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Irish Water

Fethard on Sea Main Drainage Scheme

Outline Construction Environmental Management Plan

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1 Introduction

1.1 Report Objectives

This outline Construction Environmental Management Plan (CEMP) sets out the project specific environmental protection measures and procedures that are to be put in place for the scope of both permanent and temporary construction works, during the construction of the Fethard on Sea Pumping Station and Wastewater Treatment Plant (WwTP).

This outline CEMP is produced for the purposes of making a planning application, and it will be required to be updated upon Contract Award by the successful Contractor.

The project consists of:

- The Design and Construction of a new Wastewater Treatment Plant, at Ramstown, Fethard on Sea;
- The Design and Construction of a new combined Pumping Station and Wastewater Storage Tank with associated emergency overflow, at Tay Lane, Fethard on Sea;
- The demolition of an existing primary treatment tank and associated outfall, at Tay Lane, Fethard on Sea, and construction of a new replacement emergency overflow outfall;
- The construction of 1.6 km of 175mm diameter rising main between the Pumping Station and the WwTP;
- The Directional Drilling of 355 linear metres PE pipe for a treated final effluent outfall.

The site is located adjacent to Bannow Bay SPA and SAC, and Hook Head SAC, designated sites under the EU Birds Directive (SPA) and EU Habitats Directive (SAC).

This report will communicate the key environmental obligations and requirements of the project that will apply to Contractors, Sub-contractors and their employees whilst carrying out construction work for the new Fethard on Sea Scheme.

1.2 Scope

This outline CEMP defines the approach to environmental management at the sites during the construction phase and compliance it shall be mandatory for all personnel and contractors employed on the site to comply with the requirements of this plan.

The CEMP shall:

- Provide a basis for achieving and implementing the construction related mitigation measures identified in the Environmental Report (W3137-09-ER), the 2 NIS reports (W3136-NIS-N and W3137-NIS-SE) and the AIS (W3137-AIS);

- Comply with all relevant conditions attached to any planning permission from Wexford County Council;
- Comply with any relevant conditions from the EPA/Dept. Of Environment
- Promote best environmental practice on-site, during the construction phase.

1.3 Project Description

The Fethard on Sea Main Drainage Scheme includes a proposed Waste Water Treatment Plant, sewers, pipelines, storage tanks, pumping station and two outfall pipes. The treatment works will be designed to cope with both seasonal and future population demands up to a P.E. of approximately 1,400 (Phase 1) with space allowed to facilitate even further expansion to a P.E. of 1800 (Phase 2). The treatment plant will include secondary wastewater treatment processes and may also include tertiary treatment (UV disinfection).

A revised Irish Water Asset Strategy assessment of population figures has been provided, in order to facilitate the selection of process and enable the outline design to be progressed, as follows:

Criteria	Winter PE	Summer PE
10 Year Design Horizon	470	1,400
30 Year Design Horizon	600	1,800

Table 1.1 Approved PE Figures

The proposed site of the treatment plant is approximately 1.4 hectares and is located at Ramstown, approximately 0.9 km south east of Fethard on Sea village centre. The proposed pumping station and storage tank will be located at Tay Lane in Fethard on Sea village, on the site of the existing primary treatment tank.

The construction works at Tay Lane will require excavation for a pumping station sump and storage tank, and the demolition of the existing primary treatment tank. The storage tank and pumping station sump will be constructed in reinforced concrete. The pumping station site will include a small kiosk above ground.

The waste water will be pumped to the new wastewater treatment plant to the south of Fethard village which will require pipe laying in the road across Fethard Bridge and on to the new wastewater treatment plant and a final treated effluent outfall to the sea approximately 1.1 km southwest of Ingard Point. Construction of the pipeline will be along Sunny Row and Bam Mills Road (600m) with a section from Bam Mills Road to the proposed plant at Ramstown through fields (340m).

The site of the proposed treatment plant is on agricultural land and is currently used for tillage. The site of the proposed pumping station and storage tank is comprised of improved grassland. The new WwTP shall be a Rotating Biological Contactor (RBC) type, comprising an inlet works,

admin building, and three treatment streams including primary and secondary settlement tanks and an RBC unit per stream, along with a sludge storage facility with tanker decant via a bauer connection.

