areas for marine related industrial use and port centric activities
  - Construction of internal road network
  - Provision of foul water infrastructure
  - Provision of lighting and services
  - Provision of security fencing

Open storage uses (predicted for Phase 2 and 3):

- Breakbulk and project cargo such as steel sections/reinforcement, timber, palletised fuel/fertiliser, wind turbine blades etc. (stored 10m high)
- Loose cargoes such as woodchip biomass fuel (stored 6m high)
- Scrap metal (stored 8m high)
- Storage of containers (up to 3nr high) approx. 8m high with handling equipment up to 17m height

Covered storage (predicted for Phase 2 and 3):

- Warehousing (up to 20m height)
- Storage tanks (up to 15m height)

'The Framework Plan' - All phases have been considered and designed for within the context of a 'framework Plan' for development within the Durnish Lands.

The Framework Plan (which is submitted as part of the planning consent) sets out a development concept arrangement for the entire Durnish lands (Phase 1, 2 and 3) in order to present a holistic and co-ordinated approach toward the orderly and sustainable development of the Durnish Lands. This will guide subsequent developments within subsequent Phase 2 and Phase 3 given that the specific details of uses are not known at this time and assists this assessment process. The Framework Plan has given consideration to and presents a strategic arrangement of inter-alia; general layout arrangements; the design and implementation of infrastructure including water, energy services, flood risk management, water services, lighting, and site security; the primary internal access roads, building heights and design across the entire site. The proposed first phase of development reflects the 'development framework' for that area given that the immediate requirements are know at this time. The Framework Plan acknowledges that different Port users have different land use requirements and therefore given that the site-specific storage requirements and uses are not yet known for subsequent phases, the Framework Plan retains a degree of flexibility for operational development within the Phase 2 and Phase 3 albeit within certain limitations.

The design of the Framework Plan has derived from an iterative process conducted in parallel to the formulation of the development proposal and the execution of the environmental assessment. For the purpose of the environmental assessment, a cumulative assessment has been undertaken of all development proponents, and the scope of anticipated end uses, anticipated building types and heights, and landscaping (set out in the Framework Plan) have been assessed.

2.2.3.2.2 Infilling (Phase 1)

The top 200mm of topsoil shall be stripped across the extents of the Durnish lands, and shall be re-used in the formation of the berm required for the landscaping boundary treatment. The exposed sub-base shall be seeded with a clover mix to bind the material together.

Suitable infill material shall be sourced from authorised quarries, and shall be imported by road to raise the level of the existing Durnish lands to a finish ground level of +4.44mOD (including capping and surfacing). It is anticipated that this material can and will be sourced locally within the region and from facilities which already have the necessary consents and licensing in place for the winning and haul of such material. Consequently, there is no obligation on this project to secure planning permission or other consent for sourcing that material.

The anticipated volumes and type of fill material required to meet the design ground levels for Durnish lands are set out as follows:

Assuming filling of Phase 1 in a single phase

- Circa 521,000m^3 of imported material (equating to circa 937,800T based on a conversion of 1.8T/m^3)
- Circa 71,100m^3 of surfacing (equating to circa 167,100T based on a conversion of 2.35T/m^3)

Or alternatively,
Assuming filling of Phase 1 as sub-phases:
Phase 1A

- Circa 195,500m^3 of imported material (equating to circa 351,900T based on a conversion of 1.8T/m^3)
- Circa 28,000m^3 of surfacing (equating to circa 65,800T based on a conversion of 2.35T/m^3)

Phase 1B

- Circa 115,000m^3 of imported material (equating to circa 207,000T based on a conversion of 1.8T/m^3)
- Circa 13,600m^3 of surfacing (equating to circa 31,950T based on a conversion of 2.35T/m^3)

Phase 1C

- Circa 210,500m^3 of imported material (equating to circa 378,900T based on a conversion of 1.8T/m^3)
- Circa 29,500m^3 of surfacing (equating to circa 69,350T based on a conversion of 2.35T/m^3)

2.2.3.2.3 Surfacing

The surfacing shall be heavy duty impermeable surfacing, designed to take account of the proposed operational usage and associated loadings.

2.2.3.2.4 Access to Durnish Lands

Roundabout construction

It is proposed to construct a roundabout on the existing port access road to provide the main access into the developed Durnish Lands and designed to the Design Manual for Roads and Bridges (DMRB) adoptable standards.

Mid-Point Access to Durnish Lands

The Foynes Engineering lean-to structure shall be removed In order to facilitate the construction of the mid-point access to the Durnish Lands and these works have been assessed as part of the environmental assessment.

Access Structures

In order to facilitate access into the Durnish Lands, 2 No. crossing structures are required to provide access across the existing OPW drainage channel.

2.2.3.2.5 Warehousing

3 No. Warehouse units and an area of open/container storage are proposed as part of Phase 1. Warehouses to be constructed on the Durnish Lands shall be similar to the typical Argosea Foynes Warehouses which are typically approximately 50m wide x 80m long portal frame structures, with a pitch roof height of approximately 15m. Warehousing shall have a Finished Floor Level of +4.74mOD Malin. Subject to the requirements of the end user, the warehousing may be combined as one integrated building (with dividing walls) or 3 no. individual units with a 2.5m wide gap between them.

2.2.3.2.6 Provision of New Port Security Kiosk and Barrier

As part of the development works, it is proposed to provide a new security kiosk and access barriers further south along the existing port access road located at the East Entrance to Foynes Port.

2.2.3.2.7 Storm and Foul Water Drainage

Storm Water Drainage – The storm water drainage system for the Durnish Lands has been designed in accordance with SuDS principles to avoid putting any further pressure on the existing OPW drainage channels or attenuation pond.

In line with SuDS principles, it is proposed that the required storage volume of 9,200m^3 will be accommodated within the permeable imported fill over the site development.

Storm drains will collect all surface water and convey it through full retention interceptors (to collect hydrocarbons and silt) and the stormwater will then be conveyed through perforated pipes to allow percolation into the infilled ground. It is proposed that hydro-brakes will be installed at the end of each perforated drainage pipe run to ensure the existing discharge rate of 0.164m^3/s into the drainage channel is respected in the future development

In addition, the opportunity afforded by the proposed site works has been taken to propose an extension to the size of the existing OPW attenuation pond by 2,000m^2 as a failsafe measure and contribution towards extended flood protection upstream. This will allow a further storage volume of circa 5,000m^3 of influent stormwater during the upper tidal cycle when the outfall (near low water) is not operational. This represents approximately double the storage capacity in the current attenuation pond. The stormwater design of the site has been assessed using catchment hydrological analysis and rainfall intensities for varying durations at a 1:100 year return period event.

Foul Drainage - Foul (sewer) drainage arrangements have been designed and are included as part of this proposal. The foul sewer water arrangement has been designed in the context of the existing infrastructure regime and particularly, the absence of public foul sewer mains servicing the Port and

the Port expansion area, the distance and limited capacity of the existing treatment plan serving the town of Foynes, and, the opportunity presented by the size of the Durnish lands to provide for a self-sufficient solution.

The preferred design solution, has derived from consideration of a number of waste-water design options explores as part of the EIAR process and is considered consistent with best practice having regard to the locational and site-specific circumstances. Foul water arrangements will be implemented on a phased basis consistent with each of the planned phases of development. Each phase will involve the implementation of a package treatment system which when implemented collectively, will service the entire Durnish lands, designed with sufficient capacity to accommodate predicted loadings (generated from the 'population equivalent' (PE) of the anticipated number of employees). This approach allows for the foul wastewater treatment system to be individually sized for each development phase to maximise efficiency and afford a level of flexibility for future development given its long programme duration and uncertain land usage requirements of subsequent phases (beyond the immediate known requirements of Phase 1). The table below shows the respective increase in Population Equivalent for each proposed phase of the Durnish Lands development.

	Occupancy	Population Equivalent (PE)
PHASE 1	48	20
PHASE 2	24	10
PHASE 3	48	20
TOTAL	**120**	**50**

Table 2.1 – Phase 1 – Phase 3 Population Equivalent

For the design of the Phase 1 treatment system, a factor of safety of 1.25 was applied to the occupancy figure for Phase 1. Therefore, an occupancy figure of 60 personnel was considered and a design population equivalent of 30 was used in the system design.

The package treatment system proposed for Phase 1 is a Klargester BioDisc BE (or similar), which provides both primary and secondary treatment of foul waters. Preliminary sizing of packaged system for 30pe is approx. 2.45m wide x 3.34m long, x 3.3m deep.

See Figure 2.7 for a typical package treatment system proposed.

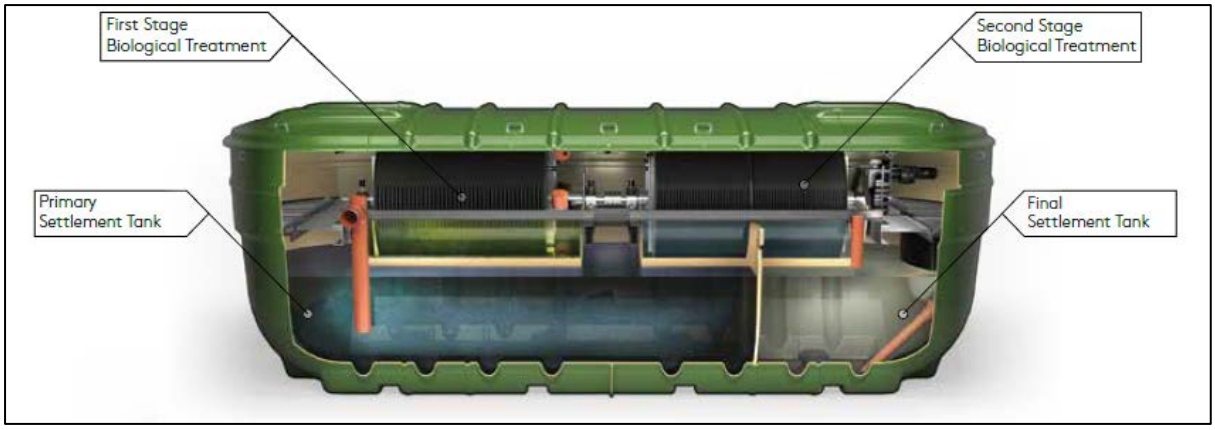

Figure 2.7 Typical Package Treatment Plant (source Kingspan Klargester BioDisc©)

In line with EPA Guidance, the treated effluent will be subjected to tertiary treatment by the means of a polishing filter which also acts as a percolation area to redistribute the treated and polished effluent to the groundwater. It is proposed to use a stratified sand polishing filter to provide the dual function of polishing the effluent and also infiltrating the treated effluent to the groundwater. The design arrangement is in accordance with EPA Code of Practice guidance and European standards.

This polishing filter shall be a minimum of 0.9m deep, with material graded as specified in EPA Guidance, underlain with imported fill material above the in-situ sub-soil/water table. The base of the proposed polishing filter shall be a minimum of 1.2m above the existing water table/bed rock within the existing ground strata. See Figure 2.8 below for typical make-up of sand polishing filter.

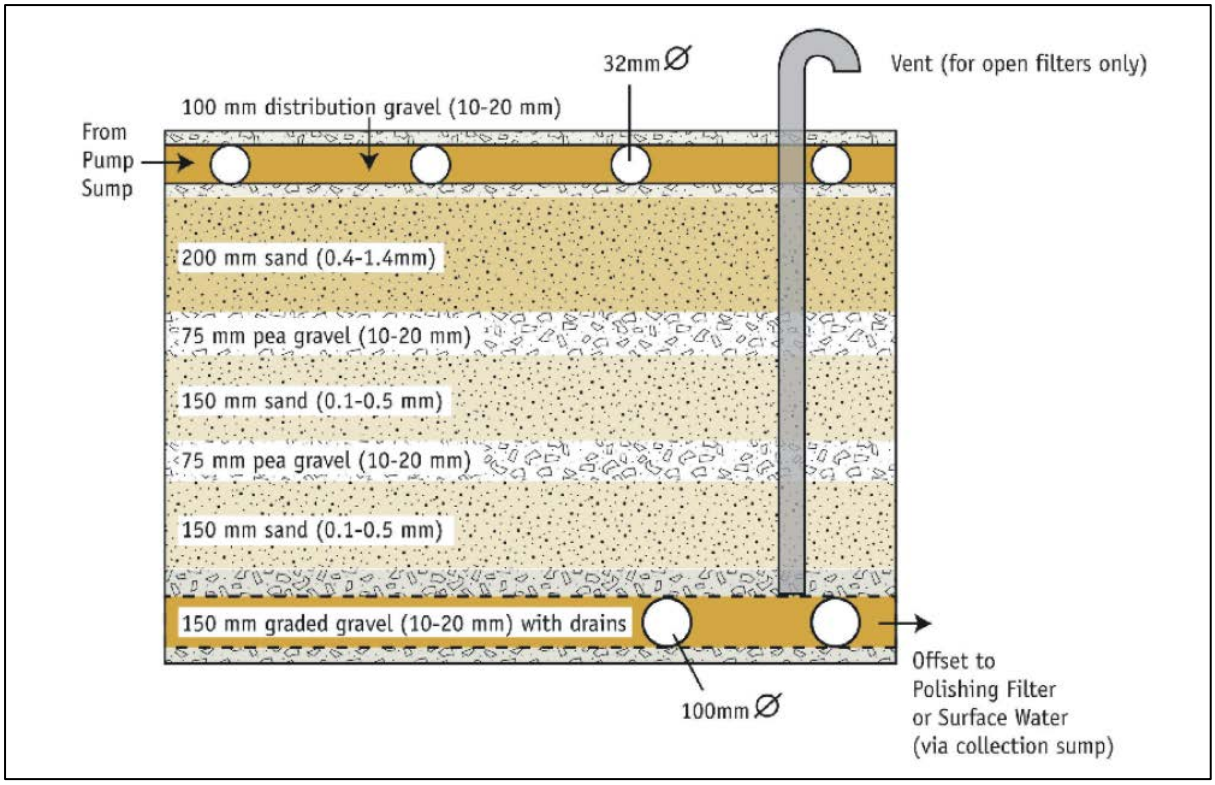

Figure 2.8 Typical Stratified Sand Polishing Filter (Source- EPA Guidance)

This design arrangement has been based on site-specific percolation testing taking account of land raising and the type of material that will be required to provide for appropriate percolation.

These design details provide for the warehousing units proposed as part of Phase 1 and for the WC which is located within the proposed security kiosk. This will be carried by a foul pipe from the kiosk, via the proposed crossing structure, to the package treatment plant being provided for the warehousing as above.

2.2.3.2.8 Water Supply

Water supply will be by connection to the local mains system within the existing port area.

2.2.3.2.9 Mechanical and Electrical Services

The proposed lighting for the general working areas/storage area will comprise 30.0m high; base hinged raising and lowering masts with multiple floodlight arrangements units and light cowls for light pollution control. Lighting will be designed to provide an average lighting level of 30-50 lux for storage and operational areas and an average of 20lux for internal access roads. 8m high lighting standards will be provided along internal roads and footpaths. The lighting will be designed to prevent direct glare into surrounding properties and illumination of the night sky.

In accordance with mitigation measures identified in the EIAR, the positioning of the proposed high mast lights has been refined and light shields added to ensure the lux levels along the Southern and Eastern boundaries of the Durnish lands do not exceed 5lux.

Power supply will be by connection to the local electricity grid system via a proposed ESB substation to be constructed at the South-Western boundary of the Durnish Lands.

2.2.3.2.10 Fencing and Security

Secure fencing will be provided along the perimeter of the developed Phase 1 lands. Fencing shall be in keeping with the panel mounted fencing currently used around the Port lands, and shall be 2.4m high panel fencing with a close mesh profile (5mm dia. steel wire with a 200x25mm mesh aperture), mounted on RHS posts with a bracket fixing system.

Fencing will be implemented in phases commensurate with the phased implementation of the development and provided to securitise each of those areas. This is proposed as follows:

Phase 1A

- Circa 800m of 4m high noise barrier
- Circa 930m of 2.4m high fencing
- 5 No. gates

Phase 1B

- Circa 630m length of 2.4m high fencing
- 2 No. gates

Phase 1C

- Circa 670m length of 2.4m high fencing

As part of the mitigation measures outlined in the EIAR, an 800m long, 4m high noise barrier is to be provided along the Southern and Western boundaries of the Phase 1a development area. In this case, the noise barrier also acts to secure the perimeter along these boundaries in lieu of security fencing.

2.2.3.2.11 Boundary Treatment

Suitable planting will be provided to the external perimeter of the raised lands to provide a visual barrier between the developed site and the neighbouring lands.

At the beginning of the Phase 1 development, the stripped topsoil will be profiled to form a landscaping berm along the Northern, Eastern, Southern boundaries and part of the Western boundary of the Durnish Lands. The top level of this berm will be +4.44mOD (in keeping with the proposed fill levels across the site).

Planting will be carried out along the slope of the berm, extending to the crest, with the width of proposed planting varying dependent upon the width of the existing boundary planting which is to be retained and "gapped up".

Due to the exposed coastal nature of the Durnish Lands, tolerant hardy species with deeper planting depths will be planted, allowing for a careful profile of very hardy species at the front, and taller screening trees at the rear. First line of defence will include hardy salt tolerant native shrub species like Hawthorn, Blackthorn, Goat Willow, Gorse with low canopy trees Alder and Mountain Ash. This protects the second line of defence that will include native shrubs like Holly, Broom, Hazel and high canopy trees Oak, Ash, Scots Pine.

2.2.3.2.12 Safety Equipment

Fire hydrants will be provided at regular intervals in all working and storage areas.

Correspondence received from Irish Water advised that they cannot guarantee fire flow requirements from the existing mains supply, and therefore the proposed development should include adequate fire storage capacity to guarantee the water flow required to meet the Fire Authority requirements.

To this end, 2nr water storage tanks and a pumping house are proposed as part of the Phase 1 development. Preliminary sizing of the tanks has been undertaken to provide a minimum of 45,000l water storage capacity, and a pumping house with diesel generators shall also be provided.

Confirmation of the tank sizes, location and layout shall be subject to agreement in writing with Limerick Fire and Rescue Service at detailed design stage.

2.2.3.2.13 Durnish Lands General Construction Sequence

<u>Single Phase Construction</u>

The general sequence of the development of the Durnish Lands will be as set out below:

- Stripping of topsoil across the existing site and seeding with clover mix
- Profiling of topsoil to form berm for boundary treatment along perimeter of Durnish Lands and planting of visual buffer
- Raising of existing lands to a level of +4.44mOD using imported fill material (whilst providing 5m wayleave for OPW access to drainage channel)
- Roundabout construction on Port access road and main access road into developed lands

- Construction of new Port Security kiosk and access barriers
- Demolition of existing shed "lean to" to facilitate construction of mid-point access road into developed lands
- Crossing structures over existing OPW drainage channel along Western boundary of developed lands
- Hardstanding construction and appropriate surfacing for open and covered storage
- Internal road and footpath construction
- Provision of secure fencing and services (power supply, water, drainage, lighting, attenuation pond extension)
- Erection of warehousing for covered storage with FFL of +4.74mOD Malin

Indicative Phased Programme

In the event that the development of the Durnish Lands is progressed on a phased basis, then the anticipated phasing is as outlined below.

Phase 1A (as outlined on Figure 2.6)

- Stripping of topsoil across the existing site and seeding with clover mix
- Profiling of topsoil to form berm for boundary treatment along perimeter of Durnish Lands and planting of visual buffer
- Raising of Phase 1A portion of existing lands to a level of +4.44mOD using imported fill material (whilst providing 5m wayleave for OPW access to drainage channel)
- Demolition of existing shed "lean to" to facilitate construction of mid-point access road into developed lands
- Roundabout construction on Port access road and main access road into site
- Construction of new Port Security kiosk and access barriers
- Crossing structures over OPW drainage channel
- Internal road and footpath construction
- Hardstanding construction and surfacing
- Provision of secure fencing and services (power supply, water, stormwater drainage, foul treatment system, lighting)
- Erection of warehousing for covered storage with FFL of +4.74mOD Malin

Phase 1B (as outlined on Figure 2.6)

- Raising of Phase 1B portion of existing lands to a level of +4.44mOD using imported fill material (whilst providing 5m wayleave for OPW access to drainage channel)
- Provision of stormwater drainage and fencing

Phase 1C (as outlined on Figure 2.6)

- Raising of Phase 1C portion of existing lands to a level of +4.44mOD using imported fill material (whilst providing 5m wayleave for OPW access to drainage channel along northern perimeter of site)
- Provision of stormwater drainage and fencing

2.2.3.2.14 Equipment

Handling operations in the developed site will be dependent on the type of cargo which is to be accommodated at any given time. However the equipment will likely comprise some or all of those described in the following sections on an "as required" basis. The details and dimensions of particular types of equipment will vary from manufacturer to manufacturer and final dimensions will only be determined when the supplier of the equipment has been identified. Dimensions considered are based on typical dimensions of equipment currently available in the marketplace. Some variation may occur in the final items of equipment provided.

Port handling equipment such as mobile cranes, mobile hoppers, mobile weighbridges, straddle carriers, loading shovels, reach stackers, mast lift trucks, or similar will be used as and when required.

Reach Stacker

Reach stackers are front lifting items of equipment which use telescopic arms to place containers at height in stacks. This type of equipment will be used in the Durnish Lands to handle containers up to 3nr high (8m high).

Straddle Carrier

Diesel powered straddle carriers are used to lift containers and deposit them in container stacks. They are mounted on rubber tyres and are usually approximately 16.5m in height. They can be used to stack containers up to 4 high (approximately 11m in height).

2.2.3.2.15 Operational Access

Access to the developed site will primarily be via the newly constructed roundabout on the existing port access road. An additional point of access is also proposed in the centre of the developed lands, created as a new access point from the existing port access road, as shown on the relevant planning drawings.

2.2.3.2.16 Rail Use

No works are proposed to the existing rail line. The future operational use of the rail line is under constant review but at this time, the operational reuse of the rail line is subject to a specific end user requirements and/or viability of investment in the upgrade in the infrastructure. Despite that, the proposal seeks to retain and safeguard the integrity of that line and infrastructure.

2.2.3.3 Construction Activities

2.2.3.3.1 Jetty Extension

Programme

It is estimated that the proposed construction works will be undertaken during a construction period of approximately 12 months.

Temporary Site Compound

An area will be required for the establishment of the Contractor's site compound. The site compound will be used for the Contractor's site office accommodation and facilities and will include an area for temporary storage of construction materials. A suitable area will be made available on existing port lands close to the site of the proposed works.

Site Access

Existing port operations will continue as normal during the construction period. Access to the site will be via the Foynes Port Access Road (which can be accessed from the adjacent existing port access road off the N69), and along the internal port roads. In general all construction related traffic will use the port entrance to the east of Foynes village in order to avoid traffic passing through the village. Suitable traffic management and other systems will be put in place as required to minimise disruption to existing activities during the construction period.

