CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP) & MITIGATION MEASURES REPORT

FOR PROPOSED DEVELOPMENT

AT

CARLEY'S BRIDGE STREET, ENNISCORTHY, CO. WEXFORD.

Prepared for

Torca Developments Limited

Prepared by

Traynor Environmental Ltd

Reference Number

21.423 TE

Date of Issue

23rd March 2022

Traynor Environmental Ltd.
Belturbet Business Park,
Creeny.
Belturbet,
Co Cavan
T: + 353 49 9522236
E: nevin@traynorenv.IE
www.traynorenvironmental.ie

Client: Torca Developments Limited

Traynor Env Ref: 21.423 TE

Status: Final Report

Date: 23rd March 2022

Report Title:	Construction Environmental Management Plan
Doc Reference:	20.423 TE
Client:	Torca Developments Limited
Authorised By:	 *Nevin Traynor BSc. Env, H.Dip I.T, Cert SHWW, EPA/FAS Cert. Environmental Consultant*

Rev No	Status	Date	Writer	Reviewer
1	Draft	17th September 2021	Angela Mc Dermott	Nevin Traynor
2	Final	23rd March 2022	Angela Mc Dermott	Nevin Traynor

This report refers, within the limitations stated, to the condition of the site at the time of the report. No warranty is given as to the possibility of future changes in the condition of the site. The report as presented is based on the information sources as detailed in this report, and hence maybe subject to review in the future if more information is obtained or scientific understanding changes.

CONTENTS PAGE

Tables

Figures

Appendix

1.0 INTRODUCTION

1.1 General

This Construction and Environmental Management Plan (CEMP) has been developed by Traynor Environmental Ltd. on behalf of Torca Developments Ltd., who intend to apply to An Bord Pleanála (ABP) for a strategic housing scheme located in the townland of Enniscorthy located to the south west of Enniscorthy Town. The application is being made under the Strategic Housing Provisions of the Planning and Development (Housing) and Residential Tenancies Act, 2016. The CEMP will require further updating and final agreement with the various stakeholders should the project secure Planning Permission, in line with all conditions which apply and in order to identify, assess and satisfy the contract performance criteria. The final CEMP will also require updating by the selected contractor.

This report provides the environmental management framework to be adhered to during the pre- commencement, construction/demolition and operational phases of the proposed development and it incorporates the mitigating principles to ensure that the work is carried out in a way that minimises the potential for any environmental impacts to occur. This report has been prepared in accordance with the mitigation measures and commitments made in the Environmental Impact Statement and other planning submissions for the development e.g. NIS

This CEMP identifies for the incoming Contractor, the key planning and environmental considerations that must be adhered to and delivered during site construction. This report is intended as a single, amalgamated document that can be used during the future phases of the project, as a single consolidated point of reference relating to all construction, environmental and drainage requirements for the Planning Authority, developer and contractors alike.

1.2 Scope Of CEMP

This report is presented as a guidance document for the management of construction/demolition activities and waste materials generated during the works and following completion. It clearly outlines the mitigation measures that are required to be adhered to in order to manage activities and waste materials in an appropriate manner. The report is divided into six sections, as outlined below.

Section 1 provides a brief introduction as to the scope of the report.

Section 2 outlines the site and project details and an overview of the proposed works along with detailing the targets and objectives of this plan.

Section 3 sets out details of the environmental management plan for the site as well as the environmental controls on site in particular noise and dust controls and the protection of water quality. A construction and demolition waste management plan is also provided.

Section 4 sets out a fully detailed implementation plan for the environmental management of the proposed project outlining the roles and responsibilities of the project team as well as an emergency response procedure in terms of site health and safety and environmental protection.

Section 5 consists of a summary table of all mitigation proposals to be adhered to during the implementation of the proposed project, categorised into two separate headings, 1) pre- commencement measures; 2) construction/demolition -phase measures.

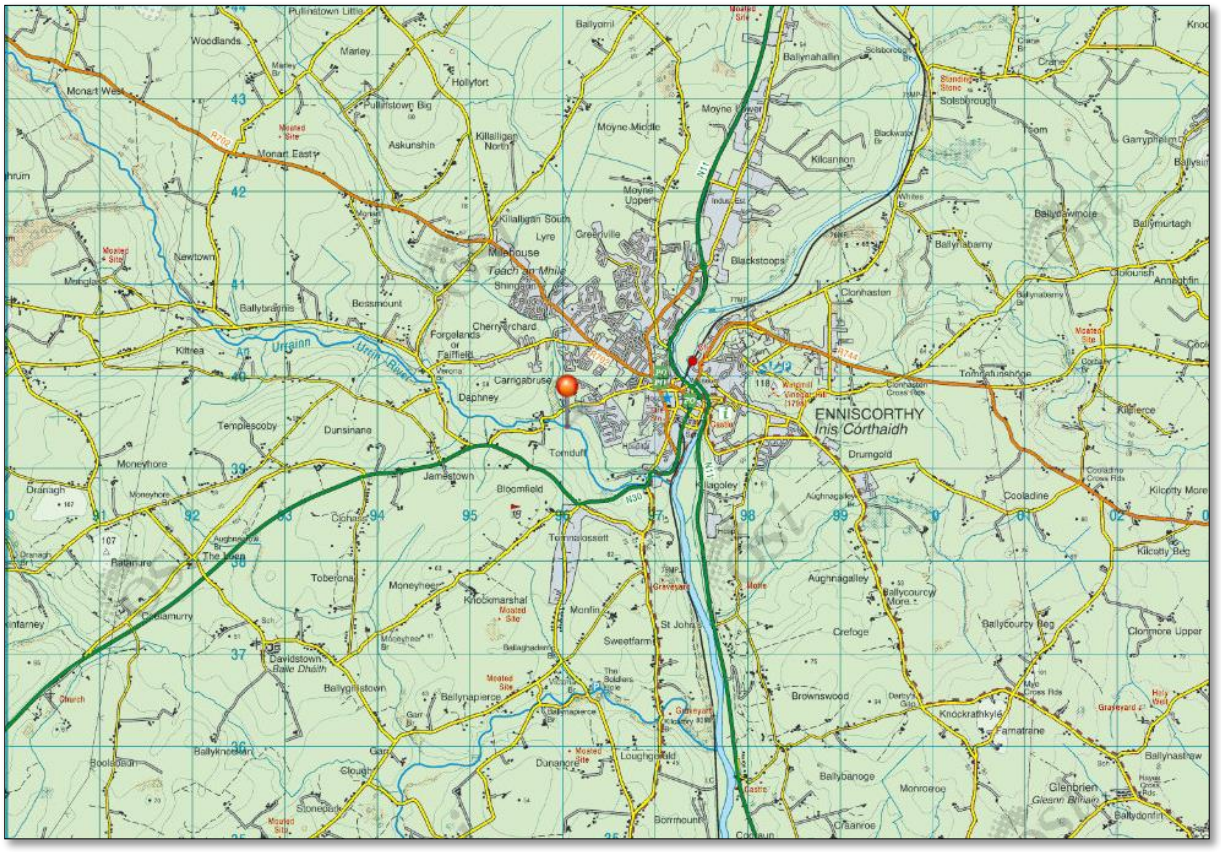
Section 6 provides details of the compliance review process to ensure all commitments set out in this document are being adhered to by means of audit and inspection.

2.0 SITE AND PROJECT DETAILS

2.1 Site Location

The proposed development is located on the outskirts of Enniscorthy town, approximately 1.1km southwest of the town centre. Access to the site will be via a local, third class road, known as Carley's Bridge road. The site is bounded to the north by the Carley's Bridge road, to the east by the rear gardens of the Millbrook Estate, and to the south by a small area of deciduous woodland. A site location map is presented in Figure 2.1 with the site location highlighted by a red marker. Design Drawings are included in Appendix A.

Figure 2.1 – Site Location Map



2.2 Description of the Proposed Development

The proposed Strategic Housing Development will comprise a residential development of 233 no. units (53 no., 3-4 bed houses and 180 no. 1/2/3 bed duplexes/apartments). Provision of a creche. Associated car parking, bicycle parking, and open spaces/landscaping. Vehicular and pedestrian accesses provided via Carley's Bridge Road to the north west, pedestrian/cyclist access via Carley's Bridge Road to the north and Millbrook Residential Estate to the east of the site. All associated site works including boundary treatments, plant, bin stores, site services and connections to facilitate the development.

Figure 2.2 – Site Layout Map

2.3 Targets and Objectives

The Key Site Targets are as follows:

- Ensure construction works and activities are completed in accordance with mitigation and best practice approach as presented in the Natura Impact Statement (NIS) and associated planning documentation;
- Ensure construction works and activities are completed in accordance with all planning conditions for the development;
- Ensure construction works and activities have minimal impact/disturbance to local landowners and the local community;
- Ensure construction works and activities have minimal impact on the Natural Environment specifically the Slaney River Valley SAC 000781 and Wexford Harbour and Slobs SPA 004076;
- Adopt a sustainable approach to construction; and,
- Provide adequate environmental training and awareness for all project personnel.

The Key Site Objectives are as follows:

- Using recycled materials if possible, e.g. excavated stone, clay and subsoil/topsoil material;
- Ensure sustainable sources for materials supply where possible;
- Avoidance of any pollution incident or near miss as a result of working around or close to existing watercourses (in particular the Slaney River Valley SAC and Wexford Harbour and Slobs SPA and having emergency measures in place;
- Avoidance of vandalism;
- Keeping all watercourses free from obstruction and debris;
- Keep impact of construction to a minimum on the local environment, watercourses and wildlife;
- Correct fuel storage and refuelling procedures to be followed;
- Good waste management and house-keeping to be implemented;

- Air and noise pollution prevention to be implemented; and,
- Monitoring of the works and any adverse effects that it may have on the environment.
- Construction Methods and designs will be altered where it is found there is an adverse effect on the environment;
- Comply with all relevant water quality legislation;
- Ensure a properly designed, constructed and maintained drainage system appropriate to the requirements of the site is kept in place at all times.

2.4 Construction Methodology Overview

2.4.1 Introduction

An experienced main contractor will be appointed for the civil works for the construction phase. The main contractor for the works will be required to comply with this CEMP and any revisions made to this document. An overview of the proposed construction Methodology is provided below under the following main headings.

- Site Enabling Works
- Temporary Site Compound
- Perimeter Hoarding
- Demolition of Existing Structures
- Site Excavation
- Site Roads
- Services and Utilities
- House/Duplex/Apartment Construction
- Landscaping Works
- Construction Works Sequence
- Headwall Works

2.4.2 Site Enabling Works

The site will be accessed from a local, third class road, known as Carley's Bridge road at the proposed vehicular access location. Prior to the commencement of any construction/demolition, this site entrance will need to be fully established with security gates. A parking area for construction worker's vehicles will be provided within the confines of the site. There will be no parking permitted for any vehicles associated with the project on the public road during the construction phase of the development.

2.4.3 Temporary Site Compound

One temporary construction compound is proposed for the construction phase of the proposed development, located to the south of the site within lands controlled by the developer. The proposed temporary compound area incorporates temporary site offices, staff facilities and car-parking areas.

A dedicated waste management area will be located within the compound, with waste to be sorted and collected from site by permitted collectors. Potable drinking water will be supplied via water coolers.

Temporary port-a-loo toilets located within portacabins will be used during the construction phase. Wastewater from staff toilets will be directed to a sealed storage tank, with all wastewater being tankered off site by permitted waste collector to wastewater treatment plants. Power will be supplied by a diesel generator, located within the compound until a temporary power supply is established. The construction compound will be used for temporary storage of some construction materials, prior to their delivery to the required area of the site.

2.4.4 Perimeter Hoarding

Perimeter hoarding will be provided around the site to provide a barrier against unauthorised access from the public areas. A controlled access point in the form of a gated main site entrance will be kept locked outside of normal working hours.

The hoarding will be well maintained and painted or covered with graphics portraying project information. Due to the nature of the works and the construction traffic using the site entrance, appropriate signage will be provided along the footpath and site entrance to alert pedestrians to the traffic exiting/entering the site. Likewise, appropriate signage will be installed within and outside the site to alert drivers of the pedestrians crossing ahead.

2.4.5 Demolition of existing structures

There is an existing 392m^2 of disused agricultural structure on the proposed site that will be demolished.

Standard best practice construction methodologies will be adhered to during the demolition process. The structures will be demolished by means of mechanical excavator.

Demolition figures published by the EPA in the 'National Waste Reports' and data from previous projects have been used to estimate the approximate break-down for indicative reuse , recycling and disposal targets of demolition waste. The approximate area of the existing structures to be demolished is c. 392m^2.