1.3.1 Status of CEMP

It is considered that this outline CEMP is a live document and shall be reviewed on a regular basis, to ensure adherence to best practice.

2 Construction Schedule

As per current programme and subject to both Planning Permission and Foreshore Licensing, construction is planned to start in Quarter 2 of 2019, with a construction phase lasting 18 months.

All construction support activities shall be contained within the site compound, including office space, toilets and canteen. Material storage and waste handling shall also be restricted to the main compound. Due to the split nature of the site, some material may be stockpiled at Tay Lane pumping station site, for use as fill material when the existing primary treatment tank is demoilished.

3 Environmental Best Practice Measures

3.1 Ecological Supervision

A suitably qualified ecologist by the Client will be employed to monitor works adjacent to the Bannow Bay SAC and Hook Head SAC along with Bannow Bay SPA, as well as any other required monitoring works including monitoring of mitigation measures. It will be ensured that the ecologist will be suitable qualified, experienced and competent.

The ecologist will be responsible for the following:

- Pre-commencement ecological survey with verification of previously undertaken surveys and additional recommendations as necessary;
- Liaison with relevant bodies including the NPWS, IFI, SFPA/BIM and the Heritage Officer with Wexford County Council;
- Assistance in the preparation of method statements for works adjacent to the Bannow Bay SAC and Hook Head SAC along with Bannow Bay SPA;

3.2 Measures to Avoid Pollution to Watercourses

All works will be undertaken in compliance with the South Eastern Regional Fisheries Board (IFI) document 'Protection of Fisheries Habitat during Construction and Development Works at River

Sites' and all restrictions imposed by the IFI and NPWS will be allowed for. The following conditions as set out in the tender documents will be adhered to:

3.2.1 Site Works

- Fuels, oils, greases and hydraulic fluids shall be stored in bunded compounds a minimum of 100m from a watercourse. Refuelling of machinery shall be carried out in ramped bunded areas away from sensitive areas. Spill kits and hydrocarbon mats will remain available for use on site at all times.
- Machine servicing and concrete mixing activities will be contained, away from sensitive areas and watercourses. The runoff of these activities will not be permitted to enter a watercourse;
- Stockpile areas for sands and gravel shall be kept to a minimum size, and the contractor shall make use of silt fencing (or similar) to prevent runoff entering a watercourse;
- Runoff from the above shall only be routed to a watercourse via suitably designed and sited settlement ponds/filter channels;
- Watercourse banks shall be left intact if possible. If they have to be disturbed, all practicable measures shall be taken to prevent soils from entering the watercourse.

3.2.2 In-Stream Works

- In-stream works are to be carried out during the May-September period only;
- No in-stream works shall be carried out without the written approval of the Inland Fisheries Ireland and National Parks and Wildlife Service which shall be Submitted to the Employer 4 weeks in advance of the proposed works. The methodology proposed by the Contractor shall also be Submitted to the Employer. The Contractor shall allow a minimum of 2 weeks for review of the method statement by the Employer;
- Works are to be undertaken in the day with water pumped past the site of excavation if required;
- Preparatory works – such as constructing temporary crossings, forming cofferdams, creating diversions, - shall be carried out in accordance with an approved method statement and under supervision of the Fisheries Board's officer(s). Similar requirements apply during removal and reinstatement;
- In-stream machine works shall be minimised, and any machines working in the watercourse shall be protected against leakage or spillage of fuels, oils, greases, hydraulic fuels including lubrication and grease on joints of the machinery;
- All machinery and equipment entering the Site shall be fully cleaned in advance of arriving on Site to ensure no transfer of invasive species to the river course;
- In-stream earthworks shall be executed so as to minimise the suspension of solids;

- Construction works, especially ones involving the pouring of concrete, shall be conducted in the dry;
- Every care shall be taken to insure against spillage of concrete or leakage of cement grout within cofferdams;
- When cofferdams are being kept dry by pumping, the discharge shall be routed to an approved settlement facility before return to the river;
- There shall be no discharge of suspended solids or any other deleterious matter to watercourses.
- The Contractor shall ensure compliance with the following legislation for the above works:
    - The Fisheries (Consolidation) Act 1959 (as amended);
    - The Fisheries (Amendment) Act 1999;
    - The Freshwater Fish Directive;
    - The Habitat Directive;
    - The Local Government Act (Water Pollution) 1977 and amended in 1990;
    - The Local Government (Planning and Development) Act 2000;
    - Urban Wastewater Treatment Regulations.