2.2.3.3.2 Durnish Lands Development

Programme

Assuming that the development of the Durnish Lands is undertaken on a single phase basis, it is estimated that the proposed construction works will be undertaken during a construction period of approximately 39 months.

It is envisaged that the development of the Durnish Lands will be commenced whilst the jetty extension works are being undertaken. Alternatively, subject to the availability of funding or potential tenant requirements, the development of the Durnish Lands may be undertaken in sub-phases similar to that set out below under the sub heading 'construction employment'.

The anticipated timeline from the overall strategic programme for the sub-phased development of Phase 1 of the Durnish Lands is outlined below:

- Phase 1A Durnish Development (Expected commencement 2019)
- Phase 1B Durnish Development (Expected commencement 2024)
- Phase 1C Durnish Development (Expected commencement 2027)

Temporary Site Compound

A temporary site compound will be required for the proposed works. A suitable area will be made available within the site of the proposed works. In the event that the works are progressed in sub-phases, then the locations of the proposed site compounds will be positioned accordingly.

Site Access

Access to the Durnish Lands development site will be via the existing Foynes Port Access Road which can be accessed from the adjacent N69 road. In general all construction related traffic will use the port entrance to the east of Foynes village in order to avoid traffic passing through the village. Suitable traffic management and other systems will be put in place as required to minimise disruption to existing activities during the construction period.

2.2.3.4 Employment

It is anticipated that the total potential for employment during construction phase will range from a minimum 21 no. people to 35 no. people across both the jetty construction works and the port expansion at the Durnish lands during an envisaged 39-month construction period.

On average, 15 no. personnel will be employed for the full duration of the jetty construction works over an anticipated 12 month construction programme.

Construction employment of the Durnish lands development will be more dependent on the implementation of the phasing based on implementation of the proposed phasing regimes.

It is anticipated that the operational phase of the project will result in the generation of 120 on-site port related jobs. This calculation is based on the consideration of land area in the context of the existing use, and user types currently operating within the existing Port estate. It does not take account potential residual effects of off-site support services upon which the new operations might require and which might result in off-site employment opportunities.

2.2.3.5 Pollution Control

The construction works will involve Civil and Marine Engineering works and Mechanical and Electrical works. All machinery used during the construction phase of the works will be required to be in good working order and free from oil and hydraulic fluid leakages.

If machinery maintenance has to take place, it will be carried out at the allocated Contractor's compound which will be located away from the adjacent waters. Fuel for machinery will be required to be stored in a secure and bunded area. For construction operations such as the infilling of the Durnish Lands, pollution control measures such as wheel wash facilities will be put in place.

2.2.3.6. Site Safety

Safety will be of prime importance during the construction works. The works will be subject to the Safety, Health and Welfare at Work Act 2005 and the Safety, Health and Welfare at Work (Construction) Regulations, 2006. The Principal Contractor will be responsible for the control and co-ordination of health and safety during the works and will be appointed as the project supervisor (construction stage).

2.2.3.7. Waste Disposal

Contractors working on site during the works will be responsible for the collection, control and disposal of all wastes generated by the works.

2.2.3.8 Operational Activities

MAINTENANCE

When construction work has been completed, the jetty extension and Durnish lands development will require little by way of maintenance.

POLLUTION CONTROL

Surface water from the new working area on the jetty extension and the developed Durnish Lands will be collected by a system of drainage channels and gullies. The surface water will be discharged via interceptors to ensure that no pollution is released into the surrounding waters.

By 2020, it is the intention of SFPC to retrofit dust suppression hoppers to two of the existing hoppers used in the vicinity of the proposed jetty extension. This will assist with the control of dust from the jetty operations.

2.2.3.9 Duration of the Project

Planning permission in respect to development work is being sought for 10 years to ensure implementation for all of the above works. The duration of the operational element of the project can for the purpose of environmental assessment, be considered as ‘permanent’.

2.3 DESCRIPTION OF THE RISK OF ACCIDENTS

The risk of accidents can arise during construction and operation phases as part of normal construction measures and port related operations and activities. The risk of accidents and mitigation measures considered necessary to address same, has been considered and is presented under the assessment of the each environmental variable assessed in the EIAR.

2.4 PROJECT CHANGE AND DECOMMISSIONING

There are no plans proposed for the decommissioning of the project given that the nature of the project – i.e. 'port development' can in this instance, be considered as a 'permanent' operation. The decommissioning of specific buildings or layouts is likely to form part of subsequent planning consent procedures and in the unlikely event that specific decommissioning requirements are necessary, appropriate mitigation can be applied to those consents.

2.5 OTHER RELATED PROJECTS AND POTENTIAL FOR EX-SITU EFFECTS

The proposed development does not involve or rely on any other related projects or give rise to development occurring outside the site. The applicant is satisfied that all projects are contained within the confines of the development boundary as presented and assessed in the EIAR.

3. SUMMARY OF MITIGATION MEASURES

The EIAR assesses the likely significant impacts arising from the proposed Capacity Extension at Shannon Foynes. Integration of the engineering design team with the planning and environmental team from an early stage in the Project has enabled **mitigation by design** to be used, whereby the likely significant impacts have been eliminated or reduced to an acceptable level by incorporating appropriate mitigation measures into the engineering design as it has evolved during the preliminary design stage.

Table 3.1 summarises the construction phase mitigation measures and monitoring recommended within the EIAR.

Table 3.1 Construction phase mitigation measures and monitoring recommended within the EIAR

Potential Impact	Summary of Proposed Mitigation
Chapter 7 BIODIVERSITY	
Construction Phase ▪ The development will result in a loss of habitat.	▪ The augmentation of existing boundary vegetation will result in moderate beneficial effects. Plant species to be planted will be cognisant of coastal climate and exposure, and must be comprised of native species. In particular, this will help to screen port activities from the intertidal area at Robertstown Creek and prevent disturbance to non-breeding birds in this area. ▪ Site clearance work (particularly trees and other vegetation) will be restricted to the period of the 1st September to the 28th February to avoid adverse impacts to breeding birds.
▪ The development is likely to give rise to a temporary degradation of surface water quality, resulting in indirect impacts to biodiversity.	▪ Mitigation measures are included in Chapter 9.
▪ Construction activities may cause the spread of invasive alien species, which would be an offence under wildlife law.	▪ An Invasive Alien Species Management Plan will be implemented for the duration of the proposed works, as described in Section 4.9. This will include an initial Invasive Alien Species (IAS) Assessment. This will link into the Waste Management Plan and Construction Traffic Management Plan to prevent the spread of IAS. The Plan outlines containment and eradication measures to be

Potential Impact	Summary of Proposed Mitigation
	implemented if any IAS are identified. ▪ Prevention measures will include: o Ensuring that imported fill material to the site are sourced from authorised/licensed quarry operators o Specifying that such material should be free of invasive plant species and their propagules o Implementing a materials handling plan for the proper storage and controlled movement materials o Ensuring that all vehicles and construction plant arriving on site are reasonably clean and free of significant deposits of mud and plant debris that might be a vector for spread of IAS o Cordoning off any IAS locations on site identified and mapped in the initial IAS assessment o Washing down machinery that has operated in IAS infested areas in designated locations before moving within the site or leaving the site o Inclusion of IAS awareness in toolbox talks using visual aids to identification for the most likely species to be encountered prepared by the initial IAS assessment o Notification of any suspected new occurrences of IAS to SFPC ▪ Containment/treatment measures will include: o Cordoning off any IAS infestations to limit movement of people / machinery in infested area and relevant buffer zones o Confirmation of the identification of the species concerned, and collation of relevant information o Selection of the most appropriate best practice methods for control / treatment o Prioritisation of treatment areas o Undertaking physical or chemical control measures as appropriate in line with best practice guidance and in compliance with health and safety requirements o Ensuring control measures are undertaken by suitably qualified personnel o Handling and disposal of treated material appropriately to prevent further spread. ▪ Japanese Knotweed is present in the north-west of the Durnish site. This will be fenced off to a distance of 7m from the plant and the fence will be maintained

Potential Impact	Summary of Proposed Mitigation
	throughout the duration of the construction period. Construction activities associated with the proposed development will not be permitted to access the fenced off area. ▪ All staff will be briefed and made aware of the presence of the Japanese Knotweed, the purpose of the fencing around it and the prohibition on excavating soils with Japanese Knotweed growing in it.
▪ Light spill on hedgerows and vegetated corridors is likely to cause disturbance to and indirect loss of foraging and breeding habitats of bats, or an interruption of commuting routes of bat species.	▪ High mast column lighting in the proposed warehousing and open storage areas of the site of proposed development must be designed with overspill prevention shields so as to not illuminate existing hedgerows and vegetated corridors to be retained along the southern and eastern boundaries.
▪ Sound pressure from piling activities may have negative impacts on marine mammals including bottlenose dolphins.	▪ Mitigation measures for piling outlined the NPWS (2014) guidelines will be implemented. These require a Marine Mammal Observer (MMO) to ensure the area is clear of marine mammals and a soft start procedure where the equipment is ramped up slowly to full power. ▪ A Marine Mammals Observation Plan will be implemented to prevent construction phase impacts to marine mammals, as detailed in Section 4.8. ▪ The MMO will scan the surrounding area to ensure no marine mammals are in a pre-determined exclusion zone in the 30-minute period prior to operations. The NPWS exclusion zone is 1000m for piling activities. ▪ Noise-producing activities shall only commence in daylight hours where effective visual monitoring, as performed and determined by the MMO, has been achieved. ▪ For piling activities, where the output peak sound pressure level (in water) exceeds 170 dB re: 1µPa @ 1m, a ramp-up procedure will be employed following the pre-start monitoring. ▪ If there is a break in piling activity for a period greater than 30 minutes then all pre-activity monitoring measures and ramp-up (where this is possible) will recommence as for start-up.

Potential Impact	Summary of Proposed Mitigation
	▪ Any approach by marine mammals into the immediate (<50m) works area will be reported to the NPWS. ▪ The MMO will keep a record of the monitoring using a 'MMO form location and effort (coastal works)' available from the NPWS and submit to the NPWS on completion of the works.

Potential Impact	Summary of Proposed Mitigation
Chapter 8 SOILS, GEOLOGY, HYDROGEOLOGY, WASTE	
Demolition Phase ▪ The localised demolition of the existing concrete deck is required and will generate Construction, Demolition and Excavation (CD&E) type waste materials. It has been estimated that the demolition works will generate approximately 130m^3 of concrete / demolition waste.	▪ A Construction Waste Management Plan will be implemented to provide assessment of the impacts arising from the generation of waste materials during demolition of the proposed development, as detailed in Section 4.2. ▪ In order to divert waste from landfill, possibilities for reuse of inert demolition material as fill on site will be considered, following appropriate testing to ensure materials are suitable for their proposed end purpose. ▪ Should there be no suitable reuse option on site this material will be removed off-site by an appropriately permitted waste collector.
▪ Demolition of existing shed "lean to" of Foynes Engineering is required to facilitate construction of mid-point access road into developed lands. This structure is a steel frame structure, with single skin steel corrugated sheeting, and measures 6.9m wide by 19.3m long.	▪ A segregated skip will be available for steel/metal storage on site pending recycling by the waste contractor. ▪ All other material will be removed off-site for disposal by a waste contractor.
Construction Phase ▪ There is a low potential risk to construction workers from contaminants	▪ Fill material will be imported to raise site levels. The material will be sourced from authorised quarries and will have minimal potential to introduce contamination onto the site.

Potential Impact	Summary of Proposed Mitigation
during the earthworks.	
▪ There is likely to be an increase in the amount of waste produced during the construction phase of development.	▪ A Construction Waste Management Plan will be implemented to provide assessment of the impacts arising from the generation of waste materials during construction of the proposed development, as detailed in Section 4.2.
▪ There is the potential for quantities of materials to be deposited in landfill sites rather than reused or recycled.	▪ All waste materials will be dealt with in accordance with regional policies, national legislation and the waste hierarchy. ▪ Site management procedures will be in place to ensure the appropriate management of waste segregation, storage, and handling. ▪ Each material for recycling will be segregated into suitable containers which will have adequate access for collection vehicles. ▪ Waste collections and transportation will be as required by a licensed and authorised collector.
▪ The use of non-permitted waste contractors or unlicensed facilities could give rise to inappropriate management of waste and result in environmental impacts/pollution.	▪ Contractors working on site during the works will have a duty of care and be responsible for the collection, control and disposal of all wastes generated by the works. SFPC and their appointed contractor will ensure that all waste materials leaving the site will be transported via road by a registered and licensed carrier and arrive at a licensed / permitted site. Waste will only be disposed or recovered through licenced operators and in accordance with national waste legislation.
▪ Waste materials will be arising from site management practices during the construction phase, for example, excess materials and packaging, over-ordering materials, off-cuts, damaged materials and poor storage during the construction phase.	▪ Every effort will be made in the management of the site to minimise the oversupply of construction materials. ▪ Waste gypsum can be recycled therefore a skip will be provided for the separate collection of waste plasterboard and collected as necessary. ▪ Cardboard packaging will be flattened and placed in a covered skip to prevent it getting

Potential Impact	Summary of Proposed Mitigation
	wet prior to collection by a waste contractor. ▪ Plastic will be segregated at source and kept as clean as possible and stored in a dedicated skip prior to collection by a waste contractor.
▪ Waste will be arising from the construction compound.	▪ Recyclable waste such as paper, cardboard packaging and canteen waste will be segregated on site in covered skips for recycling. ▪ Regular housekeeping of the temporary canteen, office and construction compound will be carried out by a permitted waste contractor.
▪ Sewage from the temporary site toilets will be emptied under contract for disposal at an appropriate facility.	▪ Any temporary W/C utilities used on site during the construction phase will be maintained by an approved and permitted contractor.

Potential Impact	Summary of Proposed Mitigation
Chapter 9 WATER QUALITY, FLOOD RISK	

Potential Impact	Summary of Proposed Mitigation
Construction Phase ▪ Temporary impacts on surface waters will occur during construction. Pollution from mobilised suspended solids (silt) is generally the prime concern. Suspended sediment due to run off from stripped construction areas and excavations can have a severe negative impact on water quality, water dependant habitats and aquatic ecology. This is particularly true in sloping areas with underlying clay following topsoil stripping. In areas of moderate to high rainfall, the potential problems are clearly exacerbated. If allowed to enter surface watercourses this run off can give rise to high suspended solids and detrimental impacts, in particular to fisheries.	▪ A Water Quality Management Plan will be implemented to prevent the risk of environmental pollution to water, as detailed in Section 4.3. A monitoring programme will be prepared as part of this plan and will be ongoing throughout the construction phase to assist in the determination of the effectiveness of the mitigation measures (see Section 4.3). ▪ Management and auditing procedures, including tool box talks to personnel will be put in place to ensure that any works which have the potential to impact on the aquatic environment are being carried out in accordance with required permits, licences, certificates and planning permissions. ▪ Existing and proposed surface water drainage and discharge points are mapped on the Drainage layout (drawing number M0679-RPS-00-XX-DR-PR-08). These will be noted on construction site plans and protected accordingly to ensure water bodies are not impacted from sediment and other pollutants using measures to intercept the pathway for such pollutants. ▪ Vegetation will be established as soon as practical on all areas where soil has been exposed e.g. the stripped topsoil and the exposed sub-base at Durnish shall be seeded with clover, where appropriate, to bind the material together to ensure that these areas do not provide a source of sediment. ▪ The construction of the berm and the boundary treatment on the Northern, Eastern, Southern boundaries and part of the Western boundary of the Durnish Lands during the early stages of the phase 1 development will ensure that an effect barrier to intercept the pathway of any potential run-off from the site to the Ardaneer Stream and Robertstown Estuary will be established at the early stages of the development The retention of a minimum 5 metre buffer at the Durnish Stream on the Western Boundary for OPW access to the drainage channel, should this be required for maintenance will provide a buffer along the Western boundary. ▪ At the site accesses proposed culverts will be laid in both instances with bank protection using gabions and bed protection using reno mattress This will ensure that bank and bed will be protected from erosion that could introduce suspended solids to these water courses.

Potential Impact	Summary of Proposed Mitigation
	▪ The infilling of the site will be undertaken using suitable infill material sourced from authorised quarries. ▪ During the construction of phase 1 at Durnish lands careful placement of the topsoil in the landscaping berms will be required. Silt fences or other suitable barrier measures will be installed where the working area for the berm treatment encroaches within 10m of a watercourse (with the exception of dedicated site access locations as illustrated on the site layout plan). ▪ In the unlikely event that dewatering of foundations is required during construction and/or discharge of surface water from sumps, a treatment system prior to the discharge to storm water network will be used such as silt traps or settlement skips prior to discharge; ▪ Construction of additional capacity at the existing attenuation pond will be undertaken at an early stage in the construction programme as part of Phase 1. This measure will allow additional settlement of any suspended solids within storm water arising from the construction areas prior to discharge to the Shannon Estuary; and ▪ Measures will be installed where necessary, for example, where preferential flow paths occur, silt fencing or other suitable barriers will be used to ensure silt laden or contaminated surface runoff from the compound does not discharge directly to a water body.
▪ Vegetation spaying with herbicide in advance of topsoil stripping may be required. Careless storage, handling or use of pesticides, can easily cause breaches of the legal limit for pesticides in water.	▪ The application of Herbicides will only be undertaken by trained operators who are registered under the European Communities (Sustainable Use of Pesticides) Regulations 2012.
▪ Fresh concrete and cement are very alkaline and corrosive and can cause serious pollution in water bodies. It is essential to ensure that the use of wet concrete and cement in or close to any water body is carefully controlled so as to minimise the risk of any material entering the water	▪ Concrete use and production shall adhere to control measures outlined in GPP 5: Works and maintenance in or near water (2017) particularly if on-site concrete production is proposed and careful initial siting of concrete mixing facilities is required with no production within a minimum of 10 metres from the aquatic zone. ▪ Where in situ stitching is required or where concrete is to be placed under water or in tidal conditions, specific fast-setting mix is required to limit segregation and washout of fine material / cement. This will normally be

Potential Impact	Summary of Proposed Mitigation
	achieved by having either a higher than normal fines content, a higher cement content or the use of chemical admixtures.
▪ Construction of the proposed development will involve the use of plant and machinery as well as the associated temporary storage of construction materials, oils, fuels and chemicals in designated areas within the application site and on suitably mobile bowser on the working spread. There is the potential for spillage or release of fuel oil and other dangerous substances which could impact on the surface and ground water bodies associated with the working area. It is also possible that small residue amounts left on site may be mobilised by surface run-off and washed into the receiving waterbodies.	▪ Fuel, oil and chemical storage must be sited on an impervious base within a bund and secured. The base and bund walls must be impermeable to the material stored and of adequate capacity. The safe operation of refuelling activities shall be in accordance with PPG 7 "Safe Storage – The safe operation of refuelling facilities ▪ SFPC has developed a Contingency Plan, which is approved by the Minister for Transport (Irish Coast Guard Section) under the Sea Pollution (Amendment) Act 1999, to address any major oil/HNS spill (or potential spill) within the Estuary. In the unlikely event that a major spill occurs during construction of the proposed development this contingency plan will be followed where required.
▪ There is uncertainty surrounding the capability of the existing flood defence system to provide the required standard of protection for the proposed development.	▪ The Durnish lands portion of the application site into which the expansion of the port is to take place is to be filled to a minimum level of 4.44m OD Malin. Finished floor levels (FFLs) on buildings within the Durnish lands are to be set at a minimum of 4.74m OD Malin. It is considered that this will mitigate the impacts of the MRFS 0.5% AEP scenario with FFLs allowing for 300mm of freeboard. ▪ Two culverts will be developed to allow access into the raised Durnish lands across the watercourse between the port and Durnish lands. These will have a 1.2m diameter to allow for the required flows, including an allowance for freeboard. ▪ Access to the watercourses which are maintained by OPW is required in the form of a 5m wayleave on the bank. This wayleave will be provided at existing levels at the top of bank, typically 1.5-2.5m OD rather than at the filled 4.44m OD level.

Potential Impact	Summary of Proposed Mitigation
Chapter 10 AIR & CLIMATE	
Construction Phase ▪ Construction works are likely to result in an increase in dust emissions to the local area. The main sources of dust emissions will be from the East Jetty Extension Works and the Durnish Lands Development.	▪ A Dust Risk Assessment and a Dust Minimisation Plan will be prepared by the contractor in advance to the commencement of works, as detailed in Section 4.4. At the construction phase, the potential for dust emissions must be assessed qualitatively by the contractor through a documented Dust Risk Assessment. The Dust Minimisation Plan will be based upon the industry guidelines in the Building Research Establishment document entitled 'Control of Dust from Construction and Demolition Activities' (BRE 2003). ▪ A construction compound should be selected so that it is located as far as practicable from sensitive receptors such as residential dwellings, etc. in Foynes but also at a sufficient distance from ecological receptors (such as the estuary). ▪ Site roads shall be regularly cleaned and maintained as appropriate. Hard surface roads shall be swept to remove mud and aggregate materials from their surface while any un-surfaced roads shall be restricted to essential site traffic only. ▪ Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions (also applies to vehicles delivering material with dust potential). ▪ All vehicles exiting the site shall make use of a wheel wash facility prior to entering onto public roads, to ensure mud and other wastes are not tracked onto public roads. Wheel washes should be self-contained systems that do not require discharge of the wastewater to water bodies. ▪ Public roads outside the site shall be regularly inspected for cleanliness, and cleaned as necessary. The contractor will be required to submit for approval the methodology for monitoring dust emissions both on and beyond

Potential Impact	Summary of Proposed Mitigation
	the site boundary. ▪ Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind. ▪ Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.
▪ Dust emissions during the construction phase of development have the potential to cause impacts through dust nuisance at the nearest sensitive receptors and also to sensitive ecosystems, including the 28 receptors identified in the higher risk areas.	▪ Site traffic in these areas will be restricted to 20km/hr to minimise dust re-suspension. ▪ All material handling will be carried out to minimise drop heights from plant to plant or from plant to stockpile. ▪ Water bowsers will be used across the areas as required on roads, stockpiles and material handling systems. ▪ The contractor will be required to maintain monthly dust levels below the guideline of 350mg/m2/day as an annual average at sensitive receptors. Where dust levels are found to be above this threshold, the mitigation measures in the area must be reviewed as part of the Dust Minimisation Plan.
▪ There will be an increase in CO_2 emissions arising from the transport required during the construction phase of the development.	▪ Construction materials will be sourced locally to minimise transportation emissions. ▪ A Traffic Management Plan will be implemented and will outline measures to minimise congestion and queuing, reduce distances of deliveries and eliminate unnecessary loads, as detailed in Section 4.6. ▪ The provision of an efficient material handling plan will reduce idle times, thus saving up to 10% of total emissions during the construction phase. ▪ An enforcement of turning off engines when not in use for more than five minutes will be in place, unless the idle function is necessary for security or functionality reasons.