The following protocol is to be followed prior to all site clearance works;

- Demolition works are to be carried out in accordance with BS 6187 - Code of Practice for Demolition.
- Establish site welfare facilities with first aid station;
- Surveying and removal of any potentially hazardous materials;
- Detailed services survey to identify all buried services and services which potentially serve adjoining properties;
- Carrying out a complete soft strip of the buildings; Removal of free-standing materials which may remain in the property;
- Total demolition of the external structure of the existing buildings will be carried out using a demolition excavator.

2.4.6 Excavation

Excavation works are expected to be spread across a number of stages given the natural topography of the site, to be finalised by the main contractor once appointed. The appointed contractor will prepare a project-specific Soil Management Plan which will detail the following:

- Detail in-situ (prior to excavation) and ex-situ (post excavation) methodologies to classify waste soil for appropriate disposal, in accordance with relevant Irish and EU legislation and guidance.
- Identify reuse requirements and soils suitable for reuse on site in consultation with the design team, including assessment methodology to determine which soils are suitable for re-use onsite.

2.4.7 Site Roads

The construction methodology for the proposed access road is outlined as follows:

- Excavation will take place until a solid base is reached.
- The base will be overlain with up to 500mm of granular fill.
- A layer of geogrid/geotextile may be required at the surface of the base.

- A final hard surface layer will be placed over the excavated road to provide a road profile to accommodate construction traffic.
- Prior to completion of the construction works on site, the finished asphalt road surface will be applied.

2.4.8 Services and Utilities

Wastewater from the application site will be directed to the Enniscorthy Wastewater Treatment plant and Irish Water have approved this connection.

It is proposed to split the stormwater drainage network for the development into two zones. There will be an attenuation system for each zone and the attenuated stormwater will discharge into the River Urrin. Stormwater runoff will be limited to the greenfield run- off rate and in addition, attenuation will be provided for a 1 in 30 year storm event, and the site will be designed to accommodate the additional waters generated in a 1 in 100 year storm event, without flooding any property within the proposed development or any neighbouring property. The site drainage layout is included in Appendix A.

The installation of services and connections to the residential units will be carried out as follows:

- The area where excavations are planned will be surveyed and all existing services will be identified.
- All relevant bodies i.e. ESB, Gas Networks Ireland, Eir, Wexford County Council etc. will be contacted and all drawings for all existing services sought.
- A traffic management plan will be produced if required for connection works to the existing service network.
- A road opening licence will be obtained where required for connection to existing services.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- A tracked 360-degree excavator or similar will be used to excavate the trench to the required dimensions.
- All excavated material will be removed to an authorised waste recovery facility or, if suitable, stock piled and reused for backfilling and landscaping where appropriate.
- Once the trench has been excavated the ducting &'pipework will then be placed in the trench as per specification.
- Once the service ducts/pipework has been installed couplers will be fitted as required and capped to prevent any dirt etc. entering the ducts/pipes.
- The as built location of the ducting/pipework will be surveyed using a total station.
- Backfill material will be carefully placed so as not to displace the ducting/pipework within the trench.
- The appropriate warning/marker tape will be installed above the ducts/pipes at the appropriate depths.
- The surface will be reinstated as per original specification or to the requirements of the site layout Local Authority as appropriate.

2.4.9 Housing/Duplex/Apartment Construction

The buildings will be constructed by the following methodology:

- The area where excavations are planned will be surveyed and all existing services will be identified.
- All relevant bodies i.e. ESB, Bord Ga.is, Eircom, Wexford County Council etc. will be contacted and all drawings for all existing services sought.
- The area of each building will be marked out using ranging rods or wooden posts and the soil and overburden stripped and removed to nearby storage area for later use in landscaping. Any excess material will be sent to an authorised recovery facility.
- All plant operators and general operatives will be inducted and informed as to the location of any services.
- A tracked 360-degree excavator or similar will be used to excavate the area down to the level indicated by the designer and appropriately shuttered reinforced concrete will be laid over it;

- The block work walls will be built up from the foundation (including a DPC) and the floor slab
- constructed, having first located any ducts or trenches required by the follow on mechanical and electrical contractors;
- The block work will then be raised to wall plate level and the gables & internal partition walls formed. Scaffold will be erected around the outside of the buildings for this operation;
- Any concrete slabs will be lifted into position using an adequately sized mobile crane;
- The timber roof trusses will then be lifted into position using a telescopic load all or mobile crane depending on site conditions. The roof trusses will then be felted, battened, tiled and sealed against the weather.
- Windows, electrics, plumbing and all other building components and services will be installed in as timely a manner as is possible.
- Each building will be inspected and certified by an engineer at the appropriate stages of construction.

2.4.10 Landscape Works

Prior to completion of works on the development site, the landscaping works will be carried out. The finishes include areas of amenity grassland and tree planting. This work will be carried out before the completion of each phase of construction in order to ensure that the development will be aesthetically pleasing place for residents to live. These works will involve the use of plant and machinery in order to carry out tasks such as earth moving. Materials which have been stockpiled for the task will be used as much as possible, and material will only be imported where it is required. Solid barriers will be erected around the site boundary for the duration of the construction works.

2.4.11 Construction Works Sequence

The sequencing of construction phase works has is summarised Table 2-1. This provides a schedule of the expected sequence of operations for the works to be completed during the construction phase.

Table 2.1 - Construction Works phases

No.	Waste Material Arising
1	Foundation's excavation and formation level establishment
2	Foundations: formwork and steel reinforcement installation
3	Masonry Blockwork: including insulation installation
4	Carpentry 1st fix timber roof structure and coverings
5	Windows/doors installation
6	Plastering(external)
7	Painting(external)
8	Internal Services
9	Plastering (Internal)
10	Floors (Sand and Cement Screed)
11	Services connection: electrical sewage telecoms
12	Paining
13	Tiling: Floors, Walls etc.
14	Carpentry 2nd fix timber roof structure and coverings
15	Landscaping
16.	Road Finishes

2.4.12 Headwall Works

The timing of head wall installation will be scheduled to ensure no instream works shall be carried out during the closed season for instream works. (October 1st to June 30th). IFI will be notified prior to works taking place. The timing of works shall be in accordance with to IFI (2016) Guidelines on the Protection of fisheries during construction works in and adjacent to water. Works associated with the headwall construction will be supervised by an Ecological Clerk of Works (ECoW.

The Headwall will be installed using the following methodology.

- Prior to installation of the headwall, a dry section will be created within the river bank using sand bags.
- Sand will be delivered to site via the agreed access into the works area. 1ton sands bags will be filled with the use of a suitable sized excavator) at least 30m away from the watercourse. Bags will be doubled up.
- A sand bag bund will be constructed out from the river bank to create a dry working area measuring approximately 4.0m wide x 2.0m long. A double row of bags will be placed on the bed of the river, with a single row (placed centrally above the bottom rows). Care will be taken when removing wet sand bags in order to prevent potential sand entering the river
- Any remaining surface water within the bunded area will be pumped from within the bund using a suitably sized de-watering pump to the pre-constructed settlement area described below before being discharged and entering the watercourse.
- The excavator will commence excavation works and reduce the ground to the correct formation level. A depth of 100mm of semi dry concrete will be placed and compacted underneath the headwall structure.
- A settlement area for treatment of pumped water from excavations/the bunded area will be established on site. The settlement area will consist of silt fence material surrounded by a row of sandbags. A dewatering/silt bag will be fitted at the discharge point. Alternatively silt laden waters will be tankered off site to a licenced facility.
- Precast headwall will be delivered to site, offloaded and lifted into place using the on-site excavator. Headwall to be checked for plumbness once dropped into position.
- The headwall will consist of reinforced pre-cast concrete and will be installed on a concrete blinding base.
- The proposed discharge pipe will be fitted with a hydro break.
- The outfall pipe to have non-return valve installed to prevent flooding of the interceptor in the event of high-water level in the river.
- Biosecurity measures will be strictly adhered to throughout the proposed works. Measures will be in accordance with IFI (2010) Biosecurity Protocol for Field Survey Work. Where staff are working instream, staff footwear and PPE will be inspected on daily completion of the works and vegetation or debris removed. Footwear will be dipped in or scrubbed with a disinfectant solution (e.g. 1% solution of Virkron Aquatic or another proprietary disinfection product) and thoroughly dried afterwards. Sand bags placed instream will not be re-used in other watercourses.

3.0 ENVIRONMENTAL MANAGEMENT

3.1 Site Drainage

Prior to the commencement of any construction activities, the necessary mitigation measures will be put in place to ensure the protection of surface water during the works.

Particular emphasis will be placed on hazardous materials entering the surface water management system as well as spills or leaks of fuel oils. Section 4 provides an Emergency Response Plan for dealing with spillages which may result in adverse environmental effects.

The excavation phase of the development has the potential to encounter sub-surface and ground water during the works. The Flood Risk Assessment (FRA) completed by IE Consulting reported the flowing:
The planning application was accompanied by a Site-Specific Flood Risk Assessment Report (IE Consulting, 2018), prepared in accordance with "The Planning System and Flood Risk Management Guidelines – DoEHLG 2009). It was determined that the primary flood risk to the proposed site can be attributed to a fluvial flood event in the River Urrin and River Lyre. Using a detailed Digital Terrain Model it was determined that the south-western area of the site falls within Flood Zone A and Flood Zone B. Most of the site falls within Flood Zone C. The finished floor levels of the proposed houses, the access road and footpath will all be above the 1 in 1000-year flood level. Flood storage compensation shall be provided to account for flood waters that may be displaced as a result of raising the grounds in the southern areas of the proposed development site above the 1 in 1000-year flood level. In consideration of the implementation of the recommendations of the Flood Risk Assessment, it was determined that the flood risk to and from the proposed development site is low. Development of the site is not expected to result in an adverse impact to the hydrological regime of the area if increase flood risk elsewhere. It can therefore be concluded that the proposed development (on the entire site) will have no noticeable impact upon the Slaney River Valley SAC or the Wexford Harbour and Slobs SPA arising from potential flood events.

3.1.1 Surface water Drainage

A new surface water sewer network will be provided for the proposed development which will be entirely separated from the foul water sewer network. It is proposed to split the stormwater drainage network for the development into two zones. There will be an attenuation system for each zone and the attenuated stormwater will discharge into the River Urrin. Stormwater runoff will be limited to the greenfield run- off rate and in addition, attenuation will be provided for a 1 in 30-year storm event, and the site will be designed to accommodate the additional waters generated in a 1 in 100 year storm event, without flooding any property within the proposed development or any neighbouring property.

3.1.2 Potable water Supply

Water supply to the site will be via connection to the public (Irish Water) watermain. The site plan showing the mains water layout is included in Appendix A.

3.1.3 Foul Drainage

Wastewater from the application site will be directed to the Enniscorthy Wastewater Treatment plant and Irish Water have approved this connection.

3.2 Cement Based Products Control Measures

The complete washing out of concrete trucks will not be permitted at the site. Suppliers will be directed back to their own facility to complete the washout process. However, a washout area for chute cleaning will be provided at various

locations in close proximity to the concrete pour locations.

The following mitigation measures are proposed to avoid release of cement leachate from the site:

- Ready-mixed supply of wet concrete products and where possible, emplacement of pre-cast elements, will take place. Where possible pre-cast elements for culverts and concrete works will be used;
- No washing out of any plant used in concrete transport or concreting operations will be allowed on-site;
- Where concrete is delivered on site, only chute cleaning will be permitted, using the smallest volume of water possible. No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed.
- Use weather forecasting to plan dry days for pouring concrete;
- Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event;

3.3 Refuelling, Fuel and Hazardous Materials Storage

Mitigation measures proposed to avoid release of hydrocarbons at the site are as follows:

- Oils, fuel, and all potentially harmful materials will be stored within an impermeable proprietary container.
- Mobile storage such as fuel bowsers will be bunded to prevent spills. Tanks for bowsers and generators shall be double skinned.
- Refuelling will only take place at distances greater than 50 metres from nearest water courses.
- No hazardous substance shall be permitted to be left unattended at any time when taken outside the secured storage.
- Potential impacts caused by spillages etc. during the construction phase will be reduced by keeping spill kits and other appropriate equipment on-site.
- All construction vehicles will be regularly checked and maintained prior to arrival at the site to prevent hydrocarbon leakage.
- Hoses and valves will be checked regularly for signs of wear and will be closed and securely locked when not in use.
- Fuels, lubricants, and hydraulic fluids for equipment used on the construction site should be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment in accordance with current best practice.
- Waste oils and hydraulic fluids will be collected in leak-proof containers and removed from the site for disposal or re-cycling.
- All pumps using fuel or containing oil will be locally and securely bunded where there is the possibility of discharge to waters.
- Refuelling will only be carried out by trained personnel
- Oil booms and oil soakage pads will be kept on site to deal with any accidental spillage.

3.4 Spill Control Measures

It is not proposed to store any large volumes of oils/fuels for the purpose of refuelling on the site. A bunded fuel tank will be stored at the temporary construction compound which will be used for smaller plant and equipment i.e. site dumpers and teleporters. This will be stored on an impermeable surface and will be equipped with spill kit. Onsite plant (excavator) will be refuelled by an external contractor who will call to site as required. Road vehicles will not be refuelled at the site. In the event of minor spills and leaks from road vehicles and the onsite excavator the following steps provide the procedure to be followed in the event of any significant spill or leak.