3.3 General Measures to protect the environment

It is noted that the works are located in parts adjacent to the Bannow Bay SAC and SPA. As such the proposed work methods have been designed to avoid impacts on these designated sites and particular attention has been paid to the European Communities Regulations 2010. All stipulations of the NPWS/IFI and other bodies will be complied with.

The following measures, as outlined in the tender documents, will be implemented to avoid any direct or indirect impacts on these sites associated with the proposed works:

- Prevent fuel spills and have measures in place to mitigate any spill that does occur;
- Prevent cement run-off;
- Avoid dewatered water entering the protected area with silt material and or grease;
- Avoid any sewage entering the protected area as a result of the works;
- Minimise Energy Usage and Carbon Footprint;
- Protect Landscape and Visual Impacts;

- Minimise impact on native trees and shrubs.
- Any access routes required will be chosen in order to cause the minimum environmental impact;
- Removal of trees and saplings will only be carried out where required;
- To prevent chemical pollution, all fuels or chemicals kept on Site will be stored in bunded containers;
- All refuelling and maintenance will be carried out in ramped containment areas away from sensitive environments (i.e. up-gradient of protected habitats or adjacent watercourses);
- Prior to any construction taking place, local fishing interests shall be notified, via the planning process;
- In the event of any spillage or accident occurring below the high water mark of ordinary or medium tides, or above the high water mark which may impact on the foreshore during the carrying out of the works, or during operations following the completion of these works, the Irish Coast Guard will be notified immediately by telephone;
- To minimise marine habitat and species loss and disturbance, efforts will be made to keep the area of shore disturbed by any pipeline trenches to a minimum;
- In order to minimise the amount of suspended solids released into the water column during construction, the area of shore disturbed will be minimised;
- To protect the aquatic environment, the Contractor will only use chemicals that have been approved for use in the marine environment and employ methods that reduce the release of polluting materials into the water column;
- Section 40 of the Wildlife act 1976 as amended by Section 46 of the Wildlife (Amendment Act) 2000, restricts the cutting, grubbing, burning, or destruction by other means of vegetation growing on uncultivated land or in hedges or ditches during the nesting and breeding season for birds and wildlife, from 1st March to 31st August. This applies to private land-users local authorities, public bodies and contractors. The Contractor will be restricted knocking the hedge required for access during this period unless other measures are agreed with the National Park and Wildlife Service and accepted by the Employer.

3.4 Construction Environmental Management Plan (CEMP)

A detailed CEMP will be prepared by the Contractor in advance of construction. This will address activities that are likely to impact on noise, dust, odour, traffic, surface water run-off, risk of spillages, discharge of effluents etc. and will include environmental protection measures such as monitoring, protection barriers, operational procedures and contingency measures. The

CEMP will, as a minimum, incorporate the requirements listed below, and the requirements of all statutory authorities.

Standard environmental protection measures, including monitoring procedures, operational procedures and contingency measures, to reduce the environmental impact of construction activities, will include the following:

- Limit working times as described in the tender documents
- Ensure that no pollution or obstruction of existing streams, ponds, ground water or watercourses is caused by construction operations;
- Limit noise on Site where possible
- Take reasonable precautions to ensure that all discharged wastewater (arising due to construction activities) will not be harmful to, or cause obstruction, or deposit in, the drains or sewers;
- Prevent oil, grease or other objectionable matter being discharged into drains or sewers;
- Provide a designated bin for washing down the chutes of concrete trucks on the Site; the disposal of excess concrete on any part of the Site will be prohibited;
- Keep all plant, Contractor's Things, Things for the Works and all things connected with construction work in good order, clean, and tidy;
- Ensure that the public roads in the vicinity of the Site are maintained free from all mud, dirt and rubbish that may arise from or by a reason of the execution of the works; to facilitate this, the Contractor may be required to provide a wheel washing facility to an approved standard within the Site. Further detail is contained in Section 4.23;
- Keep the construction compounds free and clear of excess dirt, rubbish piles, scrap wood etc. at all times;
- Keep the designated parking area and other common areas clear and free of rubbish and debris at all times;
- Be responsible for the disposal of all wood, food, food packaging and paper, the Contractor will need to provide suitable disposal containers, dumping these items within the construction Site will be prohibited;
- Clear all scrap materials, rubbish, etc. out of the working area and dispose of them on a regular basis; Ensure all waste materials from the construction Site are disposed of to a licensed waste facility and the collectors hold an appropriate waste collection permit;
- Obtain any necessary permits from WCC or the EPA for the disposal of waste;