Potential Impact	Summary of Proposed Mitigation
	▪ Regular maintenance of plant and equipment, and technical inspections of vehicles will be undertaken to ensure that they are performing as efficiently as possible.
▪ The importation of materials will result in increased transport, thereby generating additional emissions at both a local and national level.	▪ Materials with a reduced environmental impact may be incorporated into the construction design through re-use of materials or incorporation of recycled materials in place of conventional building materials. ▪ The following material may be considered for the construction phase: o Ground Granulated Blast Furnace Slag (GGBS) & Pulverised Fuel Ash - Used as replacements for Portland cements to increase sustainability and carbon footprint of civil and structural works. o Steel - The recovery rates associated with using recycled steel are high and research exists which shows that 99% of structural steel arising from demolition sites is recycled or re-used.
▪ The construction phase of the development will result in an increase in energy use.	▪ An Energy Management System will be implemented for the duration of the works. The following measures will be implemented as part of this System: o The use of thermostatic controls on all space heating systems in site buildings to maintain optimum comfort at minimum energy use. o The use of sensors on light fittings in all site buildings and low energy lighting systems. o The use of adequately insulated temporary building structures for the construction compound fitted with suitable vents. o The use of low energy equipment and “power saving” functions on all PCs and monitors in the site offices. o The use of low flow showers and tap fittings. o The use of solar/thermal power to heat water for the on-site welfare facilities and contamination unit (sinks and showers).

Potential Impact	Summary of Proposed Mitigation
Chapter 11 NOISE & VIBRATION	
Construction Phase ▪ There is the potential for noise impacts associated with the construction phase of the proposed development at the nearest noise sensitive receptors.	▪ A Noise Management Plan will be implemented during works to minimise effects of the site operations on environmental receptors, as detailed in Section 4.5. A programme of noise monitoring will be implemented as set out in this plan (see Section 4.5). ▪ *British Standard BS5228:2009+A1:2014 – Noise and vibration control on construction and open sites: Part 1 - Noise* outlines a range of measures that can be used to reduce impacts. These measures will be applied by the contractor where appropriate, and will include: o Ensuring that mechanical plant and equipment used for the purpose of the works are fitted with effective exhaust silencers and are maintained in good working order. o Careful selection of quiet plant and machinery to undertake the required work where available. o All major compressors should be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use. o Any ancillary pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers. o Machines in intermittent use should be shut down in the intervening periods between works. o Ancillary plant such as generators, compressors and pumps should be placed behind existing physical barriers, and the direction of noise emissions from plant including exhausts or engines should be placed away from sensitive locations, in order to cause minimum noise disturbance. o Handling of all materials should take place in a manner which minimises noise emissions; o Audible warning systems should be switched to the minimum setting required by the Health & Safety Authority. o All equipment fitted with engine covers shall only be operated with those covers closed and fastened to prevent rattling. o No equipment shall operate other than at manufacturer's rated working levels; site personnel shall not 'rev' equipment unnecessarily.

Potential Impact	Summary of Proposed Mitigation
	○ Crane spindles, pulley wheels and telescopic sections shall be adequately lubricated in order to prevent screeching or squealing. ○ Vehicles will only use pre-defined routes to limit movements near to the site boundary and sensitive noise receptors. ○ Suitability of plant and tools for all construction activities will be assessed by a competent person; a noise assessment will be carried out and included within the relevant Safe System of Work (SSoW) package, detailing activity specific noise mitigation requirements. ○ All personnel will be reminded of good practice through inductions at the start of works and subsequent task briefings and 'toolbox talks' during the course of the works. ○ Plant operatives will be trained in the operation of their particular piece of plant and will be certified accordingly. ○ Daily plant inspections will be carried out, with servicing and maintenance being carried out based on the findings. A record of the relevant certificates and inspections will be held on site throughout the project. ○ The appointed contractor will only permit the use of tools and equipment that have been fully serviced & inspected; they are to be used as per the manufacturer's handbook. ○ A Traffic Management Plan will be implemented which encourages the use of public transport for employees and staff and regulates deliveries to and collections from the site. ○ Noise barriers will be installed as necessary. ▪ A complaints procedure will be operated by the Contractor throughout the construction phase and all efforts will be made to address any noise issues at the nearest noise sensitive properties.
▪ The piling works that will take place as part of this development will result in high levels of underwater noise, particularly piling requiring impact driving.	▪ The use of heavy pile sections which have the capacity to sink under their own weight and facilitate the use of a vibratory pile for a substantial portion of their depth will be undertaken to reduce the amount of impact driving required. ▪ Pile driving activity will be carried out as efficiently as possible, to reduce the duration of the piling activity. Piling will only take place for a portion of each day and will not be carried out at night.

Potential Impact	Summary of Proposed Mitigation
	▪ Mitigation measures will be implemented to reduce impacts of underwater noise to marine mammals, as described in Chapter 7. ▪ An underwater noise survey will be undertaken during the construction period at both the Pontoon and Beacon 2 locations. The monitoring will be carried out at the commencement of the piling activity.
▪ The construction phase of the proposed development has the potential to impact on vibration levels at the nearest sensitive receptors, although the impacts are not likely to be significant.	▪ *BS5228:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and open Sites - Part 2: Vibration* includes a range of measures for the reduction of vibration associated with piling activities and for general surface based activities. The contractor will adhere to the mitigation measures included in BS5228:2009 where practicable to reduce vibration levels from general and piling activities to the lowest possible levels.

Potential Impact	Summary of Proposed Mitigation
Chapter 12 COASTAL PROCESSES	
▪ Mitigated by design	

Potential Impact	Summary of Proposed Mitigation
Chapter 13 TRAFFIC	
Construction Phase ▪ There will be an increase in construction traffic during the construction phase of the development.	▪ A Construction Traffic Management Plan will be implemented, as detailed in Section 4.6. ▪ A pre-defined haulage route will be agreed with Limerick City & County Council to avoid construction traffic through Foynes village. ▪ Time restrictions will be implemented relating to

Potential Impact	Summary of Proposed Mitigation
	construction vehicles on the adopted road network. ▪ Temporary warning signage will be installed, as necessary. ▪ Wheel washing, roadside cleaning, load checking and general maintenance of larger vehicles will be in place. ▪ Appropriate parking facilities for site operatives and visitors within the site will be provided with all parking areas clearly signed and monitored.

Potential Impact	Summary of Proposed Mitigation
Chapter 14 ARCHAEOLOGY & CULTURAL HERITAGE	
Construction Phase ▪ There is the potential for unrecorded sub-surface archaeological deposits, material, and structures to be adversely impacted by the proposed works.	▪ An Archaeological Management Plan will be implemented to address construction phase archaeological mitigation required for the development, as detailed in Section 4.7. ▪ Archaeological monitoring will be ongoing during the construction phase of the project in accordance with the terms of Section 5 of the National Monuments Act (2004 Amendment). Monitoring will be undertaken by an experienced, licensed, maritime archaeologist with a good knowledge of working within both the marine and intertidal environment. The following measures will be implemented as part of the monitoring: o Pile impact locations will be subject to archaeological inspection. o Archaeological monitoring of the gangway installation will be undertaken. o Archaeological monitoring of any ground disturbance works associated with the installation will be undertaken. ▪ In the event of archaeological features or material being uncovered during the construction phase, machine work will cease in the immediate area to allow the archaeologist/s to inspect any such material and the area

Potential Impact	Summary of Proposed Mitigation
	will be fenced off. ▪ In the event that the presence of archaeologically significant material is established, full archaeological recording of the material will take place. If it is not possible for the construction works to avoid the material, full excavation will be undertaken.

Potential Impact	Summary of Proposed Mitigation
Chapter 15 LANDSCAPE & VISUAL	
Construction Phase ▪ Visual impacts during the construction phase are likely to result from site preparation/enabling works and operations, site infrastructure and access, vehicular and plant movements, and dust emissions.	▪ The following built-in measures are incorporated into the design of the project: o Integration of constructed elements with existing elements such as existing roads and building sites and retention of trees. o Appropriate colour of fencing and structures. o As the cranes and gantries are predominantly read against the sky they will be mid-grey in colour rather than the usual blue or yellow. o Directional lighting. ▪ The following specific landscape measures will be put in place to reduce visual impacts at Durnish lands: o Retention and protection of hedgerows at the site boundaries during construction and enhancement and reinforcement of all retained hedgerows. o Planting will be provided on the site boundary.

CONDITIONS ON PLANNING AS SPECIFIED BY AN BORD PLEANÁLA

This Section will be populated with all conditions set by An Bord Pleanála (ABP) should the Board decide to grant Planning permission for the Project.

CONDITIONS ON FORSHORE AS SPECIFIED BY FORESHORE UNIT, DHPLG

This Section will be populated with all conditions set by the Foreshore Unit of Department of Housing, Planning & Local Government (DHPLG) should DHPLG decide to grant a Foreshore Lease for the Project.

4. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLANS

The following High Level Construction Environmental Management Plans have been prepared to assist the Contractor(s) understanding of the environmental requirements of SFPC during the construction phase of the Capacity Extension at Shannon Foynes Project. The Construction Environmental Management Plans will be further developed when the preferred Contractor(s) is selected to undertake the works in order to take into account the contractor's proposed plant and construction method statements. The Construction Environmental Management Plans will be agreed with SFPC and the planning authority (Limerick City & County Council) in advance of commencement of the works.

List of High Level Construction Environmental Management Plans presented in this report

4.1 Environmental Management System

4.2 Construction Waste Management Plan

4.3 Construction Water Quality Management Plan

4.4 Construction Dust Minimisation and Management Plan

4.5 Construction Noise Management Plan

4.6 Construction Traffic Management Plan

4.7 Archaeological Management Plan

4.8 Marine Mammal Observation Plan

4.9 Invasive Alien Species Management Plan

Further detail will be added and/or the extent of the Construction Environmental Management Plans expanded when the preferred Contractor(s) has been appointed.

ROLES AND RESPONSIBILITIES

SFPC intends to appoint a Contractor(s) to undertake each phase of the works. The Contract between SFPC and the Contractor will allocate responsibility for compliance with the terms of the EIAR during the construction phase of the Project.

SFP will require the Contractor to nominate a suitably qualified person to monitor the construction works, provide monthly reports to SFPC and ensure that all relevant environmental legislation is complied with and that the requirements of the EIAR are implemented.

HOURS OF WORKING

Where construction activity takes place in the vicinity of residential properties, the activities will operate between the hours of 08:00 and 18:00 on Monday to Fridays, between 08:00 and 13:00 on Saturdays and there is no activity on Sundays or Bank Holidays in accordance with the requirements of the EIAR.

Where additional or alternative working hours are required, these will be agreed in advance with Limerick City & County Council.

4.1 ENVIRONMENTAL MANAGEMENT SYSTEM

The proposed construction works will be managed in accordance with a comprehensive Environmental Management System (EMS). An annual audit report for the EMS will be made available to the planning authority.

The EMS will be aligned to SFPC's existing Environmental Management Plan.

Foynes Port has been designated an 'Ecoport' at European level, in relation to its environmental management system (Port Environmental Review System (PERS)). SFPC is one of 26 port companies across Europe operating to this standard and one of three operating in Ireland, the others being Dublin Port & Port of Cork.

The implementation of the Ports PERS demonstrates the commitment of SFPC's Board, Management and Staff of continual improvements in environmental performance in and around the ports at Foynes and Limerick Docks through proactive environmental management of Port operations.

4.2 CONSTRUCTION WASTE MANAGEMENT PLAN

Introduction

This high level Construction Waste Management Plan (CWMP) has been prepared to provide an assessment of the impacts arising from the generation of waste materials during demolition and construction of the proposed development.

This CWMP is to ensure that all construction and demolition wastes associated with the capacity extension at Shannon Foynes are managed and controlled to prevent the risk of environmental pollution or ecological damage. This high level plan outlines the mitigation measures that have been identified in the EIAR to ensure the residual impacts are acceptable and will be included as part of the overall CEMP. This CWMP will be integrated with SFPC's existing Waste Management Plan (see Appendix 2).

Please note that this document is a draft for planning submission purposes which is intended to set a clear path and philosophy for the future Main Works Contractor (MWC) in drawing up their own final strategy for the management of construction and demolition waste arising at the site.

The final CEMP can only be produced after planning permission is received, in order to address any conditions imposed by the planning authority and after entering into contract with a suitably experienced Contractor to undertake the works but in advance of the construction works commencing. The MWC will be responsible for producing a CWMP as part of the detailed CEMP, providing further detail on how the required environmental controls and management will be implemented to ensure the mitigation measures outlined in the EIAR and the conditions imposed as part of the approval process are adhered to.

Objectives of the CWMP

The objectives of this CWMP are as follows:

- Compliance with requirements for waste management during all works.
- Minimisation of the risk of environmental pollution or ecological damage during the works.
- Application of best environmental practices in relation to waste management on site.

Roles and responsibilities

The CWMP will clearly outline the key roles and responsibilities of the MWC staff with regard to waste management. This will include the procedures that will be followed for ensuring implementation of the CWMP through the onsite management structure but also across all members of the construction team.

A MWC Environmental Co-ordinator or waste manager will be appointed to ensure commitment, operational efficiency and accountability during the construction and demolition phase.

Records and Reporting

Records will be kept for each waste material which leaves the site, whether for reuse on another site, recovery, recycling or disposal. A system will be put in place to record the construction waste arising on site. The MWC Environmental Co-ordinator or delegate will record the following:

- Waste taken off-site for reuse
- Waste taken off-site for recovery
- Waste taken off-site for recycling
- Waste taken off-site for disposal
- Waste (soil and stone) accepted on site (not envisaged as part of this contract)

For each movement of waste off-site a signed waste collection docket will be obtained by the MCW Environmental Co-ordinator (or delegate) from the contractor. This will be carried out for each material type. This system will also be linked with the delivery records. A signed waste acceptance docket will be issued for each movement of waste on-site.

Auditing

The appointed MWC Environmental Co-ordinator will be responsible for conducting a waste audit at the site during the construction phase of the development. A review of all records for the waste generated and transported off-site, should be undertaken mid-way through the construction phase.

Corrective Actions

If waste movements are not accounted for, the reasons for this will be established in order to see if and why the record keeping system has not been maintained. Each material type will be examined

in order to see where the largest percentage waste generation is occurring. The waste management methods for each material type will be reviewed in order to highlight how the targets can be achieved.

Reporting

Upon completion of the construction phase a final report will be prepared summarising the outcomes of waste management processes adopted and the total recycling / reuse / recovery figures for the development.

Training

The MCW Environmental Co-ordinator will be given responsibility and authority to select a waste team if required i.e. members of the site crew that will aid them in the organisation, operation and recording the waste management system implemented on-site.

The MCW Environmental Co-ordinator will have overall responsibility to oversee records and provide feedback to the client on everyday waste management on the site. Authority will be given to MCW Environmental Co-ordinator to delegate responsibility to sub-contractors where necessary and to co-ordinate with suppliers, service providers and sub-contractors to prioritise waste prevention and salvage.

The MCW Environmental Co-ordinator will be trained in how to set up and maintain a record keeping system, how to perform, audit and how to establish targets for waste management on site. They will also be trained in the best method for segregation and storage of recyclable materials, have information on the materials that can be reused on-site and implement the CWMP.

Training of the site crew is the responsibility of the MCW Environmental Co-ordinator and as such, a waste training programme should be organised. A basic awareness course will be held for all crew to outline the CWMP and to detail the segregation of waste at source. This may be incorporated with other training needs (e.g. general site induction, safety training etc.). This basic course will describe the materials to be segregated, the storage methods and the location of waste storage areas. A subsection on hazardous wastes will be incorporated and the particular dangers of each hazardous waste will be explained.

Guidance

Mitigation measures will include the requirements for best practice and adherence to the following relevant Irish policies, strategies, legislation, and guidelines, or recognised international guidelines where Irish guidelines are not available:

National and Regional Policies and Strategies

- Changing Our Ways; A Policy Statement on Waste Management, Department of Environment, Heritage and Local Government, 1998;
- Preventing and Recycling Waste – Delivering Change, Department of Environment, Heritage and Local Government, 2002;
- Taking Stock and Moving Forward, Department of Environment, Heritage and Local Government, 2004;
- National Strategy on Biodegradable Waste, Department of Environment, Heritage and Local Government, 2006;
- A Resource Opportunity – Waste Management Policy in Ireland, Department of the Environment, Community and Local Government (DoECLG), 2012;
- National Hazardous Waste Management Plan 2014 – 2020, EPA, 2014;
- The Southern Region Waste Management Plan 2015 – 2021, Limerick City & County Council / Tipperary County Council, 2015.

National and European Legislation

- Waste Management Act 1996 (as amended);
- Waste Management (Facility Permit and Registration) Regulations, S.I No. 821 of 2007 (as amended);
- Waste Management (Collection Permit) Regulations (as amended) 2008 (S.I. No 87 of 2008);
- Waste Management (Packaging) Regulations 2003 (as amended) (S.I. No. 61 of 2003);
- Waste Management (Planning) Regulations 1997 (S.I. 137 of 1997);
- Waste Management (Hazardous Waste) Regulations 1998 (S.I. 163 of 1998);
- Waste Management (Landfill Levy) Regulations 2011 (S.I. No. 434 of 2011) as amended 2012 (S.I. No. 221 of 2012);
- European Communities (Waste Electrical Electronic Equipment) Regulations 2011;
- Waste Management (Food Waste) Regulations 2009 (S.I. No. 508 of 2009);
- Local Government Act 1994 (and Amendments) and Regulations (S.I. No. 8 of 1994);

- Litter Pollution Act 1997 (S.I. No. 12 of 1997);
- Protection of the Environment Act 2003 (No. 27 of 2003);
- Industrial Emissions Directive (2010/75/EU);
- European Communities (Waste Directive) Regulations, 2011;
- Waste Framework Directive (2008/98/EC).

Other EPA guidelines

- Guidelines on the Information to be Contained in Environmental Impact Statements [2002] and Advice Notes on Current Practice (in the Preparation of Environmental Impact Statements) [2003] have been referred to also in the preparation of this Waste section.

Specifically in relation to the waste management requirements at Port facilities

- EU Directive 2000/59/EC on port reception facilities for ship generated wastes and cargo residues
- S.I. No. 117 of 2003: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) Regulations 2003
- Directive 2002/84/EC amending the Directives on maritime safety and the prevention of pollution from ships
- S.I. No. 659 of 2003: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2003
- Commission Directive 2007/71/EC of 13 December 2007 amending Annex II of Directive 2000/59/EC of the European Parliament and the Council on port reception facilities for ship-generated waste and cargo residues
- S.I. No. 376 of 2009: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2009
- Commission Directive (EU) 2015/2087 amending Annex II to Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues
- S.I. No. 550 of 2016: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2016
- Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements
- Directive 2009/123/EC amending Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements
- S.I. No. 542 of 2010: European Communities (Ship-Source Pollution) Regulations 2010

- MARPOL 73/78, International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
- A guide to good practice – IMO Consolidated Guidance for port Reception Facility Providers and Users.

Environmental Mitigation Measures

Chapter 8, Section 8.2 of the EIAR assesses the likely significant impacts on waste management arising from the proposed development. Table 3.1 summarises the potential impacts identified and the mitigation measures required, where necessary. These measures will be integrated into the CWMP for the capacity extension at Shannon Foynes.

4.3 CONSTRUCTION WATER QUALITY MANAGEMENT PLAN

Introduction

The purpose of this high level Water Quality Management Plan (WQMP) is to ensure that all construction works associated with the Capacity Extension at Shannon Foynes, especially those in close proximity to water, are managed and controlled to prevent the risk of environmental pollution or ecological damage. The high level plan outlines the mitigation measures that that have been identified in the EIAR to ensure the residual impacts on the water environment are acceptable and will be included as part the overall CEMP.

The final CEMP can only be produced after planning permission is received, in order to be able to address any conditions imposed by the planning authority and after entering into contract with a suitably experienced Contractor to undertake the works but in advance of the construction works commencing.

The Main Works Contractor will be responsible for producing a Water Quality Management Plan as part of the detailed CEMP, providing further detail on how the required environmental controls and management will be implemented to ensure the mitigation measures outlined in the EIAR and the conditions imposed as part of the approval process are adhered to.

Objectives of the WQMP

The objectives of this WQMP are as follows:

- Compliance with requirements for water quality management during all works.

- Minimisation of the risk of environmental pollution or ecological damage during the works.
- Application of best environmental practices in relation to protection of surface water bodies.

Roles and responsibilities

The WQMP will clearly outline the key roles and responsibilities of the MWC staff with regard to water quality management. This will include the procedures that will be followed for ensuring implementation of the WQMP through the onsite management structure but also across all members of the construction team.

Environmental Risk

A series of risk assessments will be undertaken by the main contractor prior to the commencement of construction works and will cover the various elements of the construction activities as outlined in the project description.

Each of the elements of the construction works will be evaluated for risks to water quality by the main contractor in advance of any works commencing on site and will be incorporated into the CEMP. The contractor will be expected to undertake an individual risk assessment of all the construction elements and propose mitigation measures based on the control measures highlighted in Table 3.1 and included in the EIAR. The risk assessment will include the severity of impact which can be derived from the impact assessments included in the EIAR and the risk of occurrence.

The main contractor will be required to evaluate aspects of the construction and impacts on a continual basis and these will be deemed significant if:

- They breach legislative or contractual compliance
- The impact could cause a prolonged or long term nuisance or environmental impact during the contract period
- The impact could have a long term effect to the environment outside of the footprint of the works.
- The impact could adversely impact the flora and fauna within the footprint of the proposed works and adjacent areas.

Monitoring

The MWC will be required to design a monitoring programme that will include the establishment of a water quality baseline for suspended solids, pH, dissolved oxygen and conductivity within the receiving waters. This will be required for the water courses in the Durnish lands but also Foynes Harbour. The baseline will be established through a series of regular grab samples to be collected in advance of construction.

Monitoring will continue during construction to assist in the determination of the effectiveness of the mitigation measures identified in this EIAR. Regular visual monitoring and audits will also be undertaken during the construction phase of the works. The monitoring programme for water quality will be included as part of the Water Quality Management Plan.

Records and Reporting

The Main Works Contractor will be required to report routinely on the results of the water quality monitoring to the client, unless baseline threshold levels are breached where immediate contact and/or meetings with the statutory bodies may be required.

All reports shall be reviewed and signed off by the MWC Environmental co-ordinator.