- 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 or watercourses.
- 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 applicant immediately giving information on the location, type, and extent of the spill so that they can take appropriate action and further investigate the incident to ensure it has been contained adequately.
- External consultants will 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 applicant will notify the appropriate regulatory body such as Wexford County Council if deemed necessary

3.5 Dust Control

Construction dust can be generated from many on-site activities such as excavation and backfilling. The extent of dust generation will depend on the type of activity undertaken, the location, the nature of the dust, i.e. soil, sand, etc and the weather. In addition, dust dispersion is influenced by external factors such as wind speed and direction and/or, periods of dry weather. Construction traffic movements also have the potential to generate dust as they travel along the haul route. The measures below will also prevent construction debris arising on the public road network.

Proposed measures to control dust include:

- Any site roads with the potential to give rise to dust will be regularly watered, as appropriate, during dry and/or windy conditions.
- The designated public roads outside the site and along the main transport routes to the site will be regularly inspected by Site Management for cleanliness, and cleaned as necessary.
- Material handling systems and material storage areas will be designed and laid out to minimise exposure to wind;
- Water misting or bowsers will operate on-site as required to mitigate dust in dry weather conditions;
- The transport of soils or other material, which has significant potential to generate dust, will be undertaken in tarpaulin-covered vehicles where necessary;
- All construction related traffic will have speed restrictions on un-surfaced roads to 15 kph;
- Daily inspection of construction sites to examine dust measures and their effectiveness.
- When necessary, sections of the haul route will be swept using a truck mounted vacuum sweeper; and,
- All vehicles leaving the construction areas of the site will pass through a wheel cleansing area prior to entering the local road network.

3.6 Noise and Vibration Control

The operation of plant and machinery, including construction vehicles, is a source of potential noise impacts During the works, any plant introduced to the site will not be excessively noisy. Exhaust and silencer systems on plant will be maintained in a satisfactory condition and operating correctly at all times. Defective silencers will be immediately replaced.

Proposed measures to control noise include:

- Diesel generators will be enclosed in sound proofed containers to minimise the potential for noise impacts;
- Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All construction plant and equipment to be used on-site will be modem equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations;
- Plant with the potential of generating noise or vibration will be placed as far away from sensitive properties as permitted by site constraints.
- Regular maintenance of plant will be carried out in order to minimise noise emissions. Particular attention will be paid to the lubrication of bearings and the integrity of silencers;
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the works;
- Compressors will be of the "sound reduced" models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers;
- Machines, which are used intermittently, will be shut down during those periods when they are not in use;

3.7 Invasive Species Management

During the site walkover, no incidences of Japanese knotweed were noted. However, Indian balsam was noted as occurring extensively along the riparian edge of the River Urrin, most notability in the south-western corner. It is also extending into the lower section of the drain that bisects the site.

The following general biosecurity measures will be in place:

- Good construction site hygiene will be employed to prevent the introduction and spread of problematic invasive alien plant species (e.g. Rhododendron, Japanese Knotweed, Giant Rhubarb etc.) by thoroughly washing vehicles prior to entering the site.
- Any soil and topsoil required on the site will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed that none are present.

Records for the presence of Japanese knotweed Fallopia japonica and Indian balsam Impatiens glandulifera exist for the Enniscorthy Rural townland. These are high impact invasive species. They spread rapidly and easily and have a significant negative impact upon native flora and local biodiversity. These species are both listed under Schedule Three of the Birds and Habitats Regulations 2011.

3.8 Traffic Management Proposals

3.8.1 Construction Traffic Access and Management

During construction, the appointed contractor will be required to prepare a Construction Traffic Management Plan.

Below is a list of the proposed traffic management measures to be adopted during the construction works. Please note that this is not an exhaustive list, and it will be the appointed contractor's responsibility to further develop the traffic management measures which will be set out within their Construction Phase Traffic Management Plan.

- Warning signs / Advanced warning signs will be installed at appropriate locations in advance of the construction access locations;
- Construction and delivery vehicles will be instructed to use only the approved and agreed means of access; and movement of construction vehicles will be restricted to these designated routes;
- Appropriate vehicles will be used to minimise environmental impacts from transporting construction material,

for example the use of dust covers on HGVs carrying dust producing material;

- Speed limits of construction vehicles to be managed by appropriate signage, to promote low vehicular speeds;
- No vehicle will be allowed to stop or park on the access road to the proposed development site.
- Ample parking will be provided within the site to cater for the staff and visitors during the construction phases of the proposed development.
- On site wheel washing will be undertaken for construction vehicles to remove any debris prior to leaving the site, to remove any potential debris on the local roads if it is deemed necessary;
- All vehicles will be suitably serviced and maintained to avoid any leaks or spillage of oil, petrol, or diesel. All scheduled maintenance will not be carried out on the public highway; and
- A detailed haulage plan will be put in place to ensure minimal impact on the surrounding road network

3.9 Environmental Management Implementation

The Site Supervisor/Construction Manager will have overall responsibility for the organisation and execution of the construction phase of the development in accordance with the provisions of this CEMP. A series of daily checks of all works and the implementation of the mitigation measures set out throughout this document will be maintained. The findings of these daily checks will be documented by the site manager and will inform the overall site audit and inspection procedure as set out in Section 4.

3.10 Construction & Demolition Waste Management Plan

A detailed Construction and Demolition Waste Management Plan (CDWMP) has also been complete for the development. The CDWMP outlines the best practice procedures during the demolition of the existing building on site and the construction phase of the project The CDWMP outlines the methods of waste prevention and minimisation by recycling, recovery, and reuse at each stage. Disposal of waste will be seen as a last resort.

The CDWMP will be properly adhered to by all staff involved in the project which will be outlined within the induction process for all site personnel. The waste hierarchy should always be employed when designing the plan to ensure that the least possible amount of waste is produced during the construction phase. Reuse of certain types of construction wastes will cut down on the cost and requirement of raw materials therefore further minimising waste levels.

4.0 IMPLEMENTATION

4.1 Construction Manager/Site Supervisor

The Construction Manager will have overall responsibility for the organisation and execution of all related environmental activities as appropriate, in accordance with regulatory and project environmental requirements. The duties and responsibilities of the Construction Manager will include:

- Ensure that all works are completed safely and with minimal environmental risk;
- Approve and implement the Project CEMP and supporting environmental documentation, and ensure that all environmental standards are achieved during the construction phase of the project;
- Be aware of the relevant legislation, codes of practice, guidance notes and good environmental working practice relevant to their work;
- Ensure compliance through audits and management site visits;
- Ensure timely notification of environmental incidents; and,
- Ensure that all construction activities are planned and performed such that minimal risk to the environment is introduced.

4.2 Environmental Manager

The main contractor appointed to carry out the works on site will be required to provide a level of supervision on site in the form of an Environmental Manager who will also fulfil the role of Waste Manager. Due to the scale of activity proposed for the site, this role can be adopted by a Site Manager/foreman as part of their duties. In general, this Environmental Manager will maintain responsibility for monitoring the works and Contractors/Sub-contractors from an environmental perspective.

The Environmental Manager will act as the regulatory interface on environmental matters by reporting directly to the client and liaising with the County Council and other statutory bodies as required. The Site Environmental Manager will report to the Site Supervisor/Construction Manager. The duties of the appointed Environmental Manager are summarised as follows:

- Maintain and update as required the Construction Phase CEMP and supporting environmental documentation and review/approval of contractor method statements;
- Undertake inspections and reviews to ensure the works are carried out in compliance with the CEMP;
- Monitor the implementation of the CEMP, particularly all proposed/required Environmental Monitoring;
- Generate environmental reports as required to show environmental data trends and incidents and ensure environmental records are maintained throughout the construction period;
- Advise site management contractor/sub-contractors on:
    - Prevention of environmental pollution and improvement to existing working methods;
    - Changes in legislation and legal requirements affecting the environment; Suitability and use of plant, equipment, and materials to prevent pollution;
    - Environmentally sound methods of working and systems to identify environmental hazards;
- Ensure proper mitigation measures are initiated and adhered to during the construction phase; liaise with Project Team and present the findings of site audits/inspections that are completed;
- Ensure adequate arrangements are in place for site personnel to identify potential environmental incidents;
- Ensure that details of environmental incidents are communicated in a timely manner to the relevant regulatory authorities, initially by phone and followed up as soon as is practicable by email;
- Support the investigation of incidents of significant, potential, or actual environmental damage, and ensure corrective actions are carried out, recommend means to prevent recurrence and

communicate incident findings to relevant parties;

- Identify environmental training requirements and arrange relevant training for all levels of site- based staff/workers; and
- Fulfil the role of Waste Manager and implement the objectives of the Waste Management Plan as set out in Section 3 above.
- Coordinate the Emergency Response in terms of site health and safety and environmental protection as outlined in the section below

4.3 Emergency Response Plan

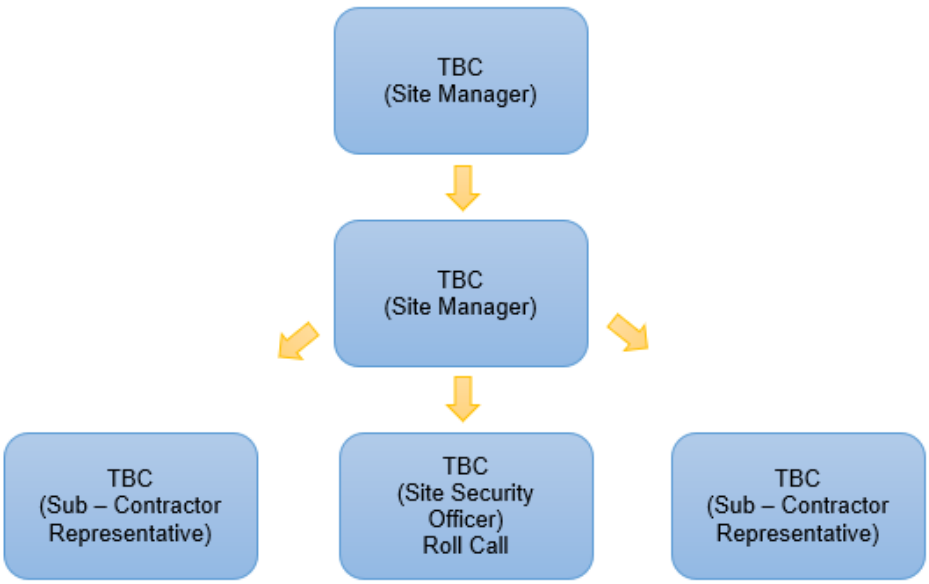
The Emergency Response Plan (ERP) is presented in this section of the CEMP. It provides details of procedures to be adopted in the event of an emergency in terms of site health and safety and environmental protection. The site ERP includes details on the response required and the responsibilities of all personnel in the event of an emergency. The ERP will require updating and submissions from the contractor/PSCS and suppliers as the proposed project progresses. Where sub-contractors that are contracted on site are governed by their own emergency response procedure a bridging arrangement will be adopted to allow for inclusion of the sub- contractor's ERP within this document.

This is a working document that requires updating throughout the various stages of the project.

4.3.1 Roles and Responsibilities

The chain of command during an emergency response sets out who is responsible for coordinating the response. The Site Manager will lead the emergency response which makes him responsible for activating and coordinating the emergency response procedure. The other site personnel who can be identified at this time who will be delegated responsibilities during the emergency response are presented in Figure 4.1. In a situationwhere the Site Manager is unavailable or incapable of coordinating the emergency response, the responsibility will be transferred to the next person in the chain of command outlined in Figure 4.1. This will be updated throughout the various stages of the project.

Figure 4.1 Emergency Response Procedure Chain of Command



4.3.2 Initial Steps

In order to establish the type and scale of potential emergencies that may occur, the following hazards have been identified as being potential situations that may require an emergency response in the event of an occurrence.

Table 4.1 – Hazard Associated with Potential Emergency Situation

Hazard	Emergency Situation
Construction Vehicles: Dump trucks, tractors, excavators, cranes etc.	Collision or overturn which has resulted in operator or third-
Abrasive wheels/Portable Tools.	Entanglement, amputation or electrical shock associated with portable tools.
Contact with services.	Electrical shock or gas leak associated with an accidental breach of underground services.
Fire	Injury to operative through Exposure to fire
Sickness	Illness unrelated to site activities of an operative e.g. heart attack, loss of consciousness, seizure.