- On completion of construction, remove temporary buildings entirely with all slab, drains and water mains and restore the surface of the land to its original condition or other reasonable condition as agreed;
- On Completion of the work, leave the Site in a neat, clean and orderly condition.

The CEMP will all include mitigation measures as identified in the Environmental Report and planning conditions including, but not limited to, the following:-

- Construction methods adopted are to minimise the requirement to disturb habitat in foreshore areas; this will also help minimise the amount of suspended solids released into the water column during construction. Contractors working in foreshore areas will only use chemicals that have been approved for use in the marine environment and employ methods that reduce the release of polluting materials into the water column. Operational procedures and contingency measures to reduce the impact of a pollution incident should it occur shall be put in place prior to the commencement of construction.
- Procedures and contingency measures to reduce the impact of a pollution incident should it occur shall be put in place prior to the commencement of construction. In the event of any spillage, accident or pollution incident occurring below the high water mark of ordinary or medium tides, or above the high water mark but that may impact on the foreshore, the Irish Coast Guard will be notified immediately by telephone.
- Strict control of pollutants associated with the construction process will be implemented. For all activities involving the use of potential pollutants or hazardous materials, it will be necessary to ensure that material such as concrete, fuels, lubricants and hydraulic fluids are carefully handled and stored to avoid spillages. Good housekeeping (daily site clean-ups, use of disposal bins, etc.) on the Site, and the proper use, storage and disposal of these substances and their containers shall be used to prevent contamination. Potential pollutants will be adequately secured against vandalism and will be provided with proper containment. Spillages will be immediately contained and contaminated soil removed from the Site and properly disposed of to a suitably licensed landfill.
- Re-fuelling of vehicles shall only be undertaken in specific designated areas with interceptors in place. In the event of hydrocarbon leakage from on-site plant, a supply of hydrocarbon absorbent material shall be maintained locally and immediately applied to the affected area and then appropriately disposed of to a suitably licensed landfill.
- No groundwater discharges are permitted.
- Strict control of erosion and sediment generation associated with the construction process shall be implemented. Land shall be stripped in phases in order to limit the length of time the soil will be exposed to erosion. The effects of soil stripping and soil stockpiling on water resources shall be minimised by the removal of topsoil during dry conditions, where possible, reducing the possible effects of leaching to ground water.

The effects of soil erosion shall be minimised by ensuring that all ground disturbances or excavations are completed and re-vegetated or covered as soon as practical. Fills or stockpiles which are likely to erode shall be covered temporarily e.g. with polyethylene sheeting. Eroded sediments shall be retained on Site by using erosion and sediment control structures, such as, sediment traps and silt fences. Care shall be taken to ensure that bank surfaces are stable to minimise erosion.

- Excavated material generated during construction shall be reused on Site as far as practical (e.g. subsoil reuse for landscaping purposes) but any surplus shall be disposed of to a suitably licensed landfill site. A risk assessment shall need to be carried out as to the suitability of this material in advance of it being used for landscaping on Site.
- All disposal of waste shall be undertaken in a responsible manner, appropriate permits will need to be held by operators transporting the waste and an appropriate waste licence will need to be held at the waste disposal facility as per the requirements in the tender documents and the Waste Management Act
- Dust abatement measures shall be incorporated into the CEMP to mitigate against any potential air quality impacts on nearby residents or sports facilities:
- Site access roads shall be regularly cleaned and maintained as appropriate. Hard surface roads shall be swept to remove mud and aggregate materials from their surface as a result of the development. Any un-surfaced roads shall be restricted to essential site traffic only. Furthermore, any road in the vicinity of the development that has the potential to give rise to dust may be regularly watered, as appropriate, during extended dry and/or windy conditions.
- 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 monitoring shall be carried out during the construction phase of the development by the Contractor.
- Any Sub-Contractors or Specialists employed on Site shall be required to comply with the CEMP for their specific area of work.