Training

Water Quality training for all relevant staff should be undertaken by the MWC environmental management team. The training will include as a minimum:

- Site Induction given to all staff, operatives and subcontractors. This will include contract-specific requirements for good water management practices at each works location;
- Tool Box Talks on Water Quality Management and control measures;
- Tool Box talks on legislative or regulatory changes relevant to the project.

Guidance

Mitigation measures will include the requirements for best practice and adherence to the following relevant Irish guidelines, or recognised international guidelines where Irish guidelines are not available:

- Good practice guidelines on the control of water pollution from construction sites developed by the Construction Industry Research and Information Association (CIRIA, 2001);
- Guidance for Pollution Prevention series (GPP), Pollution prevention guidelines (PPGs) in relation to a variety of activities developed by the Environment Agency (EA), the Scottish Environmental Agency (SEPA) and the Northern Ireland Environment Agency (NIEA);
- Fisheries Guidelines for Local Authority Works. Department of Communications, Marine & Natural Resources, Dublin, (Anonymous, 1998);
- Guidelines on protection of fisheries habitats during construction projects (Eastern Regional Fisheries Board, 2006);
- International Convention for the Prevention of Pollution From Ships, 1973, as modified by the Protocol of 1978 (MARPOL) for domestic waste discharges to the environment;
- International Marine Organisation guidelines;
- Protecting Drinking Water from Pesticides: Advice for Farmers and Other Professional Users;
- Control of Substances Hazardous to Health (COSHH) Handling of Hazardous Materials.

Environmental Mitigation Measures

Chapter 9 of the EIAR assesses the likely significant impacts on Water Quality arising from the proposed development. Tables 3.1 summarises the potential impacts identified and the mitigation measures required, where necessary. These measures will be integrated into the Water Quality Management Plan for the Capacity Extension at Shannon Foynes.

4.4 CONSTRUCTION DUST MINIMISATION AND MANAGEMENT PLAN

Dust impacts from the proposed works have the potential to cause disturbance and health impacts. This section outlines the outline mitigation measures that shall be employed to reduce the dust impact on sensitive receptors.

The potential for dust emissions must be assessed qualitatively by the Contractor through a documented Dust Risk Assessment. This assessment must be based on the details of construction works and methodologies to be utilised by the contractor and proximities of works to residential, commercial and ecological receptors.

A construction compound will be selected so that it is located as far as practicable from sensitive receptors such as residential dwellings, etc. in Foynes but also at a sufficient distance from ecological receptors (such as the estuary).

This outline Dust Minimisation Plan has been prepared to support the planning application and will be supplemented by the Contractor in advance to the commencement of works. The Dust Minimisation Plan is based upon the industry guidelines in the Building Research Establishment document entitled 'Control of Dust from Construction and Demolition Activities' (BRE 2003). In order to ensure that any dust nuisance is minimised, a series of mitigation measures have been listed below.

- Site roads shall be regularly cleaned and maintained as appropriate. Hard surface roads shall be swept to remove mud and aggregate materials from their surface while any un-surfaced roads shall be restricted to essential site traffic only.

- Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions (also applies to vehicles delivering material with dust potential).

- All vehicles exiting the site shall make use of a wheel wash facility prior to entering onto public roads, to ensure mud and other wastes are not tracked onto public roads. Wheel washes should be self-contained systems that do not require discharge of the wastewater to water bodies.

- Public roads outside the site shall be regularly inspected for cleanliness, and cleaned as necessary. The contractor will be required to submit for approval the methodology for monitoring dust emissions both on and beyond the site boundary.

- Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind.

- Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.

In addition to the standard methods outlined above the following additional measures will be applied for any works in the higher risk areas (i.e. those close to Foynes at the East Jetty and those at the western area of the Durnish Lands):

- Site traffic in these areas will be restricted to 20km/hr to minimise dust re-suspension.

- All material handling will be carried out to minimise drop heights from plant to plant or from plant to stockpile.

- Water bowsers will be used across the areas as required on roads, stockpiles and material handling systems.

The Contractor is required to maintain monthly dust levels below the guideline of 350mg/m2/day as an annual average at sensitive receptors. Where dust levels are found to be above this threshold, the mitigation measures in the area must be reviewed as part of the Dust Minimisation Plan.

The dust monitoring infrastructure will be established by the Contractor in advance of the works and will be maintained and calibrated by the Contractor for the duration of the works.

Where any dust level exceeds the guideline value the Contractor will carry out an investigation to determine the potential cause and report to SFPC. Recent operations within the site, possible external sources and met data shall be identified to determine the cause of any exceedance. Where the works are identified as the source the Contractor will be obliged to increase mitigation, modify the proposed works or provide alternative means of dust minimisation measures.

The level of mitigation (water misting, use of bowsers, etc.) will be dictated by the results of the monitoring strategy and the levels of rainfall experienced in a given period. This will prevent the excessive use of water for dust suppression on site when not required to minimise secondary drainage impacts.

As part of a broader audit of the works under the CEMP, the application of the above measures will be assessed and recorded. Where required, corrective actions will be identified and presented to the Contractor to fully implement the above measures to minimise dust.

The Contractor will be required to comply with any request from SFPC to carry out additional dust monitoring for routine or reactive purposes (e.g. incident investigation) as required.

4.5 CONSTRUCTION NOISE MANAGEMENT PLAN

Introduction

The Noise Management Plan (NMP) details the environmental monitoring and mitigating measures that are to be implemented during the works to minimise the effects of the site operations on environmental receptors. This NMP will be fully in accordance with the following documents;

- Capacity Extension at Shannon Foynes EIAR Chapter 11.0 and mitigation measures therein;
- British Standard BS5228:2009+A1:2014 Noise & vibration control on construction and open sites.

The purpose and aims of the NMP are to present:

- A programme of monitoring of noise between the operations and environmental receptors.
- Detail method of monitoring noise.
- Proposals for control of noise.
- Proposals for minimisation and mitigation of impact of site works, vehicle and plant movements.

Before the start of works the Contractor will appoint an Environmental Manager / Resident Liaison Manager for the construction stage.

Monitoring Procedure

a. Personnel
The current proposal is to have one permanent noise meter set up at the nearest noise sensitive receptors on Dernish Avenue. Recording will be taken from this meter as indicted below; they will have the capability to provide LAeq values for the duration of each working day.

b. Instrumentation
A sound level meter, capable of determining equivalent continuous A-weighted sound pressure level that conforms to the requirements for integrating averaging sound level meters, as specified in BS EN 60804.

c. Manufacturers' instructions that accompany measuring instruments will be followed strictly. Every precaution will be taken before use to ensure that the instruments are accurately calibrated.

d. Where using battery-operated instruments, the operator must check that the meter is not used with depleted batteries. A spare set of good quality batteries must accompany the instrument.

e. A sound level meter is a delicate instrument, rough use or handling can result in damage affecting sensitivity, even though it might appear to be functioning satisfactorily.

f. A pistonphone or other acoustic calibrator will be used to confirm the correct operation of the meter. Sound level meters will be periodically calibrated in accordance with BS 7580-1 or BS 7580-2 as appropriate.

g. Recording

h. Daily noise level readings will be taken continuously each day using a sound meter during periods when works are in progress.

i. A Noise record sheet will be used to record relevant information, weather and any other possible contributory factors will be recorded including the most significant noise producing site activities (see Example Noise Record Sheet below).

j. Monitoring will be completed in accordance with guidance included in BS 7445:2003, the description and measurement of environmental Noise - Part 1: Guide to quantities and procedures and BS 5228:2009+A1:2014 Noise and Vibration Control on construction and open sites - Annex G Noise Monitoring.

k. The site team will at weekly planning meetings identify periods of potentially high noise output from numerous noise producing sources and as part of this process additional noise monitoring will be put in place and the mitigation measures will be checked to ensure all reasonable measures are in place to reduce any impact.

l. Record will be maintained of the LAeq Levels for the working day in periods of potentially intense noise producing activities to insure that the 65dBLAeq, 12hr or equivalent is not exceeded at the nearest noise sensitive receptors, in line with the recommendations of BS5228:2009+A1:2014 using the ABC method based on existing ambient noise levels in the vicinity of Dernish Avenue.

m. All noise record sheets completed on site and all electronic data files will be held at the site offices. The records will be made available on site to the Client and officers of the local authority. They will be retained for two years after completion of the works.

Control, Minimisation and Mitigation of Noise

Specific measures are listed below:

a. All equipment shall be fitted with exhaust silencers to comply with the manufacturer's specification.

b. All equipment fitted with engine covers shall only be operated with those covers closed and fastened to prevent rattling.

c. No equipment shall operate other than at manufacturer's rated working levels; site personnel shall not 'rev' equipment unnecessarily.

d. Crane spindles, pulley wheels and telescopic sections shall be adequately lubricated in order to prevent screeching or squealing.

e. Vehicles will only use pre-defined routes to limit movements near to the site boundary and sensitive noise receptors.

f. Suitability of plant and tools for all construction activities will be assessed by a competent person, a noise assessment will be carried out and included within the relevant Safe System of Work (SSoW) package, detailing activity specific noise mitigation requirements.

g. All personnel will be reminded of good practice through inductions at the start of works and subsequent task briefings and 'toolbox talks' during the course of the works. These will also ensure that Best Practicable Means of control are delivered on the site and to ensure that the site staff are aware of their environmental responsibilities and of the sensitivities of the vicinity

h. Plant operatives will be trained in the operation of their particular piece of plant and will be certified accordingly.

i. Daily plant inspections will be carried out, with servicing and maintenance being carried out based on the findings. A record of the relevant certificates and inspections will be held on site throughout the project.

j. The appointed contractor will only permit the use of tools and equipment that have been fully serviced & inspected; they are to be used as per the manufacturer's handbook.

k. All compressors will be 'sound reduced' models fitted with lined and sealed acoustic covers which will be kept closed whenever the machines are in use. All ancillary pneumatic percussion tools will be fitted with mufflers or silencers of the type recommended by the manufacturer.

l. Machines in intermittent use will be shut down in intervening periods or will be throttled down to a minimum. Plant and machinery will be started up sequentially rather than all at the same time to avoid a sudden unexpected increase in noise.

m. A traffic management plan will be implemented which encourages the use of public transport for employees and staff and regulates deliveries to and collections from the site.

n. Recommendations for noise reduction in accordance with BS5228:2009+A1:2014.

Corrective action will take place should 65dB limit be exceeded with works stopped and corrective action taken before works recommence.

Community Liaison

The appointed contractor will nominate a Resident Liaison Manager who will maintain contact with local representatives in the immediate area so that any concerns on environmental impacts may be addressed at an early stage through a telephone hotline available on a 24 hour basis.

Table 4.1 Example Noise Record Sheet

Noise Record Sheet				**Name of Inspector:**	
Location	**Start Time**	**Finish Time**	**LAeq**	**Weather**	**Comments/Actions**
1					
2					
3					
4					

4.6 CONSTRUCTION TRAFFIC MANAGEMENT PLAN

The construction related vehicles will be controlled by a Construction Traffic Management Plan (CTMP) to be developed and implemented by the Main Contractor. The CTMP will confirm the following information at construction stage:

- Location and operational organisation of the construction site and the construction site compound;

- Haulage route using either port entrance to access the construction site/compound to avoid construction traffic through Foynes village; A predefined haulage route will be agreed with Limerick City & County Council (LCCC) and the appointed contractor at construction stage, to be agreed through discussions with the relevant road authority section of LCCC, as is normal practice.

- Expected numbers and nature of the construction vehicles;

- Site construction times and details of any time restrictions relating to construction vehicles on the adopted road network;

- Details of temporary warning signage that may be required; and

- Provision for wheel washing, roadside cleaning, load checking and general maintenance of larger vehicles.

- Provisions for appropriate parking facilities for site operatives and visitors within the site and to ensure all parking areas are clearly signed and monitored;

- Proposals for a management system for invasive alien species which will be used for the duration of the proposed works in order to prevent the spread of alien species to or from Foynes Port Estate, both by road and by sea.

4.7 ARCHAEOLOGICAL MANAGEMENT PLAN

An Archaeological Management Plan (AMP) is required as part of the CEMP to address construction phase archaeological mitigation arising from the proposed Capacity Extension at Shannon Foynes. The AMP has been compiled by ADCO Ltd and is informed by the archaeological impact assessment and EIAR contributions previously undertaken by the company.

Background

The proposed development comprises the construction of a new jetty structure between the existing East Jetty and West Quay, within Shannon Foynes Port, and the development of lands to the southeast of the port estate, within Durnish Townland.

The proposed jetty extension works will include: the removal and relocation of the existing small-craft landing pontoon to an area identified on the west side of the existing West Quay; construction of an open pile jetty structure, with suspended concrete deck, between the west terminus of the East Jetty and the east terminus of West Quay, tying-into same; and a transition slab to provide access from the open pile jetty structure to the Berth 5 reclamation area (this reclamation being a previously permitted development under LCCC planning permission 12/212). These foreshore development areas are located within a Special Area of Conservation and Special Protection Area that encompasses the wider River Shannon Estuary and have also been subject to classification as a Natural Heritage Area.

The development of the land adjacent to the port estate, in Durnish Townland., is to comprise the in-filling of the existing greenfield site with imported fill material, raising ground levels above the floodplain to facilitate the insertion of warehousing, storage and other port related infrastructure.

The CEHD project has been subject to an Environmental Impact Assessment Report (EIAR) which has included comprehensive desktop assessment and onsite archaeological inspection of the proposed impact areas associated with the port development at Foynes Port.

The principal archaeological mitigation that applies to the project is archaeological monitoring, to ensure that any sub-surface remains of archaeological or historic value are dealt with in an appropriate archaeological manner. It applies to any ground and seabed disturbance activities to be carried out by the proposed development, with specific attention to the four development items identified in Table 4.2. Any material recovered during the construction phase will be retained and stored securely by SFPC for analysis and consideration by the National Museum of Ireland for its long-term/permanent disposal options. In the event of a significant discovery being made in the course of the works, the principal of 'preservation by record' should apply to the discovery and resolution of any such remains, whereby the artefact / feature will be subject to full archaeological excavation and recovery if required.

Table 4.2 Proposed construction phase archaeological mitigation

Development Element	Archaeological Mitigation
Relocation of small-craft pontoon to historic harbour area. Two tubular steel piles to be driven into the seabed to secure the pontoon at new location.	• Archaeological monitoring of the gangway installation to be undertaken.
Open pile jetty to be constructed between the East Jetty and West Quay.	• Archaeological monitoring of any ground disturbance works associated with the installation.
Topsoil striping prior to infilling of Durnish development site to raise ground levels to +4.44mOD.	• Archaeological monitoring of any ground disturbance works to be undertaken.

Management Measures

SFPC will appoint a competent and experienced maritime archaeologist to act as project archaeologist and carry out all archaeological resolution required. The archaeologist will prepare method statements in discussion with the design team, acquire the necessary archaeological licenses, determine the level of staffing required, and conduct on-site monitoring, resolution and reporting as needed.

A clear line of communication between the project archaeologist and the consulting engineers/SFPC should be maintained at all times, following an agreed and specific set of reporting protocols. In turn, the onsite contractors should liaise with SFPC and the project archaeologist through an agreed procedure. The Department of Culture, Heritage and the Gaeltacht (DCHG) regulates the archaeological licences through the National Monuments Service (NMS), and communicates directly with the archaeological licence holder.

Archaeological protocols for construction phase works

Archaeological licences will be required to facilitate monitoring of any ground / foreshore works associated with the project. Licence applications require the inclusion of detailed method statements, which outline the rationale for the works; the means by which the works will be resolved; and the schedule of such works.

Licence applications take a minimum of four (4) working weeks to process through the DCHG, and advance planning is required to ensure that the necessary permits are in place before site works commence. The following licence types will be required: Excavation, to cover monitoring and investigations works; Detection, to cover the use of metal-detectors; and Dive Survey, to cover the possibility of having to conduct underwater inspections and investigations.

Since 2017, Excavation Licence applications must be accompanied by a statement from the client, on client letterhead, that confirms 'that sufficient funds and other facilities are available to [the archaeologist] to complete the archaeological excavation, post-excavation, and preliminary and final reports (including specialist reports)'.

Archaeological monitoring will be carried out by suitably qualified and experienced maritime archaeological personnel licensed by the DCHG. Archaeological monitoring is conducted during all terrestrial, inter-tidal/foreshore and seabed disturbances associated with the development.

The monitoring will be undertaken in a safe working environment that will facilitate archaeological observation and the retrieval of objects that may be observed and that require consideration during the course of the works.

The monitoring will include a finds retrieval strategy that is in compliance with the requirements of the National Museum of Ireland. Where dredged spoil is disposed of on land, it can be anticipated

that NMS will require the spreading of a percentage of the material to provide a further opportunity for recovering archaeological material prior to it being disposed of.

The schedule for the construction phase works is to be made available to the project archaeologist, with information on where and when groundworks will take place.

The details of any operations on the foreshore within the port and topsoil stripping within Durnish development lands are made available to the archaeologist, with information to inform the most appropriate monitoring strategy.

A site office and facilities are to be provided by SFPC and the onsite contractor is to accommodate the monitoring archaeologist/s as required.

Secure storage facilities are to be provided on site by SFPC to facilitate the temporary storage of artefacts that may be recovered during the course of the site work. This is to include wet storage for any items that are recovered from submerged or waterlogged contexts. Long-term storage facilities should also be identified within the Port Estate, in accordance with and subject to the approval of the requirements of the NMI and NMS.

It is a condition of archaeological licensing that a detailed project report is lodged with the DCHG within 12 months of completion of site works. The report will be to publication standard and will include a full account, suitably illustrated, of all archaeological features, finds and stratigraphy, along with a discussion and specialist reports. Artefacts recovered during the works need to meet the requirements of the National Museum of Ireland.

Archaeological protocols when a discovery of archaeological material is made

In the event of archaeologically significant features or material being uncovered during works on the foreshore or land-based topsoil striping, machine work will cease in the immediate area to allow the archaeologist/s to inspect any such material. The archaeologist will determine when a feature or material is significant.

Once the presence of archaeologically significant material is established, the project archaeologist will inform SFPC and the DCHG. In this instance, full archaeological recording of such material is likely to be required. The extent and duration of excavation will be a matter for discussion between SFPC and the DCHG. The project archaeologist is to advise SFPC on this.

Buoying/ demarcation of any such areas of discovery will be necessary and traffic during construction will be restricted to avoid any identified archaeological site/s and their environs. Spoil is not be dumped on any of the selected sites or their environs.

The core of a suitable archaeological team is to be on standby to deal with any such rescue excavation. This will be complimented in the event of a full excavation. An archaeological dive team, operating in accordance with the HSA Diving at Work regulations, is also to be retained on standby for the duration of any in-water disturbance works, and should be able to respond on the basis of a twenty-four or forty-eight hour call-out to deal with any archaeologically significant/potential material that is identified in the course of the course of the site work.

4.8 MARINE MAMMALS OBSERVATION PLAN

The following precautionary measures will be undertaken to minimise the risk of injury or disturbance to marine mammals in the area of operations in line with National Parks and Wildlife Service (NPWS) Guidelines (2014):

- A trained and experienced Marine Mammal Observer (MMO) will be put in place during piling operations. The MMO will scan the surrounding area to ensure no marine mammals are in a pre-determined exclusion zone in the 30-minute period prior to operations. The NPWS exclusion zone is 1000m for piling activities.

- Noise-producing activities shall only commence in daylight hours where effective visual monitoring, as performed and determined by the MMO, has been achieved. Where effective visual monitoring is not possible, the sound-producing activities shall be postponed until effective visual monitoring is possible. Visual scanning for marine mammals (in particular bottlenose dolphin) will only be effective during daylight hours and if the sea state is 2-3 (Beaufort scale) or less.

- For piling activities, where the output peak sound pressure level (in water) exceeds 170 dB re: 1µPa @ 1m, a ramp-up procedure will be employed following the pre-start monitoring. Underwater acoustic energy output shall commence from a lower energy start-up and thereafter be allowed to gradually build up to the necessary maximum output over a period of 20-40 minutes.

- If there is a break in piling activity for a period greater than 30 minutes then all pre-activity monitoring measures and ramp-up (where this is possible) will recommence as for start-up.
- Once normal operations commence (including appropriate ramp-up procedures), there is no requirement to halt or discontinue the activity during hours of darkness, nor if weather or visibility conditions deteriorate, nor if marine mammals occur within a radial distance of the sound source that is 1000m for piling activities.

- Any approach by marine mammals into the immediate (<50m) works area will be reported to the National Parks and Wildlife Service.

The MMO will keep a record of the monitoring using a 'MMO form location and effort (coastal works)' available from the National Parks and Wildlife Service (NPWS) and submit to the NPWS on completion of the works.

4.9 INVASIVE ALIEN SPECIES MANAGEMENT PLAN

A management system for invasive alien species will be used for the duration of the proposed works.

SFPC is very aware of the fundamental importance of biodiversity in maintaining robust and sustainable ecosystems. In recent years the widespread occurrence and continual dispersal of invasive alien species poses a growing threat to native flora and fauna and the ecosystems that support them. Species of concern are listed in the Third Schedule of the Birds and Natural Habitats Regulations 2011 (Non-native species subject to restrictions under Regulations 49 and 50) which prohibits their introduction and dispersal.

The importance of the threat posed by invasive alien species (IAS) is reflected in a suite of international, European and national policy and legislation. These include:-

- Convention on Biological Diversity
- EU Biodiversity Strategy to 2020
- Regulation of the European Parliament and of the Council on the prevention and management of the introduction and spread of invasive alien species
- Actions for Biodiversity 2011-2016, Ireland's 2ndNational Biodiversity Plan
- European Communities (Birds and Natural Habitats) Regulations 2011

The current estimate of the economic cost of invasive species to the Republic of Ireland is approximately €203,000,000. IAS can negatively impact on native species, can transform habitats and threaten whole ecosystems causing serious problems to the environment and the economy. They can be extremely difficult and costly to control and eradicate. In some instances the latter may be impossible and adverse effects are irreversible. Early detection of IAS and preventing new introductions are effective management strategies.

Negative impacts of IAS on biodiversity can occur through a range of mechanisms such as competition, herbivory, predation, alteration of habitats and food webs, introduction of parasites and pathogens and through the dilution of native gene pools. On the island of Ireland the most prominent negative impact appears to be direct competition with native biota, whilst alteration to habitats and the influence of parasites and pathogens are also important. A range of specific habitat types, and a variety of native species are currently under threat, including freshwater rivers and lakes; coastal floodplains, saltmarsh and sand dunes; tidal mudflats and sandflats.

The total number of alien animal and plant species on the island of Ireland has been estimated at over 1,200. Not all of these are 'invasive' or have an impact i.e. given to vigorous dispersal and displacement of natives. A group of 163 of the worst IAS threatening biodiversity in Europe has been compiled and the island of Ireland has over 40 of this group.