In the event of an emergency situation associated with, but not restricted to, the hazards outlined in Table 4.1 the Site Manager will cany out the following:

- Establish the scale of the emergency situation and identify the number of personnel, if any, have been injured or are at risk of injury.
- Where necessary, sound the emergency siren/fog horn that activates an emergency evacuation on the site.
- Make safe the area if possible and ensure that there no identifiable risk exists with regard to dealing with the situation e.g. if a machine has turned over, ensure that it is in a safe position so as not to endanger others before assisting the injured.
- Contact the required emergency services or delegate the task to someone if he is unable to do so will delegating the task, ensure that they follow the procedures for contacting the emergency services as set out in Section 4.4.
- Take any further steps that are deemed necessary to make safe or contain the emergency incident e.g. cordon off an area where an incident associated with electrical issues has occurred.
- Contact any regulatory body or service provider as required e.g. ESB Networks the numbers for which as provided in Section 4.4.2.
- Contact the next of kin of any injured personnel where appropriate. The procedure for this is outlined in Section 4.4.3.

4.3.3 Spill Control Measures

Every effort will 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 will 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 will notify the appropriate regulatory body such as Wexford County Council, The Department of Communications, Climate Action and Environment and the Department of Housing, Planning and Local Government , 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 will 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 will provide information such as the cause, extent, actions and remedial measures used to follow the incident. The form will 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 (pSPA or cSAC), the Environmental Manager will liaise with a Project Ecologist.
- A record of all environmental incidents will be kept on file by the Environmental Manager and the Main Contractor. These records will be made available to the relevant authorities such as Wexford County Council.

The Environmental Manager will 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 will advise the Main Contractor as appropriate.

4.4 Contacting Emergency Services

4.4.1 Communication Procedure

In the event of requiring the assistance of the emergency services the following steps should be taken:

Stay calm.

It's important to take a deep breath and not get excited. Any situation that requires 999/112 is, by definition, an emergency. The dispatcher or call-taker knows that and will try to move things along quickly, but under control.

Know the location of the emergency and the number you are calling from.

This may be asked and answered a couple of times but don't get frustrated. Even though many emergency call centers have enhanced capabilities meaning they are able to see your location on the computer screen they are still required to confirm the information. If for some reason you are disconnected, at least emergency crews will know where to go and how to call you back.

Wait for the call-taker to ask questions, then answer clearly and calmly.
If you are in danger of assault, the dispatcher or call-taker will still need you to answer quietly, mostly "yes" and "no" questions.

If you reach a recording, listen to what it says.
If the recording says your call cannot be completed, hang up and try again. If the recording says all call takers are busy, WAIT. When the next call-taker or dispatcher is available to take the call, it will transfer you.

Let the call-taker guide the conversation.
He or she is typing the information into a computer and may seem to be taking forever. There's a good chance, however, that emergency services are already being sent while you are still on the line.

Follow all directions.
In some cases, the call-taker will give you directions. Listen carefully, follow each step exactly, and ask for clarification if you don't understand.

Keep your eyes open.
You may be asked to describe victims, suspects, vehicles, or other parts of the scene.

Do not hang up the call until directed to do so by the call taker.

4.4.2 Contact Details

A list of emergency contacts is presented in table 4.2. A copy of these contacts will be included in the site Safety Manual and in the site offices and the various site welfare facilities.

Table 4.2 Emergency Contacts

Contact	Telephone No.
Emergency Services - Ambulance, Fire, Gardai	999 / 112
Doctor – Enniscorthy Medical Centre	(053) 923 9512
Hospital - St. John's Community Hospital	(053) 923 3228
ESB Emergency Services	1850 372 999
Gas Networks Ireland	1850 20 50 50
Gardai - Enniscorthy Garda Station	(053) 924 2580
Health and Safety Coordinator - Health & Safety Services	TBC
Health and Safety Authority	1890 289 389
Project Supervisor Construction Stage (PSCS): TBC	TBC
Project Supervisor Densify Stage (PSDS): TBC	TBC
Client - Torca Developments Limited	TBC

4.4.3 Procedure for Personnel Tracking

All operatives on site without any exception will have to undergo a site induction where they will be required to provide personal contact details which will include contact information for the next of kin. In the event of a site operative becoming involved in an emergency situation where serious injury has occurred, and hospitalisation has taken place, it will be the responsibility of the Site Manager or next in command if unavailable to contact the next of kin to inform them of the situation that exists.

4.4.4 Induction Checklist

Table 4.3 provides a list of items highlighted in this ERP which must be included or obtained during the mandatory site induction of all personnel that will work on the site. This will be updated throughout the various stages of the project.

Table 4.3 - Emergency Response Plan Items Applicable to the Site Induction Process

Items to be included in Site Induction	Status
All personnel will be made aware of the evacuation procedure during site induction.	
Due to the location of the site it may be necessaryto liaise with and assist the emergency services on the ground in terms of locating the site. This may involve providing an escort from a designated meeting point that may be located more easily by the emergency services. This should form part of the site induction to make new personnel and sub- contractors aware of any such arrangement or requirement if applicable.	
All operatives on site without any exception will have undergo a site induction where they will be required to provide personal contact details whichwill include contact information for the next of kin.	

5.0 MITIGATION MEASURES

The Mitigation Measures are presented in the following pages. Any conditions attached to a grant of planning permission will be incorporated into the audit list including an addition or regulatory amendment or standard changes prior to or during construction.

By presenting the mitigation proposals in the below format, it is intended to provide an easy to audit list that can be reviewed and reported on during the future phases of the project The tabular format in which the below information is presented, can be further expanded upon during the course of future project phases to provide a reporting template for site compliance audits.

The primary method of mitigation for any development should be avoidance of that impact. Consideration was therefore given to avoiding any direct or indirect impacts on the sensitive ecological receptors within the site.

In order to avoid protect the existing ecological features on site and surrounding area, including the Slaney River Valley SAC 000781 and Wexford Harbour and Slobs SPA 004076, the following mitigation measures are recommended. It is recommended that the works are overseen by an Ecological Clerk of Works (ECoW) who should be employed for the duration of the works, including site preparation, main works on site and site clean up and landscaping. The mitigation measures outlined in this report are site specific and they have been incorporated into a Construction and Environmental Management Plan.

Table 5.1 - Mitigation Measures as Outlined in the NIS for the Proposed Development

No.	Mitigation Measures	Audit Result	Action Required
	Pre-Commencement Phase		
1	Site preparation and construction must be confined to the development site only and it must adhere to all the mitigation measures outlined in this NIS and the EcIA. Work areas should be kept to the minimum area required to carry out the proposed works and the area should be clearly marked out in advance of the proposed works. On foot of the EcIA and the separate NIS and the iterative process involved in the preparation of both these reports, the applicant is aware of the ecological sensitivity of the location. Upon appointment of the construction contractor, this team will also be made aware of the sensitivity of the site and the mitigation measures required to protect groundwater and surface water quality. All measures will be undertaken from initial site works until the completion of all construction works on site.		
2	Prior to the commencement of developments on site, the site engineer and the contractors must be made aware of the ecological sensitivity of the site and its connection to the Slaney River Valley SAC and the Wexford Harbour and Slobs. They must be made familiar with the mitigation measures outlined in this NIS report and the EcIA. It is recommended that the ECoW engages all appointed personnel in a one-day Biodiversity and Ecological Mitigation training course to highlight the importance of adhering to the mitigation measures in this NIS and the EcIA		
3	In accordance with the policies and objectives of the Regional and County Development Plans, the existing green infrastructure (GI) of the site, i.e., the treelines and hedgerows, should be incorporated into the development in so far as possible. In order to prevent damage to treelines and notable trees in the site that are to be retained, then protective barrier fencing should be erected prior to the commencement of site clearance works. This fencing should be erected just beyond the crown of the largest tree. Any natural verges or hedgerows within the site should also be fenced off prior to the commencement of works. There must be no dumping or storage of construction waste or machinery in these areas during construction. A full methodology for the protection of trees that are to be retained has been presented in the Arboricultural Method Statement.		
4	Where it is deemed absolutely necessary to remove trees within the treelines, then trees with no bat roost potential should be identified first prior to the removal of native trees with bat roost potential. Where it is deemed necessary to remove any tree, it must only be done outside of the bird nesting season (March – August). Trees should be soft felled where possible.		
5	Tree removal must only occur under guidance of a consultant arborist.		

6	All construction waste must be removed from site by a registered contractor to a registered site. Evidence of the movement and safe disposal of the construction waste must be retained and presented to Local Authority upon request. The applicants and construction contractors will be responsible for the safe removal of any construction waste generated on site. Removal of the construction waste should occur as soon as possible after demolition / construction works.		
7	All topsoil generated from site works should be stored within the application site until it is required for landscaping. It must not be stored outside the site boundaries and it must not be used for the infilling of any area outside of the site. It must be stored at appropriate locations within the site, away from the river and drainage ditches. If there is more top soil than is needed for landscaping, it must be removed from site by a registered contractor for appropriate use elsewhere. The end location of the top soil must be identified and records presented to the local authority if requested.		
8	A detailed landscape plan has been prepared for the site, which incorporates the creation of many habitats and biotomes, using mostly native species. The concepts presented in this landscape plan must be implemented as part of this development. The landscaping works should be overseen by a professional who can ensure the delivery of the landscape plans as described.		
9	Indian balsam occurs along the banks of the River Urrin in the southern section of the site and this is a listed invasive species. A treatment plan for the removal of this species should be provided and work should be initiated prior to the commencement of site works. Unlike Japanese knotweed, balsam is relatively easy and cost effective to remove. The plants have a shallow root ball and can be easily pulled out. This should be done before the plant flowers and seeds. Chemical treatment is also an option, but along watercourses this is not ideal, as it allows for the possibility of pollution of the water with herbicides		
10	Water safety measures such as railings along the River Urrin should not impede the free access of mammals along the riparian verges.		
Construction Phase			
Construction Management		**Audit Result**	**Action Required**
11	A site-specific Health and Safety Plan will be in place for the proposed facility. In the event that Covid-19 restrictions are in place at the commencement of the construction phase, the Health and Safety Plan will include provisions regarding compliance with relevant Covid-19 restrictions. All site staff will be made aware of and adhere to the Health and Safety Plan.		
12	A Site Induction Process for all site staff will be maintained which will also ensure all staff will have current 'Safe Pass' cards		
13	Only appropriately qualified and trained personnel will be permitted to operate machinery onsite.		

14	The proposed development site will not be accessible to members of the public. Appropriate barriers and signage will be used. The site will also be secured to prevent the risk of trespass through signage and provision of barriers.		
15	Ready-mixed supply of wet concrete products and where possible, emplacement of pre- cast elements, will take place. No batching of wet-cement products will occur on site.		
16	No washing out of any plant used in concrete transport or concreting operations will beallowed on-site;		
17	Whilst significant inundation of surface or ground water is not anticipated, any such water arisings that require pumping out during construction will be discharged to groundwithin the site through a silt bag. There will be no direct discharge of construction waters to any watercourse.		
Soil and Ground Water Protection		**Audit Result**	**Action Required**
18	A desktop hydrogeological impact assessment of the proposed development has been prepared by IE consulting. This report contains mitigation for the protection of the groundwater during construction and operation. These measures included: • No storage of fuel or polluting chemicals will occur within 50 meters of the surface water network (Urrin River and surrounding drains) and will be stored in specially designed bunded refuelling areas. Only a designated person will be authorised to refuel machinery on the site. • The containers and bunding areas used to store hydrocarbons and other chemicals will be capable of storing 110% of the volume to be stored. • Fuel and chemical storage tanks will be inspected regularly for leaks or signs of damage. • An emergency spill kit with oil boom, absorbers, etc. will be available at the site. A specific team of staff will be trained in it use in the event of a spill. • The post mitigation measures impact is expected to be short term, with a imperceptible impact on the receptors. All plant and machinery will be serviced before being mobilised to site. No plant or machinery maintenance will be completed on site. • Care should be taken when refuelling and a drip tray should be always used. Only a designated person should be authorised to refuel machinery on the site. • Foul drainage from site offices and compounds should be linked to the existing foul drainage system where possible. If this is not possible then the waste should be contained and disposed of off-site in an appropriate manner in line with the relevant statutory regulations. • The post mitigation measures impact is expected to be short term, with a imperceptible impact on the receptors.		