3.5 Waste management

Below is a summary of the waste management procedures for these works. A complete Waste Management Plan is attached as Appendix 1.

3.5.1 Construction and Demolition Waste

The National Waste Database defines Construction and Demolition Waste (C&D) as "all waste that arises from construction, renovation and demolition activities and all wastes mentioned in Chapter 17 of the European Waste Catalogue (EWC)". The procedure for dealing with

Hazardous C&D waste shall be carried out in accordance with requirements of the current legislation.

3.5.2 Asbestos

The requirements of the following shall be implemented;

- The Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations (including amendments)
- The Safety, Health and Welfare at Work (Construction) Regulations, 2013
- HSA Guidelines on Asbestos-containing Materials (ACMs).

3.5.3 Dewatering Discharges

The discharge from dewatering pumps shall be disposed of in such a manner as to avoid pollution of waters as defined by:

- Local Government (Water Pollution) Act, 1977;
- Local Government (Water Pollution Amendment) Act 1990;
- S.I. No. 245/1994.

3.5.4 Hazardous Waste and Alien Invasive Species

Procedures shall be put into place to handle any hazardous waste which may be found during the works.

Details of the procedures for managing alien invasive species such as Japanese Knotweed are available in the Waste Management Plan. This plan details the methodologies regarding the management of any invasive species encountered. The following requirements shall be followed when working near Japanese Knotweed.

- If Japanese knotweed is encountered on Site, the Employer shall be contacted immediately. Any stands of Japanese knotweed shall be avoided.
- It is important to identify Japanese Knotweed as early as possible. A site survey shall be carried out by an Environmental Consultant/suitably qualified ecologist.
- All personnel on site shall be made familiar with the plant species and the key ID features (the NRA Noxious Weed App is available for download and is recommended to help with plant ID). They shall be made aware of the risks associated with Japanese knotweed in order to help limit accidental spread.
- Japanese knotweed contaminated areas shall be clearly marked out on Site. Area(s) that will not be disturbed during the works shall be fenced off, allowing a buffer of at least 10 meters (from the edge of a colony) to allow for the likely extent of the rhizomes.

- The use of strimmers, mowers or chippers on Japanese knotweed material is not permitted. The upright stems/leaves shall not be cut, flailed or removed. Should any parts of the upright stems/leaves be accidentally disturbed, a specialist consultant shall be Employed. Specialised treatment/removal may be required as a result of such activities.

- No ground disturbance shall be permitted within 10m of the upright stems. If the ground within 10m of a stand of Japanese knotweed must be disturbed, then a suitably qualified specialist shall be contacted prior to works commencing and appropriate treatment measures shall be implemented. Ground disturbance/soil extraction etc. without appropriate treatment measures could cause the spread of Japanese knotweed.

- On leaving areas of a Site known to contain Japanese Knotweed, any machinery/clothing that has been used shall be thoroughly inspected and cleaned within a designated area. This area shall be as close as possible to the contaminated area on which the machinery/person has been working to avoid the spread of Japanese knotweed. This area shall be monitored in the spring for Japanese knotweed growth and a spraying programme implemented, if necessary.

- A suitable inspection will take place between November and March to identify any dead shoots from the previous year. In winter no growth is evident above ground but the below-ground parts of the plant will still be alive. The Contractor shall put measures in place to ensure that breaking up this root network and transporting either off site or around the Site on vehicle tracks does not occur.

3.5.4.1 Other invasive species (e.g. Himalayan balsam and Giant Hogweed)

Avoidance is best practice for small scale works, such as mechanical and electrical works. Wash boots and clothing after visiting any site infected with invasive species (on Site before leaving near invasive plant contaminated area). This shall ensure that these species are not spread to other sites. The NRA guidance document "The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads" and the NRA Noxious Weed App have ID tips and control guidance recommendations. However, as above, each site treatment programme is unique and shall be inspected and recommended by a suitably qualified specialist.

3.6 Emergency Response Measures

An Emergency Response Plan (ERP) is presented in this section of the CEMP. It provides details of procedures to be adopted in the event of an emergency in terms of site health and safety and environmental protection.