Key Irish legislation with provision for control of invasive species is the Wildlife Acts and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011), both of which prohibit the spreading of invasive species. Specifically, regulation 49 of the Birds and Habitats Regulations provides for a prohibition on the introduction and dispersal of certain listed species. The species of concern are listed in the Third Schedule to these Regulations which is reproduced in Appendix 1 for convenience. Not all species listed are relevant to the Capacity Extension at Shannon Foynes Project.

The schedule also refers to vector materials that may occasion the dispersal of IAS. For the Capacity Extension at Shannon Foynes Project particular relevance is attached to soil taken from places infested with Japanese knotweed (*Fallopia japonica*) and possibly giant knotweed (*Fallopia sachalinensis*) or their hybrid Bohemian knotweed (*Fallopia xbohemica*).

IAS Management in Foynes Port

This management strategy is informed by best practice guidance, advice on mitigation methods, and aids to identification provided in a range of sources including:

- National Roads Authority (2010). Guidelines on The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads Revision 1, December 2010
- Invasive Species Ireland Project (2009). Field Guide to Invasive Species in Ireland. 2nd Edition.
- Invasive Species Ireland website: http://invasivespeciesireland.com
- GB Non-Native Species Secretariat website: www.nonnativespecies.org

Initial IAS Assessment

The implementation of biosecurity measures in relation to IAS must be based on a risked based approach. To inform this approach SFPC will undertake an initial IAS assessment to include:-

- an appraisal of the key IAS that are most likely to pose a threat based on
    - habitat availability at the construction site
    - known occurrence of IAS in the likely region of influence
    - available pathways for dispersal to and within the construction site
    - extent of risk presented by an individual IAS (considering potential economic, operational, and environmental impacts, and presence of resident vulnerable or threatened native species)
- a visual survey of the construction site for the presence IAS
- mapping and photographic record of any IAS detected
- compilation of visual identification aids for shortlisted key IAS

Biosecurity measures are a series of precautionary steps designed to reduce the risk of dispersal / introduction of IAS. The management approach taken will prioritise prevention of IAS introduction to, or dispersal from Foynes Port. Mitigation measures will be implemented if required to contain, eradicate or control as appropriate any IAS found to be present in the areas of project operations.

Prevention

Prevention measures will range from raising awareness of IAS and the potential for their dispersal, to ensuring best practice in relation to the movement of materials into, within or out of the operations area. Measures to be implemented by the Contractor are to include:

- Ensuring that imported fill material to the site are sourced from authorised/licensed quarry operators
- Specifying that such material should be free of invasive plant species and their propagules
- Implementing a waste management plan for the proper storage and controlled movement of waste materials
- Implementing a materials handling plan for the proper storage and controlled movement materials
- Implementing a construction traffic management plan for control of vehicle and plant access and movements, including wheel wash and plant inspection at site entrance
- Ensuring that all vehicles and construction plant arriving on site are reasonably clean and free of significant deposits of mud and plant debris (particularly tyres, wheel arches, excavator buckets and tracks) that might be a vector for spread of IAS
- Cordoning off any IAS locations on site identified and mapped in the initial IAS assessment
- Washing down machinery that has operated in IAS infested areas in designated locations before moving within the site or leaving the site
- Inclusion of IAS awareness in toolbox talks using visual aids to identification for the most likely species to be encountered prepared by the initial IAS assessment
- Notification of any suspected new occurrences of IAS to SFPC

Containment / Treatment

If any IAS is identified on the construction site, the management plan will aim to contain its spread in the first instance and subsequently eradicate it if possible from the site. This will include implementation of the following measures:

- Cordoning off any invasive species infestations to limit movement of people / machinery in infested area and relevant buffer zones
- Confirmation of the identification of the species concerned, and collation of relevant information

- Selection of the most appropriate best practice methods for control / treatment
- Prioritisation of treatment areas
- Undertaking physical or chemical control measures as appropriate in line with best practice guidance and in compliance with health and safety requirements
- Ensuring control measures are undertaken by suitably qualified personnel
- Handling and disposal of treated material appropriately to prevent further spread.

5. SITE SAFETY

SFPC operates and maintains quality management systems to comply with internationally recognised standards OHSAS 18001 & ISO9001. Successful maintenance of international standards enables the organisation to maintain a level of control over, and knowledge of, relevant hazards resulting from normal operations and abnormal situations with an overall objective to improving performance and preventing accidents and/or incidents in the workplace.

SFPC and the Port of Foynes operates to the International Ship and Port Facility Security Code (ISPS Code), which provides a comprehensive set of measures to enhance the security of ships and port facilities. Strict security procedures are already in place on site to deal with all access on a 24 hour basis. These procedures require all vehicles and personnel visiting the site to be logged and will continue in place once construction commences and has been completed.

The company currently holds NASI Certification for Quality (ISO 9001: 2008) and for Occupational Health & Safety Management (OHSAS 18001:2007) relating to the provision of a safe haven for shipping in the Shannon Estuary by traffic management within the port limits, the maintenance and development of terminal and shore-side facilities and the operation of cargo handling and logistic services. The activities, products and services of the port authority have a Certificate of Verification and is ECOPORTS Pers Certified.

In addition to the Health & Safety Statement there are other additional procedures in place, which combine to ensure that the business operation is and will be conducted in accordance with best practice and relevant legislation, including:

- Environmental Policy Procedures
- Corporate Social Responsibility
- Quality Customer Service
- Emergency Response Procedure
- Training Procedure

Safety will be of prime importance during the construction works. The works will be subject to the Safety, Health and Welfare at Work Act 2005 and the Safety, Health and Welfare at Work (Construction) Regulations, 2013 (EIAR, Chapter 4). All aspects of design construction will be reviewed with regard to health and safety and a risk assessment will be carried out.

A project supervisor (design phase) will be appointed to produce a pre-tender Health and Safety Plan for the project. The principal contractor will be responsible for the control and co-ordination of health and safety during the works and will be appointed as the project supervisor (construction stage).

All individuals working on the Project will be required to undertake induction procedures. Such will be designed to make individuals aware of all the issues associated with the Project and will include, but not be limited to;

- The terms of the CEMP;
- Working Hours;
- Access arrangements;
- Health, Safety and environmental policy and procedures;
- Code of Conduct within the site and surrounding environs;
- Statutory obligations of individuals on site;
- Traffic Management;
- Site parking;
- Public Access;
- Lighting requirements;
- Complaints and disciplinary procedures;
- Protection of the water environment;
- Protection of wildlife and habitats;
- Dust and air quality;
- Noise and vibration; and
- Emergency procedures.

Visitors will not be allowed onto the site unless they have received formal induction or are accompanied by an authorised person who has completed the induction. All visitors will be required to sign a visitor's book.

6. APPENDIX 1 - INVASIVE ALIEN SPECIES

S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011.

THIRD SCHEDULE

Non-native species subject to restrictions under Regulations 49 and 50

Part 1: PLANTS

Common name	Scientific name	Geographical application
American skunk-cabbage	*Lysichiton americanus*	Throughout the State
A red alga	*Grateloupia doryphora*	Throughout the State
Brazilian giant-rhubarb	*Gunnera manicata*	Throughout the State
Broad-leaved rush	*Juncus planifolius*	Throughout the State
Cape pondweed	*Aponogeton distachyos*	Throughout the State
Cord-grasses	*Spartina* (all species and hybrids)	Throughout the State
Curly waterweed	*Lagarosiphon major*	Throughout the State
Dwarf eel-grass	*Zostera japonica*	Throughout the State
Fanwort	*Cabomba caroliniana*	Throughout the State
Floating pennywort	*Hydrocotyle ranunculoides*	Throughout the State
Fringed water-lily	*Nymphoides peltata*	Throughout the State
Giant hogweed	*Heracleum mantegazzianum*	Throughout the State
Giant knotweed	*Fallopia sachalinensis*	Throughout the State
Giant-rhubarb	*Gunnera tinctoria*	Throughout the State
Giant salvinia	*Salvinia molesta*	Throughout the State
Himalayan balsam	*Impatiens glandulifera*	Throughout the State
Himalayan knotweed	*Persicaria wallichii*	Throughout the State
Hottentot-fig	*Carpobrotus edulis*	Throughout the State
Japanese knotweed	*Fallopia japonica*	Throughout the State
Large-flowered waterweed	*Egeria densa*	Throughout the State
Mile-a-minute weed	*Persicaria perfoliata*	Throughout the State
New Zealand pigmyweed	*Crassula helmsii*	Throughout the State
Parrots feather	*Myriophyllum aquaticum*	Throughout the State
Rhododendron	*Rhododendron ponticum*	Throughout the State
Salmonberry	*Rubus spectabilis*	Throughout the State
Sea-buckthorn	*Hippophae rhamnoides*	Throughout the State
Spanish bluebell	*Hyacinthoides hispanica*	Throughout the State
Three-cornered leek	*Allium triquetrum*	Throughout the State

Wakame	*Undaria pinnatifida*	Throughout the State
Water chestnut	*Trapa natans*	Throughout the State
Water fern	*Azolla filiculoides*	Throughout the State
Water lettuce	*Pistia stratiotes*	Throughout the State
Water-primrose	*Ludwigia* (all species)	Throughout the State
Waterweeds	*Elodea* (all species)	Throughout the State
Wireweed	*Sargassum muticum*	Throughout the State

Part 2: ANIMALS

A: animals to which Regulations 49 and 50 apply throughout the State or in particular places or categories of places.

Common name	**Scientific name**	**Geographical application**
A colonial sea squirt	*Didemnum spp.*	Throughout the State
A colonial sea squirt	*Perophora japonica*	Throughout the State
All freshwater crayfish species except the white-clawed crayfish	*All except Austropotamobius pallipes*	Throughout the State
American bullfrog	*Rana catesbeiana*	Throughout the State
American mink	*Neovison vison*	Throughout the State
American oyster drill	*Urosalpinx cinerea*	Throughout the State
Asian oyster drill	*Ceratostoma inornatum*	Throughout the State
Asian rapa whelk	*Rapana venosa*	Throughout the State
Asian river clam	*Corbicula fluminea*	Throughout the State
Bay barnacle	*Balanus improvisus*	Throughout the State
Black rat	*Rattus rattus*	Offshore islands only
Brown hare	*Lepus europaeus*	Throughout the State
Brown rat	*Rattus norvegicus*	Offshore islands only
Canada goose	*Branta canadensis*	Throughout the State
Carp	*Cyprinus carpio*	Throughout the State
Chinese mitten crab	*Eriocheir sinensis*	Throughout the State
Chinese water deer	*Hydropotes inermis*	Throughout the State
Chub	*Leuciscus cephalus*	Throughout the State
Common toad	*Bufo bufo*	Throughout the State
Coypu	*Myocastor coypus*	Throughout the State
Dace	*Leuciscus leuciscus*	Throughout the State
Freshwater shrimp	*Dikerogammarus villosus*	Throughout the State
Fox	*Vulpes vulpes*	Offshore islands only
Grey squirrel	*Sciurus carolinensis*	Throughout the State
Greylag goose	*Anser anser*	Throughout the State

Harlequin Ladybird	*Harmonia axyridis*	Throughout the State
Hedgehog	*Erinaceus europaeus*	Offshore islands only
Irish stoat	*Mustela erminea hibernicus*	Offshore islands only
Japanese skeleton shrimp	*Caprella mutica*	Throughout the State
Muntjac deer	*Muntiacus reevesi*	Throughout the State
Muskrat	*Ondatra zibethicus*	Throughout the State
Quagga Mussel	*Dreissena rostriformis*	Throughout the State
Roach	*Rutilus rutilus*	Throughout the State
Roe deer	*Capreolus capreolus*	Throughout the State
Ruddy duck	*Oxyura jamaicensis*	Throughout the State
Siberian chipmunk	*Tamias sibiricus*	Throughout the State
Slipper limpet	*Crepidula fornicata*	Throughout the State
Stalked sea squirt	*Styela clava*	Throughout the State
Tawny owl	*Strix aluco*	Throughout the State
Wild boar	*Sus scrofa*	Throughout the State
Zebra mussel	*Dreissena polymorpha*	Throughout the State

B: animals to which specified provisions of Regulations 49 and 50 apply.

Common name	**Scientific name**	**Geographical application**
Fallow deer	*Dama dama*	Throughout the State
Sika deer	*Cervus nippon*	Throughout the State

Part 3: VECTOR MATERIALS

Vector material	**Species referred to**	**Geographical application**
Blue mussel (*Mytilus edulis)* seed for aquaculture taken from places (including places outside the State) where there are established populations of the slipper limpet*(Crepidula fornicata)* or from places within 50 km. of such places	Mussel *(Mytilus edulis)* Slipper limpet *(Crepidula fornicata)*	Throughout the State
Soil or spoil taken from places infested with Japanese knotweed*(Fallopia japonica)*, giant knotweed*(Fallopia sachalinensis)* or their hybrid Bohemian knotweed (*Fallopia* x*bohemica*)	Japanese knotweed *(Fallopia japonica)* Giant knotweed *(Fallopia sachalinensis)* Bohemian knotweed(*Fallopia x bohemica*)	Throughout the State

7. APPENDIX 2 – SFPC WASTE MANAGEMENT PLAN 2018

Shannon Foynes
PORT COMPANY

WASTE MANAGEMENT PLAN

2018

SHANNON ESTUARY

0.0 PREFACE

0.2 REVISION PAGE No 1

Please acknowledge receipt by signing and dating, and faxing a copy of the page to
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Amendments:				
Date	**Remove pages**	**Insert page**	**Inserted by:**	**Date**

0.3 DOCUMENT CONTROL PROCEDURE

The responsibility for controlling the document is with Shannon Foynes Port Company.

They will keep the plan under constant review to ensure that the document is suitable for all the Ports activities.

They are responsible for issuing the Plan and any subsequent amendments as required.

To meet Statutory and Harbour Authority requirements the maximum period between formal reviews of the Plan will be 3 years. Next formal review is due on 24th April 2020.

The Plan was updated on 20th December 2017 to reflect changes during 2018 and amendments made by Port users.

SHANNON FOYNES PORT COMPANY
HARBOUR OFFICE
FOYNES
COUNTY LIMERICK

PHONE: 069 73103
FAX : 069 65552

0.4 DISTRIBUTION

COPY NUMBER	COPY HOLDER
1.	SFPC – ISO File Copy
2	Maritime Services Division
3	SFPC – General on internet and intranet
4	Agents – Argosea
5	Agents – Mullocks
6	Agents – Doyle Shipping Foynes
7	Agents – Scott
8	Agents - Hamilton
9	Portal Veterinary Officer
10	Rusal Aughinish Ltd.
11	Mr. Binman
12	ESB Moneypoint Generating Station.
13	SSE Tarbert Generating Station.

0.5 CONTENTS

0.6 DEFINITIONS

"ship" shall mean a seagoing vessel of any type whatsoever operating in the marine environment and shall include hydrofoil boats, air cushion vehicles, submersibles and floating craft.

"Marpol 73/78" shall mean the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978, in it's up to date version.

"dispose" means any kind of release whatsoever of waste from a ship to a shore reception facility.

"ship generated waste" shall mean including sewage, and residues other than cargo residues, which are generated during the service of a ship and fall under the scope of Annexes I, IV, and V to Marpol 73/78 and cargo associated waste as defined in the guidelines for the implementation of Annex V to Marpol 73/78.

"Cargo residue" shall mean the remnants of any cargo material on board in cargo holds or tanks, which remain after unloading procedures and cleaning operations, are completed and shall include loading/unloading excesses and spillage

"Port reception facilities" shall mean any facility, which is fixed, floating or mobile and capable of receiving ship generated waste or cargo residues.

"Fishing vessel" shall mean any ship equipped or used commercially for catching fish or other living resources of the sea.

"Recreational craft" shall mean a ship of any type, regardless of the means of propulsion, intended for sports or leisure purposes.

"Berth" shall mean for the purposes of this plan, an area under the control of Shannon Foynes Port Company, suitable for the reception of commercial vessels.

"Operator" means the actual provider of the shore reception facilities.

"Port authority" means Shannon Foynes Port Company, who is responsible for providing facilities and services for shipping.

1. INTRODUCTION.

LEGISLATION LIST

[This list is not intended to be exhaustive – it is for reference purposes only.]

- EU Directive 2000/59/EC on port reception facilities for ship generated wastes and cargo residues
- S.I. No. 117 of 2003: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) Regulations 2003
- Directive 2002/84/EC amending the Directives on maritime safety and the prevention of pollution from ships
- S.I. No. 659 of 2003: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2003
- Commission Directive 2007/71/EC of 13 December 2007 amending Annex II of Directive 2000/59/EC of the European Parliament and the Council on port reception facilities for ship-generated waste and cargo residues
- S.I. No. 376 of 2009: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2009
- Commission Directive (EU) 2015/2087 amending Annex II to Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues
- S.I. No. 550 of 2016: European Communities (Port Reception Facilities for Ship-Generated Waste and Cargo Residues) (Amendment) Regulations 2016
- Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements
- Directive 2009/123/EC amending Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements
- S.I. No. 542 of 2010: European Communities (Ship-Source Pollution) Regulations 2010
- Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system and repealing Council Directive 93/75/EEC
- Directive 2009/17/EC amending Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system
- S.I. No. 573 of 2010: European Communities (Vessel Traffic Monitoring and Information System) Regulations 2010
- Commission Directive 2011/15/EU amending Directive 2002/59/EC of the European Parliament and of the Council establishing a Community vessel traffic monitoring and information system
- S.I. No. 71 of 2012: European Communities (Vessel Traffic Monitoring and Information System) (Amendment) Regulations 2012
- Commission Directive 2014/100/EU amending Directive 2002/59/EC establishing a Community vessel traffic monitoring and information system

- S.I. No. 367 of 2016: European Communities (Vessel Traffic Monitoring and Information System) (Amendment) Regulations 2016
- Directive 2012/33/EU amending Council Directive 1999/32/EC as regards the sulphur content of marine fuels
- S.I. No. 361 of 2015: European Union (Sulphur Content of Marine Fuels) Regulations 2015
- Sea Pollution Act, 1991
- Sea Pollution (Amendment) Act, 1999
- Sea Pollution (Miscellaneous Provisions) Act, 2006

[Statutory Instrument(s) giving effect to MARPOL Annex I]

- S.I. No. 788 of 2007: Sea Pollution (Prevention of Oil Pollution) Regulations 2007
- S.I. No. 282 of 2008: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2008
- S.I. No. 664 of 2010: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2010
- S.I. No. 365 of 2011: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2011
- S.I. No. 275 of 2014: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2014
- S.I. No. 461 of 2016: Sea Pollution (Prevention of Oil Pollution) (Amendment) Regulations 2016
- S.I. No. 578 of 2016: Sea Pollution (Prevention of Oil Pollution) (Amendment) (No. 2) Regulations 2016
- S.I. No. 582 of 2016: Sea Pollution (Prevention of Oil Pollution) (Amendment) (No. 3) Regulations 2016

[Statutory Instrument(s) giving effect to MARPOL Annex II]

- S.I. No. 217 of 2008: Sea Pollution (Control of Pollution by Noxious Liquid Substances in Bulk) Regulations 2008

[Statutory Instrument(s) giving effect to MARPOL Annex III]

- S.I. No. 510 of 2013: Sea Pollution (Harmful Substances in Packaged Form) Regulations 2013
- S.I. No. 459 of 2016: Sea Pollution (Harmful Substances in Packaged Form) (Amendment) Regulations 2016

[Statutory Instrument(s) giving effect to MARPOL Annex IV]

- S.I. No. 269 of 2006: Sea Pollution (Prevention of Pollution by Sewage from Ships) Regulations 2006

- S.I. No. 281 of 2008: Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) Regulations 2008
- S.I. No. 372 of 2008: Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) (No.2) Regulations 2008
- S.I. No. 492 of 2012: Sea Pollution (Prevention of Pollution by Sewage from Ships) (Amendment) Regulations 2012

[Statutory Instrument(s) giving effect to MARPOL Annex V]

- S.I. No. 372 of 2012: Sea Pollution (Prevention of Pollution by Garbage from Ships) Regulations 2012

[Statutory Instrument(s) giving effect to MARPOL Annex VI]

- S.I. No. 313 of 2010: Sea Pollution (Prevention of Air Pollution from Ships) Regulations 2010
- S.I. No. 383 of 2011: Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2011
- S.I. No. 596 of 2011: Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) (No. 2) Regulations 2011
- S.I. No. 35 of 2013: Sea Pollution (Prevention of Air Pollution from Ships) (Amendment) Regulations 2013

[Statutory Instrument(s) giving effect to other international legislation]

- S.I. No. 82 of 2008: Sea Pollution (Control of Harmful Anti-fouling Systems on Ships) Regulations 2008

[Other legislation]

- Waste Management Act 1996 [No. 10 of 1996]
- Waste Management (Amendment) Act 2001 [No. 36 of 2001]
- Protection of the Environment Act 2003 [No. 27 of 2003]
- Diseases of Animals Act 1966
- S.I. No. 153 of 1985: Diseases of Animals (Feeding and Use of Swill) Order 1985
- S.I. No. 133 of 1987: Diseases of Animals (Feeding and Use of Swill) (Amendment) Order 1987
- S.I. No. 597 of 2001: Diseases of Animals Act, 1966 (Prohibition on the Use of Swill) Order, 2001
- S.I. No. 252 of 2008: European Communities (Transmissible Spongiform Encephalopathies and Animal By-Products) Regulations 2008
- S.I. No. 12 of 2009: Diseases of Animals Act 1966 (Prohibition On the Use of Swill) (Amendment) Order 2009

- Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 laying down health rules as regards animal by-products and derived products not intended for human consumption and repealing Regulation (EC) No 1774/2002 (Animal by-products Regulation)
- Commission Regulation (EU) No 142/2011 of 25 February 2011 implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council laying down health rules as regards animal by-products and derived products not intended for human consumption and implementing Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive
- Animal Health and Welfare Act 2013
- S.I. No. 187 of 2014: European Union (Animal By-Products) Regulations 2014
- S.I. No. 126 of 2011: European Communities (Waste Directive) Regulations 2011

1.2 PURPOSE OF PLAN

The Plan is in place to ensure:

- Compliance with all relevant legislation
- Company's responsibilities are discharged and transparent.
- Port users are aware of their obligations
- All vessels using the Estuary are aware of their obligations and the systems in place with regard to waste management.
- Local Authorities, when planning for waste management in their region, allow for the proper reception of port related waste.
- Department of Agriculture, Food and the Marine requirements in relation to waste management are met.

1.3 AREA OF OPERATIONS

This Plan covers the Shannon Estuary under the jurisdiction of Shannon Foynes Port Company, and includes facilities at the following berths; Foynes, Rusal Aughinish, Shannon Airport, Limerick, ESB Moneypoint and SSE Tarbert.