	• No batching of wet-cement will occur on the site. • No washing of machinery used in concrete transport or concrete operations will be allowed on site. • Where concrete is delivered on site only the chute will be cleaned on site, using the smallest volume of water possible. A designated area will be used to wash the chute which will be suitable lined to prevent cement travelling through to the groundwater or flowing as runoff towards the surface water bodies. • The post mitigation measures impact is expected to be short term, with an imperceptible impact on the receptors. • Before earthworks begin silt fencing should be placed down gradient of the construction areas and where drains and drainage patterns are present. These should be embedded into the local soil. • No pumped construction water will be discharged into the surface watercourses. • Where pumped water must be discharged a silt bag will be used and the water will be discharged into an enclosed area of double silt fencing. • Earthworks will occur during periods of low rainfall to reduce the run-off generated on site. • Daily monitoring of the excavation/earthworks and associated water management systems will be completed by a suitably qualified person during the construction phase. • Good construction practices such as wheel washing and dust suppression on site roads will be performed to minimise the impact of suspended solids. • If a high level of sediment/ contamination is noted in the watercourse all construction will be stopped until the source of the sediment is found, and the issue is corrected. • The post mitigation measures impact is expected to be short term, with a imperceptible impact on the receptors. • The proposed SuDs includes two storage capacity attenuation systems capable of storing 1150.1m3 and 760m3 of storm water. The size of these attenuations tanks will be designed to account for the increase in runoff rate due to the larger percentage of hardstanding areas. The outfall of the attenuation tanks will be fitted with a hydrobrake to limit the flow leaving the site and matching it the greenfield rate while it discharges into the River Urrin.		
Drainage and Surface Water Quality		**Audit Result**	**Action Required**
19	The overarching plan for the development allows for a maintenance of a 15m buffer zone along the River Urrin. Some works will be required in this zone during construction, namely the installation of the drainage pipes from the attenuation tanks, the associated head walls for these pipes and outlet from the existing field drain into the Urrin. The maintenance of this 15m buffer will allow for optimal ecological functioning of the River Urrin, whilst maintaining an ecological corridor for species such as the otter.		
20	All guidelines within the document Inland Fisheries Ireland Requirements for the Protection of Fisheries Habitats during Construction		

	and Development Works and River Sites (www.fisheriesireland.ie) and the updated guidelines entitled Guidelines on Protection of Fisheries During Construction Works in And Adjacent to Waters (2016) should be adhered to and they include: • Consultation with Inland Fisheries Ireland (IFI) to ensure that the development proceeds with due regard to the provisions of the Fisheries Acts and Habitats Regulations; • Consultation with IFI in order to determine the correct timing of works on the site; • There should be no in stream works carried out within the streams without prior approval from IFI.		
21	IFI have also recently launched new guidelines entitled Planning for Watercourse in the Urban Environment (IFI, 2020). This outlines provisions for buffer zones, sustainable drainage systems and flood control. The maintenance of a 15m buffer zone as recommended by IFI has been noted and incorporated into the overall site plan.		
22	Efficient construction practices and sequences should be employed on site, and this will minimise soil erosion and potential pollution of local watercourses with soil and sediment. This is especially important given the significant slope on the site that leads to the river. Unnecessary clearance of vegetation should be avoided and only areas necessary for building works should be cleared. Existing grassed embankments and vegetated areas around the perimeters of the site and along the field drains should be retained where possible. Supplemental planting and careful management of these areas will increase the biodiversity value of the site in the future. The retention of these areas will also help retain storm water run-off from the site during construction and operation. Works within the site should be avoided during periods of heavy rainfall. These measures are included in the Biodiversity Action Plan prepared by Landscape Design Services.		
23	It is vital that there is no deterioration in water quality in the River Urrin or its tributaries. This will protect both habitats and species that are sensitive to pollution. Therefore, strict controls of erosion, sediment generation and other pollutants associated with the construction process should be implemented, including the provision of attenuation measures, silt traps or geotextile curtains to reduce and intercept sediment release into any local watercourses. Guidelines in the following best practice documents should be adhered to: • Construction Industry Research and Information Association (CIRIA) (2005) • Environmental Good Practice on Site (C692) • Construction Industry Research and Information Association (2001) Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (C532) • Construction Industry Research and Information Association (2000) Environmental Handbook for Building and Civil Engineering Projects (C512) • Environmental Protection Agency (2015) List of Waste and Determining if Waste is Hazardous or Non-Hazardous		

	• Environment Agency et al. (2015) Guidance on the Classification and Assessment of Waste, Technical Guidance WM3 • Environmental Protection Agency (2013) Guidance (and Templates) on the Management of Contaminated Land and Groundwater at EPA Licensed Site • Environment Agency (2004) Model Procedures for the Management of Land Contamination (CLR11)		
24	The construction team must implement the following site-specific mitigation measures. These measures have been incorporated into a Construction and Environment Management Plan and they must be overseen by the ECoW.. • Surface waters from the construction site should be managed using a system of temporary on-site attenuation features, and these should be fitted with silt barrier devices such as silt fences or silt busters. • Silt fences and berms should be installed prior to the commencement of construction on site. These should be set back at a minimum of 50m from the River Urrin and 10m from other watercourses on the site. The silt fences should be sturdy and constructed of a suitable geotextile membrane to ensure that water can pass through, but that silt will be retained. An interceptor trench will be required in front of this interceptor fence. The silt fence must be capable of preventing particles of 425□m from passing though. • The silt fences should be monitored daily to ensure that they remain functional throughout the construction of the proposed development. Maintenance of the fences should be carried out regularly. Fences should be inspected thoroughly after periods of heavy rainfall. • Discharge water generated during laying on concrete should be removed off site for treatment and disposal.		
25	Works on the installation of the pipes from the attenuation tanks, the construction of the headwall and the piping of the mid-site drain into the Urrin will require works within the immediate buffer zone of the Urrin. Initial works will involve digging a trench to accommodate the 900m pipe. These works must not lead to an excessive run off of silt into the river. Silt barriers and fences should be used around the river banks to catch any silt that falls into the river arising the trenching and pipe laying works. The works should be carried out in dry weather. The trench must be infilled and stabilised immediately and vegetation along the route restored.		
26	For the installation of the headwall, the following measures have been outlined in the CEMP. These measures must be implemented in full. All works should be overseen by an environmental engineer and the ECoW ➢ The timing of head wall installation will be scheduled to ensure no instream works shall be carried out during the closed season for instream works. (October 1st to June 30th). IFI will be notified prior to works taking		

	place. The timing of works shall be in accordance with to IFI (2016) *Guidelines on the Protection of Fisheries during Construction Works in and Adjacent to Water.* Works associated with the headwall construction will be supervised by an Ecological Clerk of Works (ECoW). ➢ The CEMP prepared by Traynor Environmental Ltd has described the installation of the headwall and the following methodology has been detailed. ▪ Prior to installation of the headwall, a dry section will be created within the river bank using sand bags. ▪ Sand will be delivered to site via the agreed access into the works area. 1ton sands bags will be filled (with the use of a suitable sized excavator) at least 30m away from the watercourse. Bags will be doubled up. ▪ A sand bag bund will be constructed out from the river bank to create a dry working area measuring approximately 4.0m wide x 2.0m long. A double row of bags will be placed on the bed of the river, with a single row (placed centrally above the bottom rows). Care will be taken when removing wet sand bags in order to prevent potential sand entering the river. ▪ Any remaining surface water within the bunded area will be pumped from within the bund using a suitably sized de-watering pump to the pre-constructed settlement area described below before being discharged and entering the watercourse. ▪ The excavator will commence excavation works and reduce the ground to the correct formation level. A depth of 100mm of semi dry concrete will be placed and compacted underneath the headwall structure. ▪ A settlement area for treatment of pumped water from excavations/the bunded area will be established on site. The settlement area will consist of silt fence material surrounded by a row of sandbags. A dewatering/silt bag will be fitted at the discharge point. Alternatively silt laden waters will be tankered off site to a licenced facility.		

	▪ Precast headwall will be delivered to site, offloaded and lifted into place using theon-site excavator. Headwall to be checked for plumbness once dropped into position. The headwall will consist of reinforced pre-cast concrete and will be installed on a concrete blinding base. ▪ The proposed discharge pipe will be fitted with a hydro break. ▪ The outfall pipe to have non-return valve installed to prevent flooding of the interceptor in the event of highwater level in the river. ▪ Biosecurity measures will be strictly adhered to throughout the proposed works. Measures will be in accordance with IFI (2010) Biosecurity Protocol for Field Survey Work. Where staff are working instream, staff footwear and PPE will be inspected on daily completion of the works and vegetation or debris removed. Footwear will be dipped in or scrubbed with a disinfectant solution (e.g. 1% solution of Virkron Aquatic or another proprietary disinfection product) and thoroughly dried afterwards. Sand bags placed instream will not be re-used in other watercourses.		
27	The following pollution control measures must also be employed on site: • A dedicated re-fuelling location must be established on site, and this must be situated away from any watercourse on site. • Spill kits stations must be provided at the fuelling location for the duration of the works. • Staff must be provided with training on spill control and the use of spill kits. • All fuel storage containers must be appropriately bunded, roofed and protected from vehicle movements. These bunds will provide added protection in the event of a flood event on site. • All chemicals must be stored as per manufacturer's instructions. A dedicated • chemical bund will be provided on site. • Storage of fuel, and servicing and refuelling of equipment or machinery must be at least 20m from ground clearance or rock-breaking activities. • The dedicated refuelling area must be underlain by concrete hard standing. All fuel and oil tank should be inspected		

	on a regular basis for signs of spillages, leaks and damage during use. A record of these inspections must be kept, and any improvements needed be carried out immediately. • The risk of fuel spillages on a construction site is at its greatest when refuelling plant. Therefore, only designated trained and competent operatives should be authorised to refuel plant on site. Plant and equipment should be brought to a designated refuelling area rather than refuelling at numerous locations about the site. • Chemicals used on site must be returned to the site compound and secured in a lockable and sealed container overnight in proximity to the fuel storage area. • Drip trays must be utilised on site for all pumps situated within 20m away from ground clearance areas. • Procedures and contingency plans must be established on site to address cleaning up small spillages as well as dealing with an emergency incident. A stock of absorbent materials such as sand, spill granules, absorbent pads and booms must be kept on site, on plant working near the river and at the refuelling area. • Daily plant inspections must be completed by all plant operators on site to ensure that all plant is maintained in good working order. Where leaks are noted on these inspection sheets, the plant must be removed from operations for repairs. • All personnel should observe standard precautions for handling of materials as outlined in the Safety Data Sheets (SDS) for each material, including the use of PPE. Where conditions warrant, emergency spill containment supplies should be available for immediate use.		
28	Best practice concrete / aggregate management measures must be employed on site. These will include: • A designated concrete wash out area should be set up on site; typically, this will involve washing the chutes, pumps into a designated IBC before removing the wastewater off site for disposal. These procedures should be covered during a Site Safety & Environmental Induction session. • Best practice in bulk-liquid concrete management should be employed on site addressing pouring and handling, secure shuttering, adequate curing times etc. • Stockpile areas for sands and gravel must be kept to a minimum size, well away from the drains and watercourses (minimum 50m). • Where concrete shuttering is used, measures must be put in place to prevent againstshutter failure and control storage, handling and disposal of shutter oils. • Activities which result in the creation of cement dust must be controlled by dampening down the areas. • Raw and uncured waste concrete must be disposed of by removal from the site;		

	• Stockpile areas for sands and gravel will be kept to a minimum size, well away from the River Urrin or its tributaries.		
	The SUDS proposals outlined for this site must be adhered to in full and only clean- surface water from the site should be discharged to the River Urrin, at the appropriate greenfield run-off rate. Silt and oil interceptors must be incorporated to ensure clean discharge and these must be serviced regularly.		
	A maintenance plan should be development for the foul drainage system to prevent any impacts upon the River Urrin arising from surcharge from the foul sewer as a result of a secondary pluvial flood event.		
Bats and Mammals			
	The bat and mammal report has included a number of mitigation measures to reduce impacts from lighting schemes associated with the proposed development. These include: • Lighting around the buildings should be tightly controlled and ornamental lighting should be avoided entirely. Lighting should respond to a motion trigger or be switched off at night after typical active hours (e.g. 11pm to 6 am). • Lighting should not spill on or be directed to the river or its riparian corridor (15m) • Spotlights must not be introduced as these are hugely disruptive to most wildlife and cannot be targeted to the required area but create light pollution over a huge radius. • Dark corridor for the movement of bats throughout the site should be maintained. Lighting should be directed downwards away from the treetops. • All luminaires shall lack UV elements when manufactured and shall be LED. • A warm white spectrum (ideally <2700Kelvin) shall be adopted to reduce blue light component • Luminaires shall feature peak wavelengths higher than 550nm • Tree crowns shall remain unilluminated especially the free-standing oak to the southof the access road (southwest corner of the proposal).		