3.6.1 Emergency Response Procedure

The site specific Emergency Response Plan (ERP) includes details on the response required and the responsibilities of all personnel in the event of an emergency. The ERP in terms of health and safety shall require updating and submissions from the various contractors and suppliers as the proposed project progresses.

3.6.2 Environmental Emergency Response Procedure

The ERP in terms of an environmental emergency are presented in the following sections.

3.6.3 Spill Control Measures

Every effort shall be made to prevent an environmental incident during the construction and operational phase of the proposed project. Oil/Fuel spillages are one of the main environmental risks that will exist on the proposed site which will require an emergency response procedure. The importance of a swift and effective response in the event of such an incident occurring cannot be over emphasised. The following steps provide the procedure to be followed in the event of such an incident.

- Stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers.
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill.
- If possible, cover or bund off any vulnerable areas where appropriate such as drains, watercourses or sensitive habitats.
- If possible, clean up as much as possible using the spill control materials.
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited.
- Notify the Environmental Manager immediately giving information on the location, type and extent of the spill so that they can take appropriate action.
- The Environmental Manager shall inspect the site and ensure the necessary measures are in place to contain and clean up the spill and prevent further spillage from occurring.
- The Environmental Manager shall notify the appropriate regulatory body such as Wexford County Council, National Parks & Wildlife Service, Department of Communications, Energy and Natural Resources (DCENR) and Department of Environment, Community and Local Government (DOECLG), if deemed necessary.

Environmental incidents are not limited to just fuel spillages. Therefore, any environmental incident must be investigated in accordance with the following steps.

- The Environmental Manager must be immediately notified.
- If necessary, the Environmental Manager shall inform the appropriate regulatory authority. The appropriate regulatory authority will depend on the nature of the incident.

- The details of the incident will be recorded on an Environmental Incident Form which shall provide information such as the cause, extent, actions and remedial measures used following the incident. The form shall also include any recommendations made to avoid reoccurrence of the incident.
- If the incident has impacted on an ecologically sensitive receptor, such as a sensitive habitat, protected species or designated conservation site, the Environmental Manager shall liaise with the Project Ecologist.
- If the incident has impacted on a sensitive receptor such as an archaeological feature the Environmental Manager shall liaise with the Project Archaeologist.
- A record of all environmental incidents shall be kept on file by the Environmental Manager and the Main Contractor. These records shall be made available to the relevant authorities such as Wexford County Council, DCENR and DOECLG if required.
- In the event of any incident occurring which may impact significantly on the environment during the carrying out of the works, or during operations following the completion of these works, that incident shall be reported to the relevant authority (e.g. Irish Coast Guard, NPWS, etc.) immediately by telephone

The Environmental Manager shall be responsible for any corrective actions required as a result of the incident e.g. an investigative report, formulation of alternative construction methods or environmental sampling, and shall advise the Main Contractor as appropriate.

By carrying out the above steps, a proper system will be in place to investigate, record and report any potential accidents or indidents. The chance of recurrence of such incidents will be minimised if the measures listed in sections 2.4 – 2.7 above are followed.

3.6.4 Fire Control Measures

Every effort shall be made to prevent the outbreak of a fire during the construction and operational phase of the proposed project. Fire extinguishers and first aid supplies shall be available in the work area. In the event of such an incident, the health and safety of all personnel shall be a priority.

The main purpose of the regulations is to provide for the health and safety of people in and around buildings. Part B of the Regulations, S.I. 115 of 2006, specifically pertains to fire safety and deals with adequate fire escape routes, prevention of internal and external spread of fire and access and facilities for the fire safety services.

The Department of the Environment has also produced building regulation technical guidance documents. Technical Guidance Document B relates to fire safety and is available to assist developers and design teams of new developments.

A Fire Safety Certificate is a certificate issued by the Building Control Authority which states that the works or building to which the application relates will, if constructed in accordance with the

plans and specifications submitted, comply with the requirements set out in the Building Regulations 1997.

A fire safety certificate, for this proposed development shall be applied for, by the Contractor's Designer prior to the commencement of the demolition and construction stages of the development.