1.4 MANAGEMENT OF PLAN

This plan is compiled by the Harbour Master, Shannon Foynes Port Company in consultation with relevant company managers, port users, ships agents, contractors and other interested parties.

Overall control of Waste Management remains with the Harbour Master, who will oversee the total operation and collect all relevant data from terminals and agents.

The operation of the plan will be as follows:

Facility	**Managed by**	**Phone**	**Operated by**	**Phone**
Shannon	John Carlton	069 73100	Agents; Hamilton	061 469004
Limerick	John Carlton	087 7973121	Port Employees	087 7973121
Aughinish	Lorcan Keyes	061 604181	Ship's agent	Various.
Foynes	John Carlton	069 73100	John Hayes	086 2730567
ESB Moneypoint	John Casey	065 9080464	Ship's agent	Various.
SSE Tarbert	William Nolan	068 29251	Ship's agent	069 65544
Overall control	**Harbour Master**	**069 73103**		
Waste Contractors				
				Manager
Enva	Anthony Mulhall	1850 504504	N/a	Office
Mr. Binman	Nicola Shire	061 351127	Mr. Binman	Office
The Plan is approved by Department of Transport, Tourism and Sport, and contacts within the Department are Eithne Gore at (01) 678 3422 (shipsourcepollutionprevention@dttas.ie)				

2. OPERATION OF PLAN

2.1 NOTIFICATION

The Master in the first instance shall notify the port authority at least 24 hours prior to arrival or upon departure from the previous port. This can be done through the ship's agent on the SSI Pre Arrival information website (www.safeseas.ie), and supplement this on arrival with the recommended document, copy of which can be found in the Annex 1 of this plan, (WM 1).

They will indicate the type and quantity of waste that they wish to land and include the segregation and packing of such waste.

Waste from fishing vessels and from recreational craft authorised to carry no more than 12 passengers may be handled without prior notification, but this will be subject to availability of port staff, and permission from the Port Veterinary Officer, Department of Agriculture, Food and the Marine.

While in port vessels will land its waste ashore on arrival and on departure under the supervision of the port's nominated officer, who will indicate where the reception facilities are located or will take the waste to the facilities themselves.

If the ship's stay is over a protracted period then further collection times will be arranged as required.

It is important that all ship's waste is properly delivered for removal, suitably packed and marked. Failure to comply with this will result in ship's waste being refused and returned on board.

The port will, in turn, notify Department of Agriculture, Food and the Marine (061 500900) by email of vessels arrival and indicate whether these vessels are landing waste. They will also notify the waste removal contractors if additional movements are required over and above the contracted movements.

The facilities will be provided and will not cause undue delay to the ship. They shall be easily accessible and be adequate to meet the needs of ships using them.

If a situation arises where, through some unforeseen circumstances, the port is unable to accept waste from ships, this information will be transmitted to all parties concerned through their agents, indicating the reason for the stoppage and a timeframe for resumption of normal procedures.

2.2 CONSULTATION

2.2.1 WITH GOVERNMENT

Under Article 5 of the legislation the plan must be forwarded to the Environmental section of the Department of Transport, Tourism and Sport for approval. They must monitor its implementation and ensure its re-approval at least every three years and after significant changes in the operation of the Port. Article 16 of the European legislation states that all member states will have the necessary laws, regulations and administrative provisions necessary to comply before 28th December 2002.

Fees for the provision of the service within the port shall be approved by the Port Company, as will any future increases necessary. Penalties are those defined in SI 117 of 2003.

At three-year intervals an evaluation of the plan will be submitted to the Department

2.2.2 WITH PORT USERS

This waste management plan has been developed following consultations with all relevant parties. In particular with port users and their representatives, ships agents and ship owners, having regard to the requirements of Articles 4,6,7,10 and 12 of directive 2000/59/EC.

Prior to accepting the successful tender for the disposal of waste under this plan, all costs are agreed and approved by Shannon Foynes Port Company and a copy of these costs are issued to all Port users.

Reviews of charges on ships will be on an annual basis, and be agreed at a specially convened meeting between Port Users and Shannon Foynes Port Company.

2.3 INFORMATION AVAILABLE TO PORT USERS

This plan is available to all ship's agents and all port users and ships, and copies are also available in the port company's offices. The plan can also be accessed on the company's web site, www.sfpc.ie

There will be a meeting annually with all port users to discuss its progress and any amendments necessary, most recent meeting held in November 2016.

There will also be a meeting annually with waste removal contractors to discuss progress, most recent meeting 23rd June 2016.

2.4 COLLECTION OF WASTE

Article four states that to achieve adequacy, the reception facilities shall be capable of receiving the types and quantities of ship and port generated waste and cargo residues from ships normally using that facility. This takes into account the operational needs of the users of that facility, the size and geographical location of that facility, the types of ships calling at that location and the exemptions provided for under Article 9 of directive 2000/59/EC.

Waste collection will be divided into three main categories:

2.4.1 Ship waste -International catering waste
-hazardous
2.4.2 Port Waste
2.4.3 Cargo Waste

2.4.1 SHIP WASTE

This accounts for all waste generated by the ship and does not include cargo waste. It is subdivided into three further areas to facilitate the collection on the shore.

International Catering Waste: including swill and other waste on board ship and will be varied and in the main bulky. This will include packaging, bottles, cartons, wood, paper, and many other items. Department of Agriculture, Food and the Marine define swill as including;

(a) any carcass
(b) any product derived therefrom or any hatchery waste or eggs or eggshells.
(c) Any broken or waste foodstuff (including table or kitchen refuse, scraps or waste) whether or not foodstuff contains, or has been in contact with, any carcass or part thereof,

(d) Any waste product of the slaughtering or processing of any animal or poultry where such waste product is derived from such animal or poultry,
(e) Any other thing (whether or not such thing has been heated or dried or otherwise treated) consisting of or containing any matter mentioned in sub-paragraph (a), (b), (c), or (d) of this definition.
(f) Any other material of animal or poultry origin.

The Department of Agriculture, Food and the Marine has granted the contractor a licence to remove and dump International Catering Waste. The Harbour has responsibility to provide through its contractor, adequate reception facilities.

International Catering Waste will be stored in compactors at Limerick, Rusal Aughinish and Foynes. Covered REL units will be used for Moneypoint and Tarbert and delivered and collected as requested. Shannon airport Jetty will have an 1100ltr covered bin. They shall be located in a bund to avoid any spillage, and contained if spillage occurs. The cleaning of bund, and bins, and cleaning of any spillage shall be the responsibility of the contractor, under the supervision of the port authority.

The removal, conveyance and safe disposal of swill will be subject to control by an authorised officer of the Department of Agriculture, Food and the Marine, food and forestry. (Portal Veterinary Supervisor)

Hazardous: This includes all types of HNS as defined under Annexes of Marpol. Provision for this service will be arranged directly through ship's agent with ENVA or other suitable contractor.

2.4.2 PORT WASTE

This is all non- ship generated waste, and does not include waste generated by companies operating within the port area, who will provide for their own waste disposal.

A skip, as required will be provided for the collection and disposal of Port waste at both Limerick and Foynes as per contract with supplier. In addition both sites will have a 660ltr bin for general waste and a 660ltr bin for recyclable waste, collected weekly. Other installations will provide their own facilities for the disposal of port waste. Any port waste at Shannon can be removed to Limerick for disposal.

The areas for Port waste collection will be remote from jetties and clearly marked. Port waste will be segregated into general and hazardous waste and disposed of accordingly.

SFPC will also segregate recyclable waste both in the port and offices. Recyclable waste such as timber, steel, batteries, paper and boxes, should be separated from the general waste and disposed of correctly. Separate facilities will be available for this operation.

As with ship waste receipts for the collection and disposal of skips will have to be logged and recorded for inspection. The contractor for ship's waste will also have responsibility for the port waste disposal.

2.4.3. EXPIRED BATTERIES.

There will be two collection points for the collection of batteries;

- Foynes: Outside workshop in a position close to the oil management area, under the control of the supervisor.
- Limerick: Outside workshop in a position close to the oil management area, under the supervision of the Supervisor.

SFPC has contracted RILTA Environmental Ltd for the acceptance of used/Waste Batteries, who will dispose of batteries. They are a fully licensed waste facility and comply with all regulations pertaining to the final disposal of batteries. They will supply a suitable container for storing batteries and exchange container on each requested visit.

Details for collection;
a.) Collection of Non-Lead Acid Batteries – a charge of €60+VAT per trip and Supervisor must book at least three (3) working days for RILTA to arrange routing to our nominated site. RILTA have a nationwide collection service;
b.) Collection of Lead Acid Batteries – weight for collection should be at or/exceed 500 kgs. Supervisor to book at least three (3) days in advance. Rebate price will be based on the market value of pure lead in the metal markets and will be confirmed on the day of booking;
c.) Collection of Mix Batteries (Lead Acid, NiCad's, Alkaline, NiMH, Li-Ion, etc.) – FOC, if Lead Acid Batteries weight should be at/or exceed 500 kgs, they will apply a rebate (based on market value). Supervisor to book at least three (3) days in advance;
d.) Reception/Delivery to RILTA of Lead Acid Batteries – Supervisor to book at least three (3) days in advance, and if Lead Acid Batteries weight should be at/or exceed 500 kgs, they will apply a rebate (based on market value);
Supervisors will contact RILTA on 01 4018000 when collection required and forward the paperwork to the Assistant Harbour master for filing and record.

Refer to Annex 6 regarding Letter of Agreement.

2.4.4. CARGO WASTE

It will be the responsibility of both the ship and the Stevedores/Cargo Receivers to collect and dispose of any waste accumulated from the load/discharge of cargo. This is normally collected and disposed in accordance with their internal plan

It is expected that the Stevedore/Receiver will, as soon as possible after completion of cargo, collect any cargo residues remaining on the berth and added to cargo. SFPC will then clean and leave the berth in a clean condition for the next vessel.

2.4.5 ASBESTOS WASTE

SFPC employees are prohibited at all times from working with ACMs. The Engineering & Port Services Manager will appoint an approved and competent contractor to work with and/or remove ACMs as required. All third party contractors who are required to work with ACMs must provide a detailed task specific risk assessment of the work they intend to carry out. A detailed method statement must then be developed based on the output of the risk assessment showing the approved method of removing waste. Written approval must be obtained from the Engineering & Port Services Manager before any works on ACMs commences.

2.4.6 SFPC IN HOUSE CLEANING MEASURES

Scope -This procedure covers the handling of general waste from operational activity on the jetties and transfer of products to store.

❖ **HARBOUR ROADWAYS**

1. Roads, standage areas and peripheral infrastructure are swept by mechanical means dependent upon use and as contracted by Port Services Department.

2. Silt traps, sited on roadways, standage areas, and peripheral infrastructure are maintained with a mechanical gully sucker at monthly intervals.

3. Collected waste materials are transported to the nominated area and are then disposed of by an approved contractor to a licensed facility

❖ **JETTIES**

1. On completion of loading / unloading vessels the cargo stevedore arranges for loose sound spilled material to be scraped and shoveled to a minimal level of residue and arranges collection by Receiver, or delivers same to him.

2. SFPC collects the remaining sound usable residue from internal/external of hopper/berth and an opportunity is offered to cargo receivers to collect same when piled for intake as sound cargo. Reduced remaining waste is transported to the nominated area and then disposed of in an approved manner in line with this Plan.

3. On completion of 1 & 2 above - Jetties are then washed in preparation for the next cargo.

Spillage on berth, or on route from berth to warehousing, or from warehousing onwards is also to be cleaned by Stevedore/Receiver. Trucks going from berth to storage should be suitable for the task. Any excessive spillage that does occur and which has been cleaned by the Port will be for the Receivers account.

All transport should be equipped with functioning roll over covers in the event that they are required to be used in relationship to specific products. All loaded bulk lorries must be covered before leaving the Port.

A charge of €0.048 per tonne (Dry Bulk) will apply to cover the Port Company carrying out the above obligations. Furthermore careless handling in relation to dry bulk spillage on Port's internal road will be monitored by Shannon Foynes Port Company staff and will attract a surcharge. The surcharge will be determined by the cost of time spent and disposal charges.

2.5 FLYTIPPING

From the Litter Pollution Act, 1997

"litter" means a substance or object, whether or not intended as waste (other than waste within the meaning of the Waste Management Act, 1996, which is properly consigned for disposal) that, when deposited in a place other than a litter receptacle or other place lawfully designated for the deposit, is or is likely to become unsightly, deleterious, nauseous or unsanitary, whether by itself or with any other such substance or object, and regardless of its size or volume or the extent of the deposit.

Under the Waste Management Act, 1996 as amended, it is illegal to transport, store or deposit any sort of waste material without an appropriate permit or licence.

If waste has been deposited on any unlicensed site, then the local authority would take enforcement action against the owner / occupier in the first instance and could serve a 'Section 55 Notice' requiring a complete remediation of the site, regardless of the how innocent the recipients of the Notice might be.

SFPC require Port Tenants to advise them annually of their internal Waste Management facilities/Plan and contractor employed to remove waste.

A tenant or lessee engaging in unlicensed waste activities will be advised that it is our statutory obligation as a public body to comply with ALL litter and waste legislation and that we will legitimately request further information from them in this regard such as sources, volumes, times, individuals.

SFPC will report perceived / alleged unauthorised waste activity to the local authority and will not be joining them in defence of any enforcement action that might ensue.

SFPC have posted appropriate signage throughout the port and will monitor CCTV footage and records in the event of unlawful dumping of waste.

2.6 ASSESSMENT OF THE NEED FOR THE WASTE RECEPTION FACILITIES.

The reception facilities for ship and port waste are assessed continually.

The loss of reception facilities at Gortnadroma meant a longer transport element to acceptable facilities up country.

This in turn made the operations more expensive, resulting in development of a new tender and issuing new contract in April 2015.

With the agreement of the port Users and Department of Agriculture, Food and the Marine we have adapted the reception facilities in Limerick, Aughinish and Foynes to Compactors to reduce the transport costs. We are now using compactors at each of these sites, approved by Department of Agriculture, Food and the Marine, to store International waste. These have reduced the collection times from weekly to monthly or longer depending on the site, which has reduced the transportation costs.

Contractor is now using Drehid Landfill, Co. Kildare as final destination for International waste.

Facilities in Shannon remain and both Moneypoint and Tarbert will be on an as required basis.

The decision with Users to use 3rd party contractor, ENVA to remove Oily and hazardous waste and RIALTA for expired batteries, was to keep costs low and not to attract an administrative charge through MR. Binman and Port Company.

2.7 PORT RECEPTION FACILITIES

This section covers the collection of waste within the Shannon Estuary, showing each installation and the collection points within those installations. Each station will be capable of collecting waste as described in section 2.4. Refer also to Annex 5, SOP for Landing of Ships Waste. All ships waste is classed as International Catering Waste and disposed in the prescribed manner.

2.7.1 SHANNON

See Fig. 1 for map.

Shannon Airport			
Area	**Details**	**Collection rota**	**Unit Price €**
Containment area	• 1 by 1100 litre wheelie bin for International waste	As required	

EFG Shannon is subcontracted by Mr. Binman to collect ICW waste directly from the ship. All ICW waste should be double bagged and secure, torn or dripping bags will not be accepted. Note that gates to the site and to the jetty will be open during the ships stay alongside Shannon. SFPC will notify Mr. Binman 1 day in advance of a ship arriving at Shannon wishing to land ICW. Ship will normally remain alongside for 24 hours. In the event that EFG cannot service the ship we will use the 1100ltr bin at the top of jetty, and will be removed at first opportunity.
There are no reception facilities for cargo waste at Shannon Airport. This is a jetty for the importation of jet fuel only and accessed via a narrow walkway.

2.7.2 LIMERICK

See Fig.2 for map

Limerick			
Area	**Details**	**Collection rota**	**Unit Price €**
Containment area No.1	**Collection and removal of International waste** using a “Fully sealed” 30cubic roll pack Compactor suitable for ‘Swill/International Catering Waste’ disposal. The compactor listed would be fitted with extra clamps to provide additional sealing and complete with bin lifting gear.	As required	
Port Waste	• 1 by 12 cubic yard skips for general port waste	As required	
	• 1 by 660 ltr bin for general waste.	Weekly	
	• 1 by 660 ltr bin for Recyclable waste	Weekly	

A compactor is located in the Containment Area is at the East End of No 6 berth for the collection of ship's International Waste, bunded and clearly marked. SFPC Operators will collect ships waste using 1100ltr bins left at vessel at nominated times and remove to the compactor. Bins will be stored at compactor when not in use.

There is one site for the collection of port waste. A skip will be delivered as required and removed within five working days. This is to be used for port waste only. Any person abusing the facility will be fined.

Enva are also on call if required by ships to remove larger quantities of waste oil such as engine room bilges etc., and will be on site on a same day/ next day basis.

2.7.3 AUGHINISH

See Fig. 3 for map.

Aughinish			
Area	**Details**	**Collection rota**	**Unit Price €**
Containment area	**Collection and removal of International waste** using a "Fully sealed" 30cubic roll pack Compactor suitable for 'Swill/International Catering Waste' disposal. The compactor listed would be fitted with extra clamps to provide additional sealing and complete with bin lifting gear.	As required	

There is one station for the collection of ship's waste. This is located on the jetty, at the Eastern end. The area is bunded and clearly marked. The compactor will be powered and available for ship's crew to dispose of International catering waste. Rusal Aughinish will advise Port Company when compactor needs servicing.

This is for ship's use only and not for general port refuse.

Enva are also on call if required by ships to remove larger quantities of waste oil such as engine room bilges etc., and will be on site on a same day/ next day basis.

2.7.4 MONEYPOINT

See Fig. 4 for map

Moneypoint			
Area	**Details**	**Collection rota**	**Unit Price €**
Containment area	• 1 by 12 cubic yard skip for all International waste	Deliver and collect on request	

There is one station for the collection of ship's waste. This is located on the jetty, about midway along its length. The skip will arrive and depart on the same run, the driver will remain until the ship has loaded its waste and then remove skip for waste disposal. Ship's agent will arrange through the Port Company for the operation.

2.7.5 TARBERT

See Fig. 5 for map

Tarbert			
Area	**Details**	**Collection rota**	**Unit Price €**
Containment area	• 1 by 12 cubic yard skip for all International waste	Deliver and collect on request	

There is one station for the collection of ship's waste. This is located in the car park at the head of the jetty. The area is bunded and clearly marked. The skip will arrive and depart on the same run, the driver will remain until the ship has loaded its waste and then remove skip for waste disposal. Ship's agent will arrange through the Port Company for the operation.

2.7.6 FOYNES

See Fig. 6 for map

Foynes			
Area	**Details**	**Collection rota**	**Unit Price €**
Containment area No.1	**Collection and removal of International waste** using a "Fully sealed" 30cubic roll pack Compactor suitable for 'Swill/International Catering Waste' disposal. The compactor listed would be fitted with extra clamps to provide additional sealing and complete with bin lifting gear.	As required	
Port Waste	• 1 by 12 cubic yard skips for general port waste	As required	
	• 1 by 660 ltr bin for general waste.	Weekly	
	• 1 by 660 ltr bin for Recyclable waste	Weekly	

A compactor is located in the Containment Area is at the Eastern Yard for the collection of ship's International Waste, bunded and clearly marked. SFPC Operators will collect ships waste using 1100ltr bins left at vessel at nominated times and remove to the compactor. Bins will be stored at compactor when not in use.

There is one site for the collection of port waste. A skip will be delivered as required and removed within five working days. This is to be used for port waste only. Any person abusing the facility will be fined.

Enva are also on call if required by ships to remove larger quantities of waste oil such as engine room bilges etc., and will be on site on a same day/ next day basis.

Figure 1: Shannon Airport Jetty

Figure 2: Limerick; Ted Russell Dock

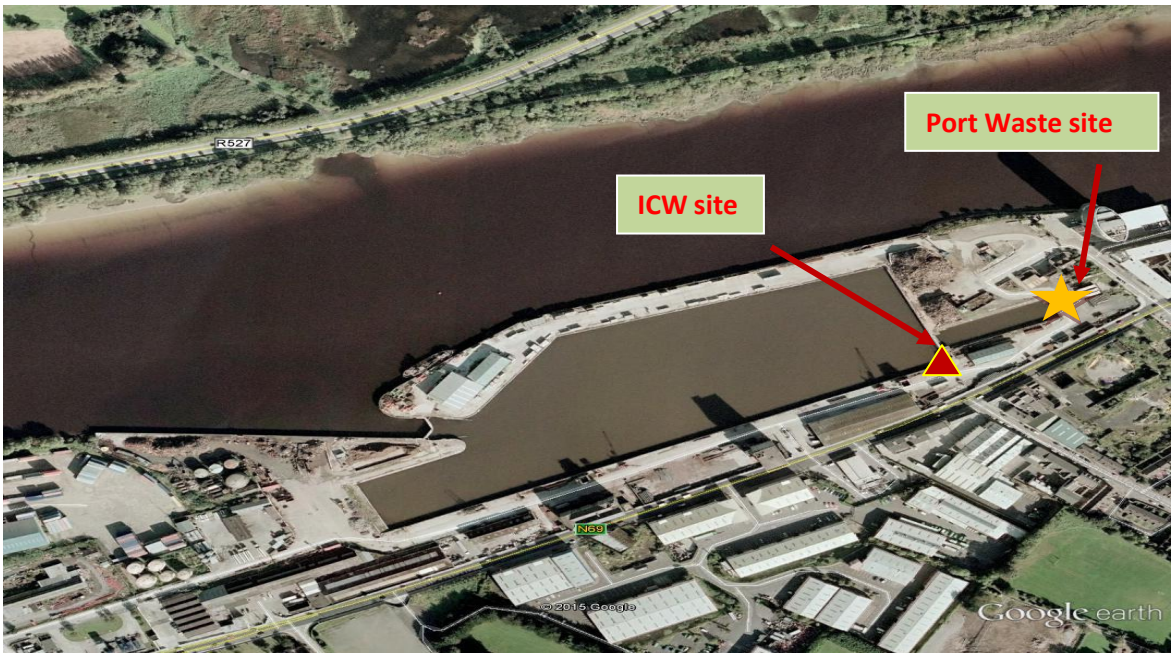
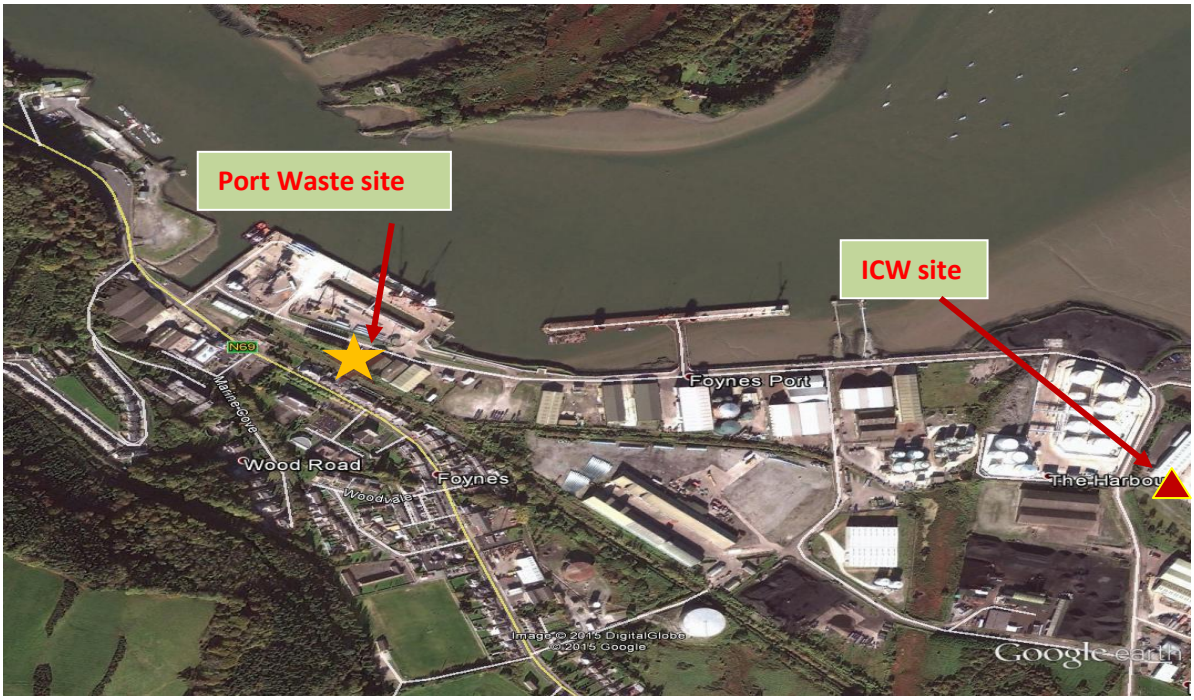


Figure 3: Rusal Aughinish jetty

Figure 4: Moneypoint Jetty

Figure 5: Tarbert Oil Jetty.