	• Planting shall provide areas of darkness suitable for bats and badgers to feed and commute through the site.		
	Bat boxes should be provided to compensate for the potential loss of roost sites from tree removal. 6 x 2F Schwegler bat boxes are recommended for erection along the river or alternatively, access could be provided for bats to certain elements of the buildings. All boxes should be away from illumination.		
	Prior to the felling of any tree, the tree should be inspected by a bat specialist prior to felling. If bats are present, a derogation license should be obtained from NPWS and additional measures to mitigate against the loss of a roost shall be implemented.		
Biodiversity		**Audit Result**	**Action Required**
31	The landscaping of the site offers the potential for biodiversity enhancements within the site. Future landscaping of the site should adhere to the following recommendations: • The natural verges along the treelines and hedgerows that are to be retained should be retained and managed appropriately for the benefit of wildlife. They should not be sprayed with herbicide and a low intensity mowing or strimming regime should be incorporated. This will benefit local pollinators. • Only native trees and shrubs should be used in the landscaping. • A proportion of the grassland / parkland habitats within the site should be managed through methods that mimic traditional grassland management (low level mowing regimes). This will benefit local pollinators. Locally sourced wildflower seed would also be beneficial; • Where possible the importation of topsoil from outside the area should be avoided; • When planting flowers, shrubs and trees native species should be used, ideally from a local source; • Allow some areas to go 'wild' where bramble and scrub, etc. can develop; • Garden plants that have the potential to become invasive must be avoided;		
Air Quality and Dust Control		**Audit Result**	**Action Required**

33	All vehicles to switch off engines when not in use - no idling vehicles		
34	Effective vehicle cleaning and wheel washing on leaving site and damping down of haul routes		
35	• On-road vehicles to comply to set emission standards. • All non-road mobile machinery (NRMM) to be fitted with appropriate exhaust system and be regularly serviced.		
36	Hard surfacing and effective cleaning of haul routes and appropriate speed limit around site		
37	Dust control will be achieved by: • Dampening down the dust at the source • Sheeting will be used as required for stockpiled materials • Use of barriers such as debris netting on scaffolding around the building to block dust escaping where the building is within 10m of the site boundary where residential properties exist. • Site road ways will be maintained in a stoned hard core condition not allowing soil to accumulate which when dry can create dust. • Wheel wash equipment will be set up at the site exit gate for all construction vehicles to pass through prior to leaving the site thus ensuring that no dirt etc. is transported outside the site onto the roadways. • Plant and equipment that have the potential to create volumes of dust will have appropriate attachments to allow water source to dampen dust to not allow it to get airborne. • Plant and equipment that have the potential to create volumes of dust will be located away from sensitive receptors where possible. • Deploy Road Sweeper as required on External Roads. • Deployment of dust monitors across the site if required		
38	• All construction vehicles and plant will be maintained in good operationalorder while onsite, thereby minimising any emissions that arise. • Machinery were switched off when not in use		
39	• All construction vehicles and plant will be maintained in good operationalorder while onsite, thereby minimising any emissions that arise. • Overburden will be progressively removed from the working area in advance of construction.		
40	• Dampening down the dust at the source by the use of barriers such as debris netting on scaffolding around the building to block dust escaping where the building is within 10m of the site boundary where residential		

	properties exist. • Site roadways will be maintained in a stoned hard core condition not allowing soil to accumulate which when dry can create dust. • Wheel wash equipment will be set up at the site exit gate for all construction vehicles to pass through prior to leaving the site thus ensuring that no dirt etc. is transported outside the site onto the roadways. • Plant and equipment that have the potential to create volumes of dust will have appropriate attachments to allow water source to dampen dust to not allow it to get airborne. • Deploy Road Sweeper as required on External Roads. • Dust levels will be monitored visually, on a daily basis by the project Environmental Manager. If dust levels become an issue, then all dust generating activities on site will cease until such time as weather conditions improve (e.g. wind levels drop or rain falls) or mitigation measures such as damping down of the ground are completed.		
Noise			
41	All vehicles to switch off engines when not in use - no idling vehicles		
42	Best practice measures for noise control will be adhered to onsite during the construction phase of the proposed development. The measures include: • Construction operations will in general be confined to the period Monday-Friday 0800-1900 h, and Saturday 0800-1400 h. • Where it is proposed to operate plant during the period 0700-0800 h, standard 'beeper' reversing alarms will be replaced with flat spectrum alarms. • Hooting will be prohibited onsite. Drivers of plant and vehicles will be instructed to avoiding hooting at all times. • Plant used onsite during the construction phase will be maintained in a satisfactory condition and in accordance with manufacturer recommendations. In particular, exhaust silencers will be fitted and operating correctly at all times. Defective silencers will be immediately replaced. • Queuing of trucks outside the site entrance will be prohibited. • A site representative will be appointed as a liaison officer with the local community. Prior to commencement of construction, contact details for the officer will be circulated to all local residents. The officer will notify local residents of upcoming works phases and likely noise sources.		

	• Where evening or night-time operations are required, local residents will be notified through the liaison officer. • All complaints of noise received during the construction phase will be logged in a register, and investigated immediately. Details of follow-up action will be included in the register. • Where it is proposed to import potentially noisy plant to the site, the potential impact of noise emissions will be assessed in advance. • Guidance set out in British Standard BS 5228-1:2009+AI:2014 with respect to noise control will be applied throughout the construction phase. • The above mitigation measures relating to noise will be implemented to minimise potential impacts on Human Health during the construction phase		
Environmental Management			
43	**Monitoring** The following monitoring measures are recommended: •Any trees and bat boxes should be monitored once the development is operational. •Monitoring from any surface water discharge into the river must be carried out regularly to ensure efficient working of all oil and silt interceptors.		

6.0 COMPLIANCE AND REVIEW

6.1 Site Inspection and Environmental Audits

Routine inspections of activities will be carried out on a daily and weekly basis by the Site Environmental Manager/Construction Manager as appointed by the applicant to ensure all controls to prevent environmental impact, relevant to the construction activities taking place at the time, are in place.

Environmental inspections will ensure that the works are undertaken in compliance with this CEMP. Environmental site inspections will be carried out by suitably trained staff.

6.2 Environmental Compliance

The following definitions shall apply in relation to the classification of Environmental Occurrences during the infilling works:

Environmental Near Mias: An occurrence which if not controlled or due to its nature could lead to an Environmental Incident.

Environmental Incident: Any occurrence which has potential, due to its scale and nature, to migrate from source and have an environmental impact beyond the site boundary.

Environmental :Non-Compliance: Non-fulfilment of a requirement and includes any deviations from established procedures, programs and other arrangements related to the COMP.

6.3 Corrective Action Procedure

A corrective action is implemented to rectify an environmental issue on-site. Corrective actions will be implemented by the Construction Manager, as advised by the Site Environmental manager. Corrective actions may be required as a result of the following;

- Environmental Audits;
- Environmental Inspections and Reviews;
- Environmental Incidents; and,
- Environmental Complaints.

A Corrective Action Notice will be used to communicate the details of the action required to the main contractor. A Corrective Action Notice is a form that describes the cause and effect of an environmental problem on site and the recommended corrective action that is required. The Corrective Action Notice, when completed, will include details of close out and follow up actions.

If an environmental problem occurs on site that requires immediate attention direct communications between the Construction Manager and the Site Environmental manager will be conducted. This in turn will be passed down to the site staff involved. A Corrective Action Notice will be completed at a later date.

APPENDIX A –

SITE DRAINAGE LAYOUTS

LEGEND

- Existing Storm Pipeline to be Decommissioned (DASHED) or Retained
- Proposed Estate Roofs & Roads Storm Drain
- Proposed Storm Drains and watercourses for diverted Existing Watercourses and diverted pipelines.
- Existing Foul Pipeline to be Retained
- Proposed Estate Foul Drain
- Proposed 100mm Diameter Foul Rising Main

The overall site has been divided into Zone A and Zone B for stormwater and attenuation design purposes.

PROPOSED FOUL & STORM LAYOUT

SCALE 1:750

NOTES:

1. JOHN CREED & ASSOCIATE DRAWINGS TO READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
2. THE DEVELOPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE "IRISH WATER - WASTEWATER INFRASTRUCTURE STANDARD DETAILS - DOC NO. IW-CDS-5030-01", THE "IRISH WATER - CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE - DOC NO. IW-CDS-5030-03" AND THE " RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS" PUBLISHED BY THE DEPARTMENT OF ENVIRONMENT AND LOCAL GOVERNMENT, NOVEMBER 1998.

Rev	Date	Revision Details
A	15.03.2021	FOUL & STORM LAYOUT AMENDED IN ACCORDANCE WITH AMENDMENTS TO OVERALL SITE LAYOUT

Job description:
NEW RESIDENTIAL DEVELOPMENT AT CARLEYS BRIDGE ROAD, ENNISCORTHY, CO. WEXFORD

Drawing title:
PROPOSED FOUL & STORM LAYOUT

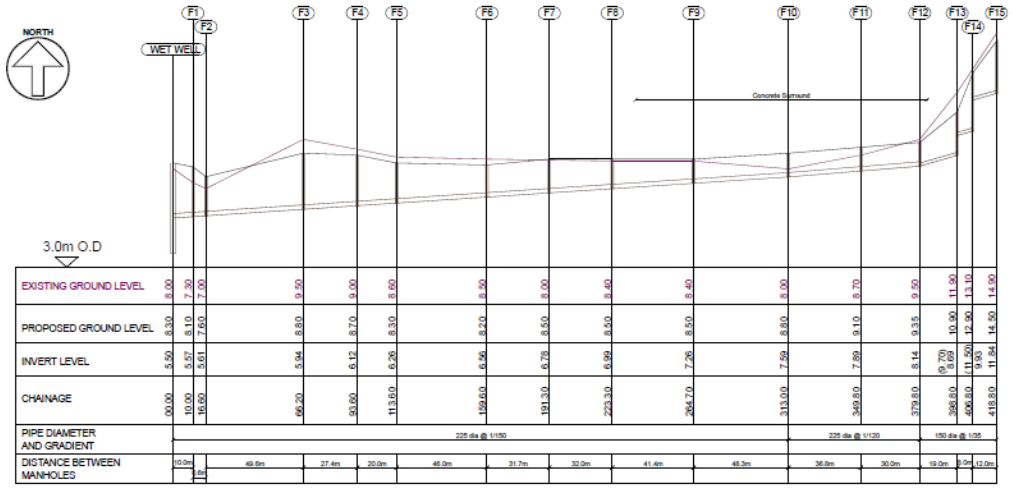
Issued for :
PLANNING

Client:
TORCA DEVELOPMENTS LTD

Drawn By:
JOHN CREED & ASSOCIATES,
CONSULTING ENGINEERS
145 THE FAYTHE, WEXFORD.
PHONE (053) 9147429
FAX (053) 9147836
E-MAIL john@johncreed.net

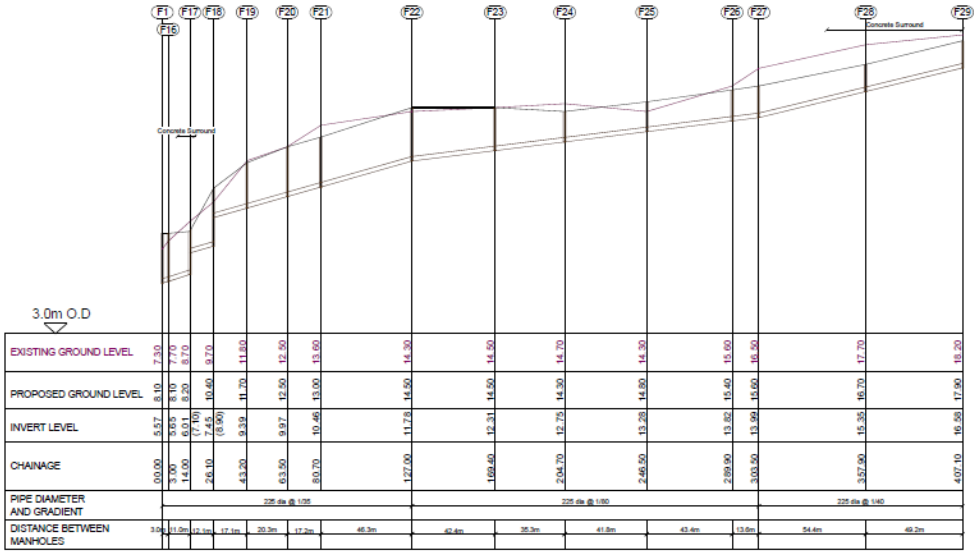
Date:	Scale:	Drawing No.:	Revision:
02.04.2020	AS SHOWN	JCA-002P	A

A1



FOUL SEWER PUMP/WET WELL - F15

SCALE 1:1000 H
1:100 V



FOUL SEWER F1 - F29

SCALE 1:1000 H
1:100 V

NOTES:

1. JOHN CREED & ASSOCIATE DRAWINGS TO READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
2. THE DEVELOPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE "IRISH WATER - WASTEWATER INFRASTRUCTURE STANDARD DETAILS - DOC NO. IW-CDS-5030-01", THE "IRISH WATER - CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE - DOC NO. IW-CDS-5030-03" AND THE " RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS" PUBLISHED BY THE DEPARTMENT OF ENVIRONMENT AND LOCAL GOVERNMENT, NOVEMBER 1998.