4 Project Environmental Policy

The client, Irish Water, recognises and seeks to minimise the impact of its business on the environment. The appointed Contractor shall be required to be committed to:

- Carry out the project in full compliance with all relevant environmental laws, regulations and guidelines;
- Implement sound environmental practices during the design process – through such processes as design review, risk assessment and the preparation of method statements;
- Implement operational controls designed to minimise the impact of construction works on the environment, through processes such as written instructions and method statements and appropriate staff training;
- Continually improve environmental performance through the use of an environmental programme which stipulates clear targets and objectives, and is consistently monitored;
- Informing all employees (and employees of any sub-contractor) about the environmental policy, and outlining procedures designed to provide environmental protection;
- Implement the environmental policy through the use of the CEMP.

5 Site Environmental Awareness

The following general site rules shall apply, and be communicated to all site staff via induction training, and shall be displayed visibly at locations across the site:

General Site Environmental Rules	
Do	Report any signs to pollution to appropriate management Report spills, incidents and near misses immediately to appropriate management Refuel or carry out maintenance on plant only in dedicated bunded areas Ensure that stockpiles are adequately guarded against runoff by use of silt barriers, stilling ponds or other agreed methodology Ensure that all waste material is disposed of via a licensed waste disposal facility, appropriate for the nature of the waste to be disposed Ensure that seasonal constraints are adhered to where relevant Ensure the public roads are maintained in a clean and safe fashion by utilising a wheel wash system and/or road sweeping vehicles
Do Not	Dispose of waste material near drains Do not utilise plant outside of the site working boundaries Dispose of waste material other than by use of a licensed waste contractor

The Construction Management Team (CMT) shall have responsibility for developing the Environmental Procedures required to control the potential impacts of construction work on the environment. The CMT shall have full responsibility for the dissemination of the CEMP and the environmental site rules to all employees carrying out work during the construction phase.

An outline of this CEMP shall be incorporated into the site induction process.

6 Environmental Conditions, Potential Impacts and Controls

6.1 Planning Conditions

It can be assumed that Wexford County Council may impose some of environmental conditions as part of their planning consent for the project. The compliance with the environmental conditions and the proposed control/mitigation measures shall be included in the next version of the CEMP once these planning conditions are known.

6.2 NIS and AIS Mitigation Measures

The Natura Impact Statements (NIS) and Alien Invasive Species Reports contain a number of mitigation measures to eliminate or minimise the environmental impact of the development. These are outlined in the table below:

Area	Mitigation Measures
Saltmarsh	Access to the storm outflow pipeline route by machinery and workers will be limited to the construction wayleave which will be strictly limited to 10m. Turfs will be removed from the pipeline route prior to excavation and stored. They will then be replaced once the pipeline has been installed. The duration of storage of the turfs will be kept to a minimum and care will be taken to ensure they do not dry out during periods of dry weather. Excavated material will be stored on a geotextile membrane during construction of the pipeline to assist recovery of buried plants. The pipeline route will be returned to the current ground levels to avoid pooling of water (if it is left too low), or colonisation by non-saltmarsh species and loss of saltmarsh habitat (if it is too high). If additional fill is required, washed sand or fine gravel (5-10 mm) will be used in preference to soil and this will be added as deep within the excavation as possible. Works will be timed to avoid spring tides when excavations could be inundated by high tides. Machinery used on saltmarsh will have low ground pressure to reduce compaction, will be maintained to a high standard to avoid oil spills, and will be re-fuelled away from the saltmarsh in a bunded area.
Pumping Station	Clearance of scrub and hedgerows will be conducted outside the bird-breeding season of 1st March to 31st August to minimise disturbance to nesting birds, as required under Section 40 of the Wildlife Acts 1976 to 2012 (while Section 40 does not apply in relation to site clearance for site preparation works, birds' nests remain protected).