Figure 6: Foynes Port



2.8 PRE-TREATMENT AND DISPOSAL OF WASTE.

There are no pre-treatment equipment and processes within the port facilities.

The contractor will check the waste facilities at regular intervals to ensure that adequate containment is available to shipping that the disposal areas are maintained in good condition and no spillage has occurred. They shall collect and compact or dispose of waste as required.

The waste will be disposed of in an approved manner and receipts issued for removal from port sites and reception at the approved site.

Large landings of ships waste, especially swill waste may require immediate removal to landfill and this will be arranged through the contractor and agent, which will be available on a next day service.

2.9 FEES FOR THE USE OF THE FACILITIES

The cost of port reception facilities for shipboard general waste, including the treatment and disposal of the waste, shall be covered through the collection of a fee from all ships. Hazardous waste will be organised and charged separately directly to ship via ships agent. There will be no port administration charge on this waste.

Indirect Fees will be fair, transparent, non -discriminatory and reflect the costs of the facilities and services made available, and, where used, the amount of the fees and the basis on which they have been calculated shall be agreed with all users. They will cover at minimum 30% of the port reception facilities costs. In calculating the indirect fee to all vessels:

$$\frac{\text{the total yearly direct operational costs covered by the indirect fee}}{\text{total yearly direct operational costs for all waste delivered in he port}} \times 100$$

The Shannon Foynes Port Company has agreed with Port Users that the total charge for the provision of general waste reception facilities will be charged directly to all ships arriving within the Port, and will be invoiced as a separate charge to the vessel.

A seven-tier charge is agreed:

Vessels of less than 3000 GT	€89.00
Vessels of 3000 to 5999 GT	€139.00
Vessels of 6000 to 19999 GT	€206.00
Vessels of greater than 20,000GT	€350.00
Vessels berthed at Moneypoint	€816.00
Vessels berthed at Tarbert	€816.00
Cruise vessel at Foynes	€816.00

A reduction in fees of up to 20% may be obtained, if the ship's environmental management, design, equipment and operation are such that the Master of the ship can demonstrate that it produces reduced quantities of ship generated waste.

The indirect fees include a right to deliver at all facilities. The nominal amount of waste from a vessel on short runs would be in the region of 1100ltrs and about 6 cubic metres for ocean going voyages. Extra charges will apply for an exceptionally large quantity of ship's waste; it is the responsibility of the Ship's Agent to advise Shannon Foynes Port Company in advance of this special requirement. Exceptionally large quantities of waste will be charged at the cruise vessel rate of €816.00.

3.0 PROCEDURES

3.1 REPORTING ALLEGED INADEQUACIES

The Master of any vessel using a facility within the Shannon Estuary is obliged to report any inadequacies or non-availability of shore reception facilities to Shannon Foynes Port Company or Port State Control before leaving the port.

Format for reporting alleged inadequacies in port reception facilities :
The Master of a ship having encountered difficulties in discharging waste to reception facilities should forward the information (on relevant form), together with any supporting documentation, to the administration of the ship's flag state and, if possible, to the competent authorities in the port state." This shall is available in Annex 1, WM2 which will be supplied to the ship through its agent within the port.

A ship is entitled to compensation for any loss or damage suffered when unduly delayed, provided the Master of the ship has complied with the reporting procedure described in Section 2.1. In any instance of alleged undue delay the burden of proof shall lie with the Master of the ship **and the Company will compensate for any proven delays.**

3.2 RECORDS AND RECEIPTS

Records shall be maintained at all facilities within the Estuary. These records will be maintained by the individual agents who will record the amount of waste discharged ashore by all of the vessels entering the Estuary under their agency. Even if the vessel discharges no waste at the facility then this should be logged. Copies of records will be sent to the Port Company who will file the completed signed copies in the individual ships files.

Records will also be maintained by the port company for vessels not under agency and for all non-ship-generated waste, excluding cargo waste. These figures will be kept on the ships file for future reference.

A receipt will be issued for all waste landed, as per WM1 in Annex 1 of this plan. This will indicate the date, amount and type of waste landed from the vessel named, signed both by the Master and agent. As above, even if no waste has been discharges by the vessel, the agent will issue the vessel with a receipt indicating that no waste was landed at this facility.

Records of receipts for oil/hazardous waste will be maintained by ships agents and may be subject to inspection by the Port Company. The total charges to vessels for these receipts will be forwarded to Port Company annually for record.

The contractor will also issue receipts for all waste removed from each facility, indicating the amount and type of each lift. These shall be recorded and crosschecked with the amount landed by vessels. Commercial document for the transportation within Ireland of animal by-products and derived products not intended for human consumption in accordance with Regulation (EC) No 1069/2009. Completed in quadruplicate. Original retained by landfill site. Copy 1 retained by Mover. Copy 3 and 4 retained by Lander. Copy 3 either stamped or weighbridge report attached to it as proof of disposal.

All records to be kept for a minimum of three years. The above should ensure a full paper trail of all waste landed from vessel to final disposal and be available to inspection at any time.

3.3 PENALTIES

Penalties will be as per SI 117 0f 2003.

These penalties are to ensure that the facilities are properly used as required.

3.4 CONTRACT FOR DISPOSAL OF WASTE

The specific requirements for servicing all facilities in the Shannon Estuary are tendered to potential Contractors. A total solution package for dealing with all categories of ship waste, and port waste are discussed and agreed with all contractors, details as per next page.

The most recent contract for the disposal of waste was issued for a three year contract with a two year extension, subject to conditions.

Contractors were informed by the Port Services Manager of the requirements to operate a waste disposal contract under this plan.

They were then invited to meet with the Management to discuss the plan and devise a suitable system for the operation of the contract.

Please note the following points of contact for the SFPC/ Mr.Binman Waste Management contact.

Skip/Compactor Service:

Ruth Bermingham Direct Line: 061-359033 / email @ ruth.bermingham@mrbinman.com

Accounts:

Laura Jordan Direct Line: 061-359037 / email @ laura.jordan@mrbinman.com

Account Managers:

Nikki Shire 086-1742098 / nicola.shire@mrbinman.com
Jim Griffin 086-8516706 / jim.griffin@mrbinman.com

Environmental/Health & Safety:

Peter Murphy 086 -0245474 / peter.murphy@mrbinman.com

Compactor Maintenance:

Anthony Fogarty 086-048 4892 / anthony.fogarty@mrbinman.com

PROPOSAL

The summary list below provides an **indicative** chart out lining the number of facilities and lifts on a typical weekly basis.
Details of Collection Processing and Disposal:
Collection of International Waste to be provided in the most cost efficient manner and approved by the Department of Agriculture, Food and the Marine and its Veterinary Inspector.

LIMERICK		
Area No. 1	Method of collection and removal of International waste	As required
Note: Tenderer to provide a detailed proposal of a suitable method of collection and associated costs.		
Port Waste	1 by 660 ltr bin for general waste.	Weekly
	1 by 660 ltr bin for Recyclable waste	Weekly
	1 by 12 cubic yard skip for general waste	As required

FOYNES		
Area No. 1	Method of collection and removal of International waste	As required
Note: Tenderer to provide a detailed proposal of a suitable method of collection and associated costs.		
Port Waste	1 by 660 ltr bin for general waste.	Weekly
	1 by 660 ltr bin for Recyclable waste	Weekly
	1 by 12 cubic yard skip for general waste	As required

AUGHINISH		
Area No. 1	Method of collection and removal of International waste	As required

SHANNON AIRPORT		
Area No 1	1 by 1100 litre wheelie bin for International waste	As required

TARBERT		
Containment area collect on request	1 by 12 cubic yard skip for all International waste	Deliver and

MONEYPOINT		
Containment area collect on request	1 by 12 cubic yard skip for all International waste	Deliver and

This contract is effective from the 01st May 2015 until 30th April 2020 provided that contractor have all the necessary Permits and licenses throughout the period.

There will be no change in price during this period other than necessitated by changes in landfill charges and specialist contractor charges for hazardous materials.

Tenders are received and put to management for best solution at best price, and on this basis a contractor is appointed for the three year period.

A contract is drawn up by the Company Secretary, outlining the method and collection of waste within the installations. This contract is approved by the management committee.

Any failure on the part of the contractor will be noted to the management committee and if same failure continues then the contract will be withdrawn with option of appointing a new contractor to carry out the duties as per plan.

ANNEX 1

FORMS

FORM WM1

NOTIFICATION OF THE DISCHARGE OF WASTE

NAME OF VESSEL _____

CALL SIGN _____ IMO NUMBER _____

NATIONALITY _____ AGENT _____

E.T.A _____ E.T.D _____

BERTH _____ LAST PORT _____

TIME AT SEA _____ NEXT PORT _____

LAST PORT WHERE SHIP GENERATED WASTE WAS DELIVERED

REQUEST TO USE RECEPTION FACILITIES IN PORT YES ☐ NO ☐

If no state reason Exemption _____

Other _____ (specify)

ARE YOU DELIVERING: ALL ☐ SOME ☐ NONE ☐

OF YOUR WASTE INTO THE WASTE RECEPTION FACILITIES

TYPE AND AMOUNT OF SHIP GENERATED WASTE ON BOARD

Type	Waste to be delivered M3	Maximum dedicated storage capacity M3	Amount of waste retained on board	Port at which remaining waste will be delivered	Estimated amount of waste to be generated between notification and next port of call M3
1. Waste Oils					
Sludge					
Bilge Water					
Others					
2. Garbage					
Food Waste					
Plastic					
Hazardous					
General					
Other					
3.Cargo Waste (Specify)					
Cargo Residue (Specify)					

Please note that the Port does not accept hazardous waste such as Pyrotechnics, paint drums, oil drums, asbestos or any other such items. These can be arranged separately through your ships agent.

I confirm that the above details are accurate and correct and that there is sufficient dedicated capacity on board where necessary to store all waste generated between notification and the next port at which waste will be delivered.

MASTER…… DATE and TIME……..

PORT REPRESENTATIVE / AGENT…….. STAMP.

Confirmation that type and amount of waste indicated above has been landed.

Ship's Master …… Date

Port Representative / Agent …… Date

FORM WM2

FORMAT FOR REPORTING ALLEGED INADEQUACIES OF PORT RECEPTION FACILITIES

The master of a ship having encountered difficulties in discharging waste to reception facilities should forward the information below, together with any supporting documentation, to the Administration of the flag State and, if possible, to the competent Authorities in the port State. The flag State shall notify IMO and the port State of the occurrence. The port State should consider the report and respond appropriately informing IMO and the reporting flag State of the outcome of its investigation.

1 SHIP'S PARTICULARS

1.1 Name of ship: _____
1.2 Owner or operator: _____
1.3 Distinctive number or letters: _____
1.4 IMO Number[1]: _____
1.5 Gross tonnage: _____
1.6 Port of registry: _____
1.7 Flag State[2]: _____
1.8 Type of ship:

☐ Oil tanker ☐ Chemical tanker ☐ Bulk carrier
☐ Other cargo ship ☐ Passenger ship ☐ Other (specify) _____

2 PORT PARTICULARS

2.1 Country: _____
2.2 Name of port or area: _____
2.3 Location/terminal name: _____
(e.g. berth/terminal/jetty)
2.4 Name of company operating the reception facility (if applicable): _____
2.5 Type of port operation:

☐ Unloading port ☐ Loading port ☐ Shipyard
☐ Other (specify) _____

2.6 Date of arrival: __/__/____ (dd/mm/yyyy)
2.7 Date of occurrence: __/__/____ (dd/mm/yyyy)
2.8 Date of departure: __/__/____ (dd/mm/yyyy)

3 INADEQUACY OF FACILITIES

3.1 Type and amount of waste for which the port reception facility was inadequate and nature of problems encountered

Type of waste	**Amount for discharge (m^3)**	**Amount <u>not</u> accepted (m^3)**	**Problems encountered** Indicate the problems encountered by using one or more of the following code letters, as appropriate. A No facility available B Undue delay C Use of facility technically not possible D Inconvenient location E Vessel had to shift berth involving delay/cost F Unreasonable charges for use of facilities G Other (please specify in paragraph 3.2)
MARPOL Annex I-related Type of oily waste:			
Oily bilge water			
Oily residues (sludge)			
Oily tank washings (slops)			
Dirty ballast water			
Scale and sludge from tank cleaning			
Other (please specify ……..….)			
MARPOL Annex II-related Category of NLS[3] residue/water mixture for discharge to facility from tank washings:			
Category X substance			
Category Y substance			
Category Z substance			
MARPOL Annex IV-related Sewage			
MARPOL Annex V-related Type of garbage:			
A. Plastics			
B. Food wastes			
C. Domestic wastes (e.g. paper products, rags, glass, metal, bottles, crockery, etc.)			
D. Cooking oil			
E. Incinerator ashes			
F. Operational wastes			
G. Cargo residues			
H. Animal carcass(es)			
I. Fishing gear			
MARPOL Annex VI-related			
Ozone-depleting substances and equipment containing such substances			
Exhaust gas-cleaning residues			

3.2 Additional information with regard to the problems identified in the above table.

_____
_____
_____
_____
_____

3.3 Did you discuss these problems or report them to the port reception facility?

☐ Yes ☐ No

If Yes, with whom (please specify)

_____
_____

If Yes, what was the response of the port reception facility to your concerns?

_____
_____

3.4 Did you give prior notification (in accordance with relevant port requirements) about the vessel's requirements for reception facilities?

☐ Yes ☐ No ☐ Not applicable

If Yes, did you receive confirmation on the availability of reception facilities on arrival?

☐ Yes ☐ No

4 ADDITIONAL REMARKS/COMMENTS

_____
_____
_____
_____

_____
Master's signature

Date: __/__/____ (dd/mm/yyyy)

_____

Pre-arrival Form: 3884112321 **(No Pre-departure)**

GENERAL

Ships Name		IMO Number		Call Sign		MMSI Number	Port of Registration	
CUI PING FENG		9523172		BRPE		413192000	CNCAN - GUANGZHOU	
LOA	Draft	Beam	Airdraft	DWT		Displacement	G T	N T
225	12.5	32.26	36	76000		88535.9	40913	25963
Owner		Agent		Classification Society		P&I Club Name	P&I Club Number	P&I Club Date of Entry
china shipping		Argosea Services Ltd.		Alfa Register of Shipping		THE BRITANNIA	00171000	20/02/2012
Arrival Port		ETA	ETD	ATA	ATD	Next Port	Next Port ETA	Persons On Board
IEAUG - AUGHINISH ISLAND		16/10/2012 23:00	22/10/2012 16:57			ZZUKN - UNKNOWN		21
Main Engine	Mooring Winches	Aux. Engine	Anchor W'lass	Steering Gear		Nav. Aids	Paris MOU - Expanded Inspection due	
No	No	No	No	No		No	No	

SECURITY

ISSC Number		Issuing Authority	ISSC Issue Date	ISSC Expiry Date	ISSC Full
BJ11SV00407		CHINA CLASSIFICATION SOCIETY	28/11/2011	04/11/2016	Yes
Ship Security Officer's Name		Security Officer's 24 / 7 Contact Number		Vessel Operator's Name	
LU ZHI		00870 7731 22323		CHINA SHIPPING	
Ship Security Level	1 - Normal	Previous 10 ports and security levels : 1 being latest, 10 being earliest, Security Levels: 1 (Normal), 2 (Heightened), 3 (Exceptional)			

10	GNKMR - PORT-KAMSAR	1	9	ESSCI - SAN CIPRIAN	1	8	PTLIS - LISBOA	1	7	ITACOATIARA BRAZIL	1	6	ESLPA - LAS PALMAS DE GRAN	1
5	ESBIO - BILBAO	1	4	GNKMR - PORT-KAMSAR	1	3	IEAUG - AUGHINISH	1	2	TROMBETAS	1	1	GBFAL - FALMOUTH	1

Special Security Measures undertaken by ship in last 10 port	Maintained appropriate security measures for any ship-to-ship	Any dangerous substances or devices onboard other then cargo?	Will crew changes occur at arrival?	Do you expect visitors at this facility?	Will ship stores be delivered at this facility?	Other practical security related information?
No	No	No	Yes	Yes	Yes	No

MARPOL

Category	Type	Other	To Be Delivered	Vessel's Max Storage	To be retained on board	Last port of delivery	Date of last delivery	Port where remaining waste to be delivered	Estimated waste between arrival and destination port
Garbage	Food		0.04	0.3	1	NLRTM -	06/09/2012		
Garbage	Plastic		0.02	0.3	1	NLRTM -	06/09/2012		
Garbage	Other		0.01	0.3	0	NLRTM -	06/09/2012		
Oil	Sludge		0	59.4	3.5	ESBIO - BILBAO	10/07/2012		

CARGO / HAZMAT

Contact Name	Contact Number	Hazmat Document Attached?	No	Crew List Attached?	Yes	Will vessel receive bunkers?	No
DU GUOQING	00870 773122323	Cargo Manifest Attached?	No	Crew's Effects Attached?	No	Valid pollution insurance onboard?	Yes
Cargo Description	Quantity	Receiver		Ship's Stores Attached?	No	Stowage Plan onboard?	Yes
BAUXITE	53920	LARL		Passenger List Attached?	No	0.1% Sulphur Fuel onboard?	Yes
				Decl. of Health Attached?	No	SAR Cooperation Plan onboard?	No

Submitter: Agent Foynes **Submit Date:** 15/10/2012 17:07:01 **Page:** 1 of 1 **Status:** Sent **Print Date:** 17/10/2012 09:59:22

ANNEX 2

WASTE DISPOSAL

CONTRACT

CONTRACT FOR WASTE COLLECTION AND DISPOSAL

CONTRACTORS AGREEMENT

This agreement made the 01st day of April 2015 between Shannon Foynes Port Company and ----------.

Waste Management Services.

The following are the Port Companies additional terms and conditions to the tender documentation for the provision of Waste Management by independent contractors.

During the period of this Agreement the Company is retained on a non-exclusive basis, i.e. *"when needed"* to provide Waste Management Services to Shannon Foynes Port Company at such times and at such locations as the Port Company outlines in its Waste Management Plan, subject to these terms and conditions.

1. Liability
   The independent contractor shall not be an employee of Shannon Foynes Port Company and as such shall be responsible for his/her own income tax, social welfare contributions and any other levies required by the law to be paid by him/her and no responsibility shall lie with Shannon Foynes Port Company in this regard.

2. Performance
   In the event of the independent contractor using other persons in the performance of work under this agreement, he/she shall ensure that such persons are suitably qualified, instructed, trained and supervised to do the work required and such persons shall at all times be employees of the independent contractor and as such the independent contractor shall be responsible for their wages, income tax, social welfare contributions and any other levies required by law to be paid by an employer in respect of such persons and shall make all appropriate deductions from their wages in respect of same. No responsibility shall lie with this company in this regard.

3. Services
   The independent contractor shall comply with all legal and statutory requirements in relation to the provision of these services herein and the contractor shall hold all licences required by law for the provision of the said services to the satisfaction of the Department of Agriculture, Food and the Marine.

4. Indemnity
   The independent contractor shall be required to indemnify Shannon Foynes Port Company against any claims made against it respect of this agreement and shall further indemnify Shannon Foynes Port Company in respect of any damage, loss or injury occurring to any property, or any person in consequence of the performance by the independent contractor, his servants or agents of his duties under this agreement and shall reimburse Shannon Foynes Port Company in respect of any such damage, loss or injury caused to its properties or its employees.

   Both parties acknowledge and understand their respective duties of care in respect of the Safety, Health & Welfare at Work Act 2005.

5. Obligations

The independent contractor shall ensure that he/she and his/her employees shall carry out their obligations under this agreement with Shannon Foynes Port Company to a satisfactory standard and will be on good behaviour and comply with all statutory provisions and Shannon Foynes Port Company rules and requirements in carrying out work thereunder.

6. Agreement
The independent contractor will not assign this agreement on the execution of the whole or any part thereof.

7. The independent contractor shall not bind Shannon Foynes Port Company or pledge the credit of Shannon Foynes Port Company at any time.

8. All information relating to the nature of the services, the affairs of Shannon Foynes Port Company or any of its customers or clients shall be strictly confidential as between Shannon Foynes Port Company and the Independent Contractor and the contractor shall not during the term of this agreement or at any time thereafter publish or otherwise disclose information except in the performance of his duties under this agreement (save for audit or tax purposes).

9. Failure to Perform

The independent contractor will indemnify Shannon Foynes Port Company against any loss, damage or expense arising out of the independent contractor's failure to perform any of his duties or responsibilities under this agreement.

11. Termination

This Agreement may be terminated by either party giving to the other, two calendar months' notice in writing, such notice to be delivered to the last known business address of the other party.