Rev	Date	Revision Details
A	15.03.2021	FOUL & STORM LAYOUT AMENDED IN ACCORDANCE WITH AMENDMENTS TO OVERALL SITE LAYOUT

Job description:
NEW RESIDENTIAL DEVELOPMENT AT CARLEYS BRIDGE ROAD, ENNISCORTHY, CO. WEXFORD

Drawing title:
PROPOSED FOUL PIPELINE SECTIONS (SHEET 1 OF 2)

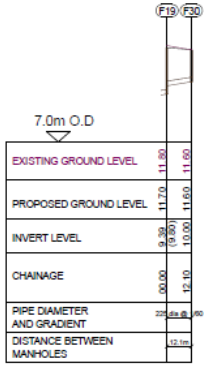
Issued for :
PLANNING

Client:
TORCA DEVELOPMENTS LTD

Drawn By:
JOHN CREED & ASSOCIATES, CONSULTING ENGINEERS
145 THE FAYTHE, WEXFORD.
PHONE (053) 9147429
FAX (053) 9147636
E-MAIL john@johncreed.net

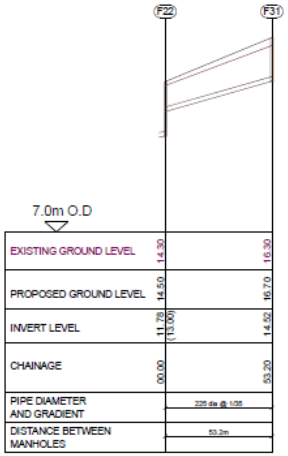
Date:	Scale:	Drawing No. :	Revision:
02.04.2020	AS SHOWN	JCA-003P	A

A1



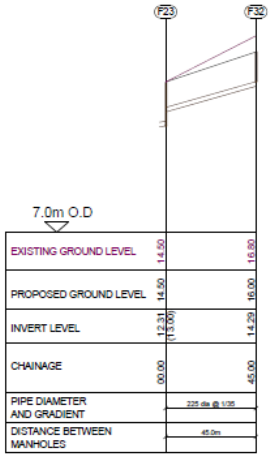
FOUL SEWER F19 - F30

SCALE 1:1000 H
1:100 V



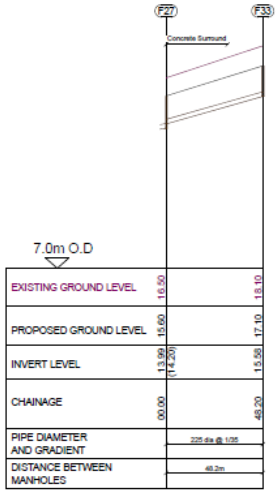
FOUL SEWER F22 - F31

SCALE 1:1000 H
1:100 V



FOUL SEWER F23 - F32

SCALE 1:1000 H
1:100 V



FOUL SEWER F27 - F33

SCALE 1:1000 H
1:100 V

NOTES:

1. JOHN CREED & ASSOCIATE DRAWINGS TO READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
2. THE DEVELOPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE "IRISH WATER - WASTEWATER INFRASTRUCTURE STANDARD DETAILS - DOC NO. IW-CDS-5030-01", THE "IRISH WATER - CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE - DOC NO. IW-CDS-5030-03" AND THE " RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS" PUBLISHED BY THE DEPARTMENT OF ENVIRONMENT AND LOCAL GOVERNMENT, NOVEMBER 1998.

Rev.	Date	Revision Details: -
A	15.03.2021	FOUL & STORM LAYOUT AMENDED IN ACCORDANCE WITH AMENDMENTS TO OVERALL SITE LAYOUT

Job description:
NEW RESIDENTIAL DEVELOPMENT AT CARLEYS BRIDGE ROAD, ENNISCORTHY, CO. WEXFORD

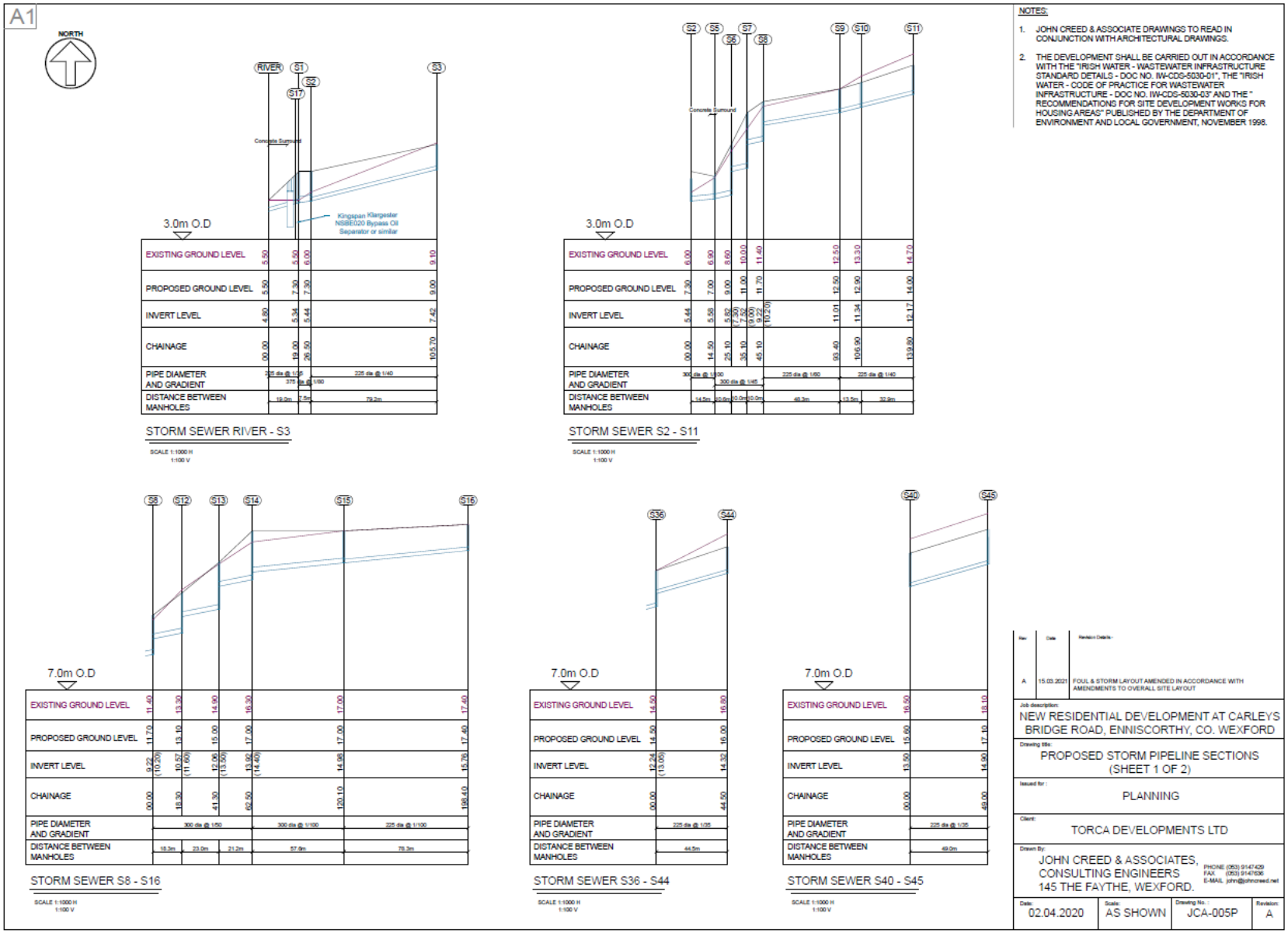
Drawing title:
PROPOSED FOUL PIPELINE SECTIONS (SHEET 2 OF 2)