Area	Mitigation Measures
Estuary	Surface water run-off will be directed into appropriately designed silt traps prior to discharge to surface waters. Fuels, oils, greases and hydraulic fluids will be stored in bunded compounds well away from waterbodies and watercourses. Maintenance and refuelling of plant and machinery will take place in a bunded area or off site. All plant and machinery will be well maintained and regularly checked for leaks. Spill kits and staff trained in their use will be available to deal with any incident on site during the operation of the proposed development. Stockpile areas for sands and gravel will be kept to minimum size, well away from any waterbodies or watercourses. Construction works, especially ones involving the pouring of concrete, will be conducted in the dry.
WwTP	Clearance of scrub and hedgerows will be conducted outside the bird-breeding season of 1st March to 31st August to minimise disturbance to nesting birds, as required under Section 40 of the Wildlife Acts 1976 to 2012 (while Section 40 does not apply in relation to site clearance for site preparation works, birds' nests remain protected). Surface water run-off will be directed into appropriately designed silt traps prior to discharge to surface waters. Fuels, oils, greases and hydraulic fluids will be stored in bunded compounds well away from waterbodies and watercourses. Maintenance and refuelling of plant and machinery will take place in a bunded area or off site. All plant and machinery will be well maintained and regularly checked for leaks. Spill kits and staff trained in their use will be available to deal with any incident on site during the operation of the proposed development. Stockpile areas for sands and gravel will be kept to minimum size, well away from any waterbodies or watercourses. Construction works, especially ones involving the pouring of concrete, will be conducted in the dry.

Area	Mitigation Measures
Outfall	Access to the outfall route by machinery and workers will be limited to the construction wayleave which will be strictly limited to 10m. Appropriate oil-spill response kits should be available, with staff on site who are trained in their use. Irish Water (2014) notes the following: "Studies have consistently shown that recovery time for Laminaria digitata following harvesting or severe storm damage to a predisturbance state is in the order of 2 to 3 years (Perez 1971, Smith 1985). The time necessary for recovery is dependent on the season in which the disturbance happens and how effectively the disturbance clears the Laminaria species in question (Engelen et al 2011). Laminaria spp. show temperature associated peaks in fecundity typically in mid-summer and late autumn." Therefore, to reduce the time taken for reinstatement of the community, disturbance to the substrate should be kept to a minimum, if possible leaving some of the plants in situ on excavated material that will be reused to backfill the trench, and a time of mid-summer to late autumn may favour more rapid reinstatement of the Laminaria-dominated community.
General	All excavated surplus, unsuitable or waste materials will be transported off site for disposal. A licensed waste facility will be used for disposal and all relevant licences, permits and permissions required for the use of the licensed dump sites obtained. Vehicles used for the transport of waste material will also have the appropriate permits. Bituminous materials or other spoil contaminated with Polycyclic Aromatic Hydrocarbons (PAHs) will only be disposed of at an appropriately licensed facility. During the works, Best Practicable Means shall be employed to minimise air-blown dust being emitted from the site. This includes covering skips and slack heaps, netting of scaffolding, daily washing down of pavements or other public areas, and any other precautions necessary to prevent dust nuisances. Any works on the project site will be compliant with the contents and recommendations of British Standard 5228: Code of Practice for Noise Control on Construction and Demolition Sites, as well as the Safety, Health and Welfare at Work (General Application) Regulations 2007. All plant used during the works will be the quietest of its type which is available for carrying out the work required and shall be maintained in good condition with regard to minimising noise output.

6.3 Implementation of controls

The CMT shall have full responsibility for the implementation of the control measures required to mitigate any identified environmental risks.

7 Emergency Planning and Response

A PSCS shall be appointed for the project and shall ensure that installation works are carried out consistent with all existing emergency response plans and procedures. The PSCS shall

ensure the completion of an Emergency Response Procedure (ERP), and the CMT shall be responsible for the dissemination of the ERP to all employees, such that in the event of an emergency (environmental or otherwise), all identified countermeasures proceed in a controlled manner to minimise the effects.

8 Environmental Regulatory Requirements

A register of regulatory, legal and other requirements shall be prepared by the CMT. This shall summarise the major environmental legislation and other requirements to which the project must subscribe and shall typically list the following:

- General Environmental Legislation
- Flora & Fauna
- Emissions to Air
- Emissions to Water & Groundwater
- Waste Management
- Noise & Vibration

For each piece of legislation the index number, title, summary and relevance shall be provided. This register shall be reviewed and updated at 6 monthly intervals.

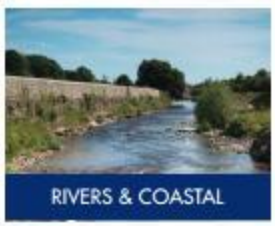
GEOTECHNICAL

WATER

MARINE

ENVIRONMENTAL

INFRASTRUCTURE & UTILITIES


RIVERS & COASTAL

BUILDINGS

ENERGY