12. Payment
The independent contractor shall be paid monthly provided that the contractor submits proper invoices to the Port Company. The invoice is to comply with all legal requirements.

13. Rates and Times
The rates and times are as per tender document.

SIGNED: _____

For and on behalf of Shannon Foynes Port Company

DATE: _____

In the Presence of: _____

SIGNED: _____

For and on behalf of the Independent Contractor

DATE: _____

In the Presence of: _____

ANNEX 3

WASTE DISPOSAL

ASSESSMENT FIGURES

1st January 2014 to 31st December 2016.

FOYNES				
Product	Date	**Weight: KGS**	Dockno	Note
660L	23/12/16	10.5	G739849	
660L	20/12/16	81.5	G734034	
660L	22/11/16	11.4	G710075	
660L	15/11/16	30	G704087	
660L	08/11/16	36.5	G698198	
660L	25/10/16	56.5	G685794	
660L	11/10/16	56.5	G674218	
660L	13/09/16	68	G650840	
660L	30/08/16	40	G639389	
660L	16/08/16	67.5	G627996	
660L	26/07/16	14.8	G610884	
660L	12/07/16	45.5	G598490	
660L	21/06/16	24	G581515	
660L	17/05/16	60.8	G552687	
660L	08/04/16	94.5	.	
660L	16/02/16	46.8	G478289	
660L	26/01/16	65.3	G461164	
660L	08/01/16	8.7	.	
MIXED WASTE BINS		**818.8**		
660LD	20/12/16	17	G734035	
660LD	15/11/16	18.4	G704088	
660LD	08/11/16	8.9	G698199	
660LD	01/11/16	11	G692102	
660LD	25/10/16	13.4	G685795	
660LD	04/10/16	7	G668427	
660LD	20/09/16	23.5	G656486	
660LD	30/08/16	120.9	G639390	
660LD	16/08/16	6.7	G627997	

660LD	26/07/16	3.4	G610885	
660LD	12/07/16	14.3	G598491	
660LD	21/06/16	38.2	G581516	
660LD	17/05/16	31.7	G552688	
660LD	15/03/16	22.8	G501244	
660LD	23/02/16	15.7	G483997	
660LD	16/02/16	39.3	G478290	
660LD	19/01/16	20.7	G455467	
660LD	08/01/16	0	.	
DRY MIXED RECYCLING - BINS		**412.9**		
COMPACTOR:				
TONN	07/11/16	6280	26463	COMPS
TONN	24/08/16	6020	13377	COMPS
TONN	18/05/16	5880	11060	COMPS
TONN	23/02/16	8660	6520	COMPS
TONN	14/01/16	4720	42995	COMPS
MIXED WASTES - COMPACTOR		**31560**		
GENERAL MIXED SKIP WASTES:				
TONN	07/11/16	**2380**	8569	**SKIP - general waste skip**
WOOD ONLY SKIPS :				
WOOD	18/02/16	3220	7458	remove 35 cubic Wood load. 3.22 tons.
WOOD	23/06/16	1880	10653	20 cubic wood only load.
WOOD		**5100**		

AUGHINISH				
Product	**Date**	**Dockno**	**Weight: KGS**	**Note**
TONN	13/12/16	15321	5400	COMPS
TONN	03/11/16	13996	4780	COMPS
TONN	23/09/16	13793	450	COMPS
TONN	21/09/16	13790	4480	COMPS
TONN	18/08/16	13361	3000	COMPS
TONN	16/08/16	13359	3000	COMPS
TONN	22/07/16	13070	3980	COMPS
TONN	17/06/16	10442	3520	COMPS
TONN	19/05/16	10202	4320	COMPS
TONN	18/04/16	43041	5980	COMPS
TONN	08/03/16	6933	6520	COMPS
TONN	25/01/16	5826	5700	COMPS
COMPACTOR mixed wastes			**51130**	

MONEYPOINT

Product	Date	Dockno	**Weight: KGS**	Note
TONN	08/12/16	15313	1240	
TONN	29/09/16	9145	700	
TONN	25/08/16	12613	180	
TONN	03/08/16	13094	740	
TONN	14/06/16	10433	200	
TONN	26/05/16	11086	920	
TONN	11/03/16	7873	1040	
TONN	19/01/16	5434	140	
COVERED SKIPS - Mixed wastes direct to landfill			**5160**	

LIMERICK DOCKS

Product	Date	Bill Qty	Weight: KGS	Dockno	Note
1100L	30/12/16	1	129	G743941	
1100L	23/12/16	1	153	G738024	
1100L	16/12/16	1	116	G732159	
1100L	09/12/16	1	161	G726101	
1100L	25/11/16	1	82	G714127	
1100L	11/11/16	1	89	G702211	
1100L	04/11/16	1	42	G696286	
1100L	28/10/16	1	101	G690231	
1100L	21/10/16	1	153	G683901	
1100L	07/10/16	1	80	G672317	
1100L	30/09/16	1	33.5	G666531	
1100L	16/09/16	1	192	G654584	
1100L	09/09/16	1	147	G648958	
1100L	02/09/16	1	59	G643142	
1100L	26/08/16	1	88	G637495	
1100L	19/08/16	2	250	G631734	
1100L	12/08/16	1	104	G626114	
1100L	05/08/16	1	154	G620383	
1100L	29/07/16	1	121.2	G616621	
1100L	22/07/16	1	123	G608984	
1100L	15/07/16	1	173	G602298	
1100L	08/07/16	1	188	G596591	
1100L	01/07/16	1	159	G590973	
1100L	24/06/16	1	134	G585224	
1100L	17/06/16	1	187	G579621	

1100L	10/06/16	1	19	G573840	
1100L	03/06/16	1	0	G568153	
1100L	13/05/16	1	57	G550928	
1100L	06/05/16	1	53	G545244	
1100L	29/04/16	1	0	G540221	
1100L	22/04/16	1	114	G533752	
1100L	15/04/16	1	135.6	G527994	
1100L	08/04/16	1	23	G522402	
1100L	25/03/16	1	135	G511746	
660L	18/03/16	1	125	.	
660L	11/03/16	1	125	G499298	
660L	04/03/16	1	53	G493524	
660L	26/02/16	1	45	G487837	
660L	19/02/16	1	152	G482069	
660L	12/02/16	1	85	G476380	
660L	05/02/16	1	116	G470646	
660L	29/01/16	1	166	G464988	
660L	22/01/16	1	108.2	G459221	
660L	15/01/16	1	65	G453554	
660L	08/01/16	1	15.8	G447783	
	MIXED WASTE BINS		4811.3		
1100LD	30/12/16	1	46	G744010	
1100LD	23/12/16	1	49	G738093	
1100LD	16/12/16	1	60	G732228	
1100LD	09/12/16	1	41	G726171	
1100LD	02/12/16	1	9	G721005	
1100LD	25/11/16	1	54	G714197	

1100LD	18/11/16	1	31	G708308	
1100LD	11/11/16	1	31	G702282	
1100LD	04/11/16	1	49	G696357	
1100LD	28/10/16	1	90	G690302	
1100LD	21/10/16	1	14	G683972	
1100LD	14/10/16	1	68	G678018	
1100LD	07/10/16	1	9	G672389	
1100LD	30/09/16	1	65	G666602	
1100LD	23/09/16	1	46	G660439	
1100LD	16/09/16	1	31	G654656	
1100LD	09/09/16	1	14	G649030	
1100LD	02/09/16	1	60	G643214	
1100LD	26/08/16	1	19	G637567	
1100LD	19/08/16	1	57	G631807	
1100LD	12/08/16	1	22	G626186	
1100LD	05/08/16	1	31	G620456	
1100LD	29/07/16	1	37	G616693	
1100LD	15/07/16	1	90	G602370	
1100LD	08/07/16	1	44	G596664	
1100LD	01/07/16	1	18	G591046	
1100LD	24/06/16	1	61	G585297	
1100LD	17/06/16	1	44	G579694	
1100LD	10/06/16	1	34	G573913	
1100LD	03/06/16	1	64	G568226	
1100LD	30/05/16	1	53	.	
1100LD	20/05/16	1	68	G556678	
1100LD	13/05/16	1	30	G550929	
1100LD	06/05/16	1	69	G545245	
1100LD	29/04/16	1	25	G540222	

1100LD	22/04/16	1	72	G533753	
1100LD	15/04/16	1	68	G527995	
1100LD	08/04/16	1	31	G522403	
1100LD	01/04/16	1	49	G516630	
1100LD	25/03/16	1	26	G511747	
660LD	11/03/16	1	26	G499299	
660LD	04/03/16	1	15	G493525	
660LD	26/02/16	1	10	G487838	
660LD	19/02/16	1	29	G482070	
660LD	12/02/16	1	21	G476381	
660LD	05/02/16	1	33	G470647	
660LD	29/01/16	1	48	G464989	
660LD	22/01/16	1	51	G459222	
660LD	15/01/16	1	55	G453555	
660LD	08/01/16	1	36	G447784	
660LD	03/01/16	1	22	G441762	
	DRY MIXED RECYCLING - BINS		2125		
	COMPACTOR:				
TONN	08/08/16	8.78	8780	13307	COMPS
TONN	29/02/16	8.46	8460	6533	COMPS
	MIXED WASTES - COMPACTOR		**17240**		
	SKIPS				
SKIP	06/05/16	1	2500	4172	SKIP
SKIP	29/01/16	1	1880	5495	SKIP
	MIXED WASTES - SKIPS		**4380**		
	WOOD ONLY SKIPS				
WOOD	22/06/16	2.46	2460	11472	SKIP
	WOOD		**2460**		

ANNEX 4

WASTE DISPOSAL

LICENSES

AND

PLAN APPROVAL

LETTER OF APPROVAL

An Roinn Iompair Turasóireachta agus Spóirt
Department of Transport, Tourism and Sport

Priomh Oifig
Lána Liosain, Baile Átha Cliath 2, Éire
Head Office
Leeson Lane, Dublin 2, Ireland
EIRCODE: D02 TR60
Lo-Call 0761-001 601 +353-1-670 7444
www.dttas.ie

Ref: ME00070

24th April 2017

Mr Hugh Conlon
Assistant Harbour Master
Shannon Foynes Port Company
Harbour Office
Foynes
Co Limerick

Dear Mr Conlon,

I am pleased to inform you that the Port Waste Management Plan for the period 2016 - 2018 submitted by Shannon Foynes Port Company as is required under Regulation 12 (4) of S.I. No. 117 of 2003 - *European Communities (Port Reception Facilities for Ship-generated Waste and Cargo Residues) Regulations 2003* has been approved.

I wish to thank you for the time and effort you took in preparing the plan and in liaising with this Department during the approval process.

Yours sincerely

Seamus Ryan
Maritime Services Division

ANNEX 5

SOP for the Landing of Ship's Waste.

1. Purpose

The purpose of this document is to outline the procedures to be followed for landing of ships waste. All waste from ships is classed as International Catering Waste and will be collected and disposed of in the appropriate manner as per Waste Management Plan, EHS024.

2. Scope

2.1 This SOP covers all elements of landing ships waste as outlined in the relevant sections of the Waste management Plan, EHS024, and should be used in conjunction with this Plan.

2.2 The SOP is developed to ensure that all controls are in place and followed during the landing of ships waste.

3. Definitions

3.1 MOPS – Marine Operations (Port Services Department).

3.2 SOP – Safe Operating Procedures.

3.3 ICW – International catering waste, classed as Category 1 waste.

4. Responsibilities

4.1 The Port Services Manager has overall responsibility for implementing and achieving compliance with this SOP.

4.2 The Port Services Manager will ensure that periodical inspections are conducted and will ensure that adverse findings are immediately corrected and dealt with.

4.3 The Harbour Master will ensure that EHS 024 is in place, approved and up to date.

5. Environment, Health & Safety Requirements

5.1 All accidents, Incidents and Near Misses to be reported immediately to your Supervisor/Manager, who will in turn notify Department of Agriculture, Food and the Marine as required.

5.2 All such reports will generate EHS F/007, and will be promptly investigated.

5.3 **All sites must be kept in a clean condition. Suitable disinfectant shall be available at each site to spray bins, compactor and surrounding areas. The disinfectant, IOSAN FARM Disinfectant, diluted at 80/1 mix, shall be available in a knapsack sprayer. For the Moneypoint and Tarbert sites the sprayer shall be available on the truck and driver will spray site when leaving**.

6. Procedure – General Requirements for landing waste:

6.1 Shannon

6.1.1 EFG Shannon are subcontracted by Mr. Binman to collect ICW waste directly from the ship.

6.1.2 All ICW waste should be double bagged and secure, torn or dripping bags will not be accepted.

6.1.3 Note that gates to the site and to the jetty will be open during the ships stay alongside Shannon.

6.1.4 SFPC will notify Mr. Binman 1 day in advance of a ship arriving at Shannon wishing to land ICW. Ship will normally remain alongside for 24 hours.

6.1.5 In the event that EFG cannot service the ship we will use the 1100ltr bin at the top of jetty;

6.1.5.1 The compound for waste storage will be kept locked at all times.

6.1.5.2 The 1100ltr bin for waste will be secured to the compound railing.

6.1.5.3 The bin shall be labelled "Category 1 material – for disposal only"

6.1.5.4 The key for the compound will be kept by the Supervisor in Limerick and handed over to jetty operators at handover and returned on completion of operations.

6.1.5.5 Copy of key to be kept by Mr. Binman to facilitate removal of waste.

6.1.5.6 Ship's crew will get key from jetty operators and bring waste to bin as required. No waste to be left on jetty. ICW is to be double bagged on the ship to ensure there is no leakage before being removed to the bin.

6.1.5.7 SFPC staff to ensure that no waste in lying on jetty or around compound on completion of operations.

6.1.5.8 If the bin is leaking or damaged contact marine operations to remove and replace bin. Bin is not to be used until replacement unit in place. If not empty contents must be transferred to another wheelie bin or compactor on site before the damaged one is moved (and cleaned and disinfected before moving).

6.1.5.9 EFG to be notified and collect at earliest convenience.

6.2 Limerick

6.2.1 International catering waste will be stored in a Compactor sited in the secure site at the East end of port. Four 1100ltr wheelie bins will also be stored at this site and used to collect waste from vessels requiring service. This site will be locked at all times.

6.2.2 The bin shall be labelled "Category 1 material – for disposal only"

6.2.3 SFPC staff will liaise with ship's crew to arrange suitable time to deliver bin to ships gangway. The bin will be delivered and collected promptly at pre-set times.

6.2.4 ICW is to be double bagged on the ship to ensure there is no leakage before being removed to the bin.

6.2.5 Ships waste left on berth by crew will be returned to ship and agents notified by Marine operations. Waste should only be landed at the agreed times to the bins provided.

6.2.6 The bin will then be returned and emptied into the compactor immediately, ensuring that the unit is activated and compacts the collected waste.

6.2.7 No waste is to be left in the bins or holding bay of the compactor at any time. When not in use the bins must be empty and clean at all times.

6.2.8 Any waste that may drop or accumulate in the compound must be picked up immediately and area disinfected.

6.2.9 When the orange light on compactor is engaged indicating that the unit is 80% full contact Marine Operations to arrange service.

6.2.10 Bins are to be delivered and collected immediately if weather conditions are such that they may fall over.

6.2.11 Any mis-use of the bins or compactors to be reported to Marine Operations.

6.2.12 Compactor and bins assigned for the use of International Waste is to be used for only that purpose and general use is prohibited.

6.2.13 If a bin is leaking or damaged contact marine operations to remove and replace bin. Bin is not to be used until replacement unit in place. Bins can only be moved if they are empty and clean. If not empty contents must be transferred to another wheelie bin or compactor on site before the damaged one is moved (and cleaned and disinfected before moving).

6.3 Foynes

6.3.1 International catering waste will be stored in a Compactor sited in the secure site at the East end of port. Six 1100ltr wheelie bins will also be stored at this site and used to collect waste from vessels requiring service. This site will be locked at all times.

6.3.2 The bin shall be labelled "Category 1 material – for disposal only"

6.3.3 SFPC staff will liaise with ship's crew to arrange suitable time to deliver bin to ships gangway. The bin will be delivered and collected promptly at pre-set times.

6.3.4 ICW is to be double bagged on the ship to ensure there is no leakage before being removed to the bin.

6.3.5 Ships waste left on berth by crew will be returned to ship and agents notified by Marine operations. Waste should only be landed at the agreed times to the bins provided.

6.3.6 The bin will then be returned and emptied into the compactor immediately, ensuring that the unit is activated and compacts the collected waste.

6.3.7 No waste is to be left in the bins or holding bay of the compactor at any time. When not in use the bins must be empty and clean at all times.

6.3.8 Any waste that may drop or accumulate in the compound must be picked up immediately and area disinfected.

6.3.9 When the orange light on compactor is engaged indicating that the unit is 80% full contact Marine Operations to arrange service.

6.3.10 Bins are to be delivered and collected immediately if weather conditions are such that they may fall over.

6.3.11 Any mis-use of the bins or compactors to be reported to Marine Operations.

6.3.12 Compactor and bins assigned for the use of International Waste is to be used for only that purpose and general use is prohibited.

6.3.13 If a bin is leaking or damaged contact marine operations to remove and replace bin. Bin is not to be used until replacement unit in place. Bins can only be moved if they are empty and clean. If not empty contents must be transferred to another wheelie bin or compactor on site before the damaged one is moved (and cleaned and disinfected before moving).

6.4 Moneypoint

6.4.1 SFPC will notify Mr. Binman 48 hours before a vessel arrives in Moneypoint that requires landing of ICW waste.

6.4.2 Mr Binman will agree a pre-set time for ICW waste to be landed and notify ICWMoneypoint@agriculture.gov.ie .

6.4.3 There is one station for the collection of ship's waste. This is located on the jetty, about midway along its length. The 12 cubic yard skip will arrive and depart on the same run, the driver will remain until the ship has loaded its waste and then remove skip for waste disposal.

6.4.4 Skip should be labelled and secure, in good condition and with no leaks. Poor or damaged skips will not be allowed to accept ICW waste and return to Depot with ICW waste landing awaiting arrival of suitable skip.

6.4.5 Ship's crew will deliver ICW waste to Skip. All ICW waste should be double bagged and secure, torn or dripping bags will not be accepted.

6.4.6 Any spillage must be cleaned immediately by ship's crew and area disinfected.

6.5 Tarbert

6.5.1 SFPC will notify Mr. Binman 48 hours before a vessel arrives in Tarbert that requires landing of ICW waste.

6.5.2 Mr Binman will agree a pre-set time for ICW waste to be landed and notify ICWKerry@agriculture.gov.ie .

6.5.3 There is one station for the collection of ship's waste. This is located in the car part at the head of the jetty. The 12 cubic yard skip will arrive and depart on the same run, the driver will remain until the ship has loaded its waste and then remove skip for waste disposal.

6.5.4 Skip should be labelled and secure, in good condition and with no leaks. Poor or damaged skips will not be allowed to accept ICW waste and return to Depot with ICW waste landing awaiting arrival of suitable skip.

6.5.5 Ship's crew will deliver ICW waste to Skip. All ICW waste should be double bagged and secure, torn or dripping bags will not be accepted.

6.5.6 Any spillage must be cleaned immediately by ship's crew and area disinfected.

6.6 Aughinish

6.6.1 International catering waste will be stored in a Compactor sited in the secure site at the East end of the jetty, under the conveyor system.

6.6.2 The Compactor shall be labelled "Category 1 material – for disposal only"

6.6.3 Rusal Aughinish staff will liaise with ship's crew and information booklet will include the method of landing ICW waste and instructions on the use of the Compactor.

6.6.4 ICW is to be double bagged on the ship to ensure there is no leakage before being removed to the bin.

6.6.5 Crew should carry ICW waste to compactor and place inside, ensuring that the unit is activated and compacts the collected waste immediately.

6.6.6 No waste is to be left in the holding bay of the compactor at any time.

6.6.7 Any waste that may drop or accumulate in the compound must be picked up immediately and area disinfected.

6.6.8 When the orange light on compactor is engaged indicating that the unit is 80% full Rusal should contact SFPC Marine Operations to arrange service.

6.6.9 Any mis-use of the compactor to be reported to SFPC Marine Operations.

6.6.10 Compactor assigned for the use of International Waste is to be used for only that purpose and general use is prohibited.

6.6.11 If the Compactor is leaking or in any way damaged contact SFPC Marine Operations. Compactor is not to be used until replacement unit in place.

7. References

7.1 EHS024, Waste Management Plan

7.2 WM1 – Waste notification form.

7.3 SSI – Safe Seas Ireland, waste notification procedure.

8. Change History

Revision	Date	History / Reason for Change

ANNEX 6

Acceptance letter for Waste Battery collection

RILTA ENVIRONMENTAL LIMITED

A ClearCircle Environmental Company

Rilta Environmental Limited, Block 402 Grants Drive, Greenogue Business Park, Rathcoole, Co. Dublin.
T: +353 (0)1 401 8000, F: +353 (0)1 401 8080,
E: info@rilta.ie www.rilta.ie

"TOTAL HAZARDOUS WASTE MANAGEMENT"

11 March 2016

Hugh Conlon
Shannon Foynes Port Company
Harbour Office,
Foynes,
Co. Limerick

Re : Acceptance of Used/Waste Batteries, Oil, & Oil Filters

Dear Hugh,

This is to confirm that Rilta Environmental of Block 402 Grants Drive Greenogue Business Park Rathcoole Co. Dublin is accepting the following types of waste from Shannon Foynes Port Company :

Description	Destination
Lead Acid Batteries / EWCode 160601	HJ Enthoven, UK
Nickel Cadmium Batteries / EWCode 160602	KMK Metal Recycling Offaly Ireland
Primary Batteries / EWCode 160603 and 160604	KMK Metal Recycling Offaly Ireland
Other Batteries / EWCode 160605	KMK Metal Recycling Offaly Ireland
Waste Oil / EWCode 130208	Rilta Environmental, Ireland
Oil Filters / EWCode 160107	Rilta Environmental, Ireland

Rilta Environmental is a fully licensed waste facility, Waste Permit WP 0192-03 issued by Environmental Protection Agency and a Multi-Region Waste Collection Permit with reference no. NWCPO-09-01192-02. Rilta Environmental adhere to all environmental and health & safety regulations when carrying out its operations.

Should you require any further information, please do not hesitate to contact us.

Yours sincerely,

Jesse Cabalum
Logistics Manager

CLEARCIRCLE ENVIRONMENTAL
Resourceful thinking . . .
www.ClearCircle.com

Registered Number: 374837
Registered Office: 151 Thomas Street, Dublin 8, Ireland
Directors: S. Cotter, P. Dalton, P. Duggan,
E. Ivanoff, R. Sharkey, A. Walsh.

"TOTAL HAZARDOUS WASTE MANAGEMENT"