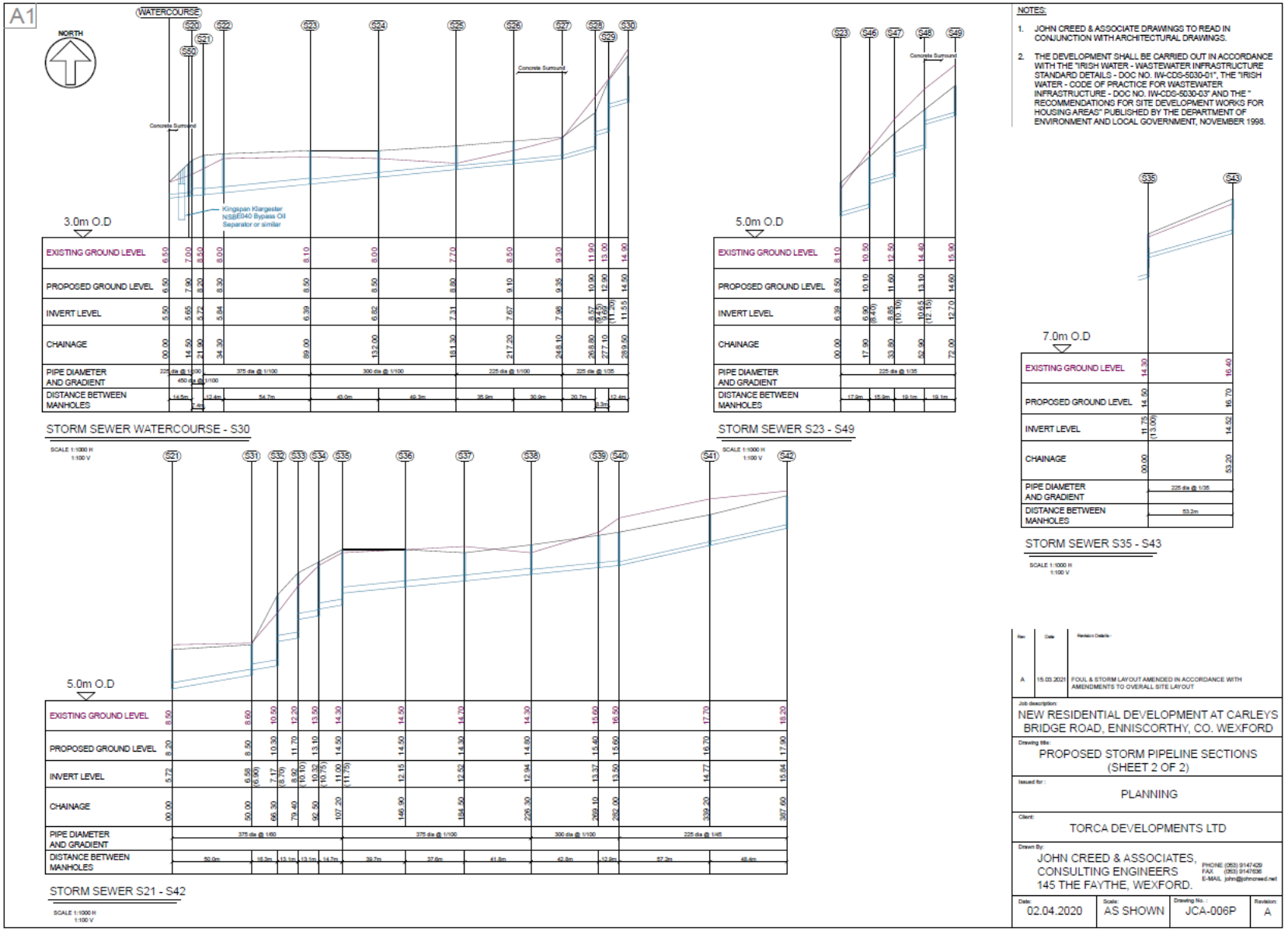
Issued for :
PLANNING

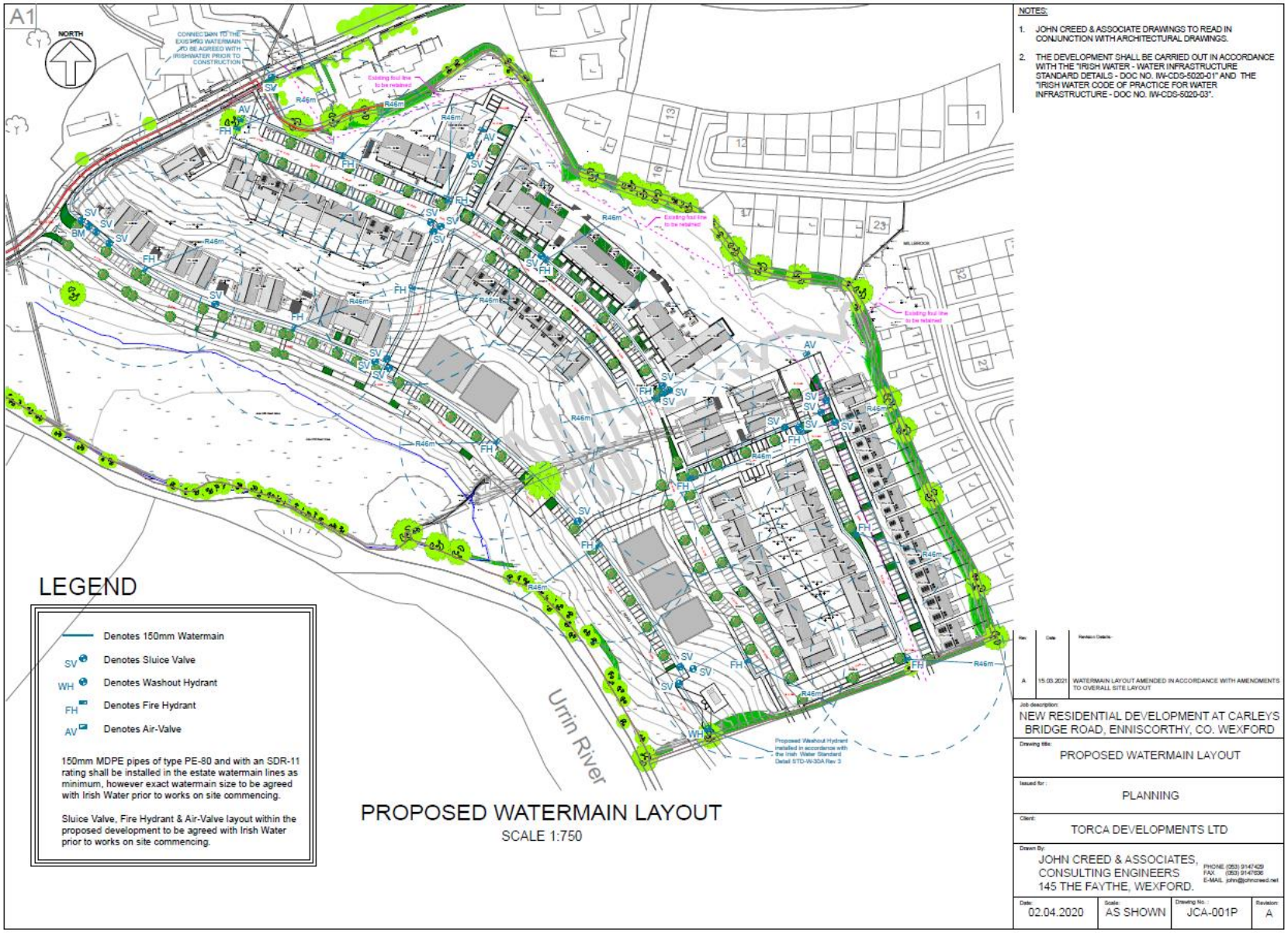
Client:
TORCA DEVELOPMENTS LTD

Drawn By:
JOHN CREED & ASSOCIATES, CONSULTING ENGINEERS
145 THE FAYTHE, WEXFORD.
PHONE (053) 9147429
FAX (053) 9147636
E-MAIL john@johncreed.net

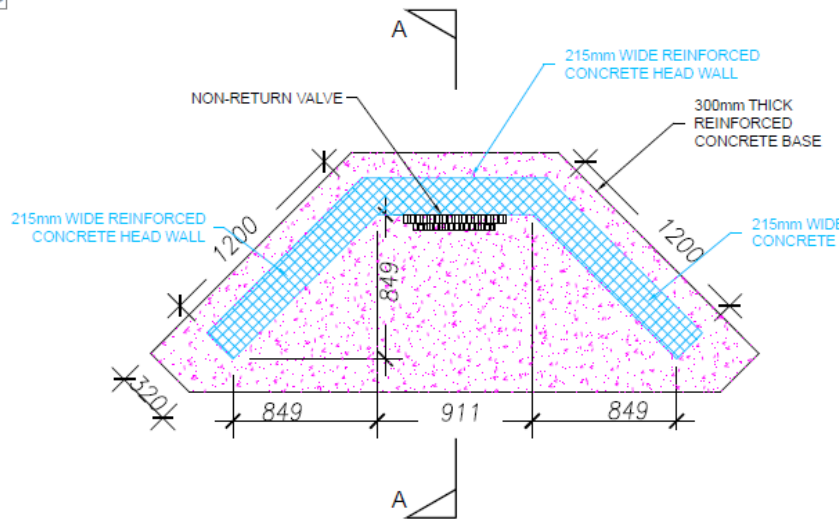
Date:	Scale:	Drawing No. :	Revision:
02.04.2020	AS SHOWN	JCA-004P	A


A1
NORTH
RIVER
S1
S2
S17
S3
Concrete Surround
Kingspan Klargester NSBE020 Bypass Oil Separator or similar
3.0m O.D
EXISTING GROUND LEVEL
PROPOSED GROUND LEVEL
INVERT LEVEL
CHAINAGE
PIPE DIAMETER AND GRADIENT
DISTANCE BETWEEN MANHOLES
STORM SEWER RIVER - S3
S2
S5
S6
S7
S8
S9
S10
S11
3.0m O.D
STORM SEWER S2 - S11
S8
S12
S13
S14
S15
S16
7.0m O.D
STORM SEWER S8 - S16
S36
S44
7.0m O.D
STORM SEWER S36 - S44
S40
S45
7.0m O.D
STORM SEWER S40 - S45
SCALE 1:1000 H
1:100 V
NOTES:
1. JOHN CREED & ASSOCIATE DRAWINGS TO READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
2. THE DEVELOPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE "IRISH WATER - WASTEWATER INFRASTRUCTURE STANDARD DETAILS - DOC NO. IW-CDS-5030-01", THE "IRISH WATER - CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE - DOC NO. IW-CDS-5030-03" AND THE " RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS" PUBLISHED BY THE DEPARTMENT OF ENVIRONMENT AND LOCAL GOVERNMENT, NOVEMBER 1998.
Rev
Date
Revision Details
A
15.03.2021
FOUL & STORM LAYOUT AMENDED IN ACCORDANCE WITH AMENDMENTS TO OVERALL SITE LAYOUT
Job description:
NEW RESIDENTIAL DEVELOPMENT AT CARLEYS BRIDGE ROAD, ENNISCORTHY, CO. WEXFORD
Drawing title:
PROPOSED STORM PIPELINE SECTIONS (SHEET 1 OF 2)
Issued for :
PLANNING
Client:
TORCA DEVELOPMENTS LTD
Drawn By:
JOHN CREED & ASSOCIATES, CONSULTING ENGINEERS 145 THE FAYTHE, WEXFORD.
PHONE (053) 9147409
FAX (053) 9147636
E-MAIL john@johncreed.net
Date:
02.04.2020
Scale:
AS SHOWN
Drawing No. :
JCA-005P
Revision:
A

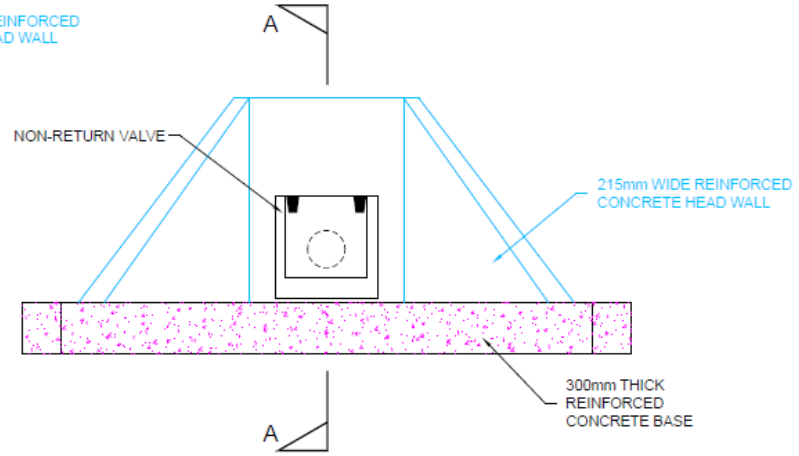

A1
NORTH
WATERCOURSE
S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30
Concrete Surround
Kingspan Klargester NSBE040 Bypass Oil Separator or similar
3.0m O.D
EXISTING GROUND LEVEL
PROPOSED GROUND LEVEL
INVERT LEVEL
CHAINAGE
PIPE DIAMETER AND GRADIENT
DISTANCE BETWEEN MANHOLES
STORM SEWER WATERCOURSE - S30
S23 S46 S47 S48 S49
5.0m O.D
STORM SEWER S23 - S49
S35 S43
7.0m O.D
STORM SEWER S35 - S43
S21 S31 S32 S33 S34 S35 S36 S37 S38 S39 S40 S41 S42
5.0m O.D
STORM SEWER S21 - S42
NOTES:
1. JOHN CREED & ASSOCIATE DRAWINGS TO READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
2. THE DEVELOPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE "IRISH WATER - WASTEWATER INFRASTRUCTURE STANDARD DETAILS - DOC NO. IW-CDS-5030-01", THE "IRISH WATER - CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE - DOC NO. IW-CDS-5030-03" AND THE " RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS" PUBLISHED BY THE DEPARTMENT OF ENVIRONMENT AND LOCAL GOVERNMENT, NOVEMBER 1998.
A 15.03.2021 FOUL & STORM LAYOUT AMENDED IN ACCORDANCE WITH AMENDMENTS TO OVERALL SITE LAYOUT
NEW RESIDENTIAL DEVELOPMENT AT CARLEYS BRIDGE ROAD, ENNISCORTHY, CO. WEXFORD
PROPOSED STORM PIPELINE SECTIONS (SHEET 2 OF 2)
PLANNING
TORCA DEVELOPMENTS LTD
JOHN CREED & ASSOCIATES, CONSULTING ENGINEERS 145 THE FAYTHE, WEXFORD.
02.04.2020
AS SHOWN
JCA-006P
A


A1
NORTH
NOTES:
1. JOHN CREED & ASSOCIATE DRAWINGS TO READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
2. THE DEVELOPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE "IRISH WATER - WATER INFRASTRUCTURE STANDARD DETAILS - DOC NO. IW-CDS-5020-01" AND THE "IRISH WATER CODE OF PRACTICE FOR WATER INFRASTRUCTURE - DOC NO. IW-CDS-5020-03".
LEGEND
Denotes 150mm Watermain
SV Denotes Sluice Valve
WH Denotes Washout Hydrant
FH Denotes Fire Hydrant
AV Denotes Air-Valve
150mm MDPE pipes of type PE-80 and with an SDR-11 rating shall be installed in the estate watermain lines as minimum, however exact watermain size to be agreed with Irish Water prior to works on site commencing.
Sluice Valve, Fire Hydrant & Air-Valve layout within the proposed development to be agreed with Irish Water prior to works on site commencing.
Urrin River
PROPOSED WATERMAIN LAYOUT
SCALE 1:750
A 15.03.2021 WATERMAIN LAYOUT AMENDED IN ACCORDANCE WITH AMENDMENTS TO OVERALL SITE LAYOUT
NEW RESIDENTIAL DEVELOPMENT AT CARLEYS BRIDGE ROAD, ENNISCORTHY, CO. WEXFORD
PROPOSED WATERMAIN LAYOUT
PLANNING
TORCA DEVELOPMENTS LTD
JOHN CREED & ASSOCIATES, CONSULTING ENGINEERS 145 THE FAYTHE, WEXFORD.
02.04.2020
AS SHOWN
JCA-001P
A

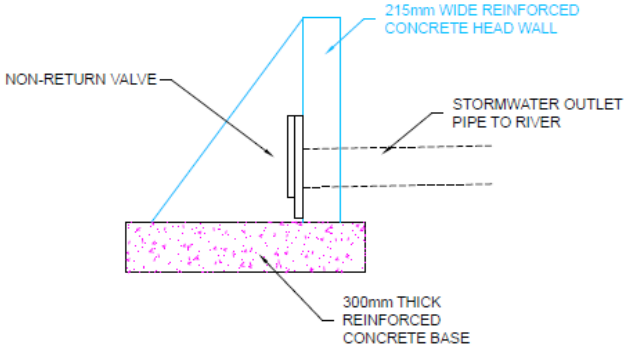
A3



TYPICAL HEADWALL DETAIL
(PLAN VIEW)
SCALE 1:25



TYPICAL HEADWALL DETAIL
(ELEVATIONAL VIEW)
SCALE 1:25



SECTION A-A
SCALE 1:25

NOTES:

1. JOHN CREED & ASSOCIATE DRAWINGS TO READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
2. THE DEVELOPMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH THE "IRISH WATER - WASTEWATER INFRASTRUCTURE STANDARD DETAILS - DOC NO. IW-CDS-5030-01", THE "IRISH WATER - CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE - DOC NO. IW-CDS-5030-03" AND THE " RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS FOR HOUSING AREAS" PUBLISHED BY THE DEPARTMENT OF ENVIRONMENT AND LOCAL GOVERNMENT, NOVEMBER 1998.

Rev	Date	Revision Details
-	-	-

Job description:
NEW RESIDENTIAL DEVELOPMENT AT CARLEYS BRIDGE ROAD, ENNISCORTHY, CO. WEXFORD

Drawing title:
TYPICAL HEADWALL DETAIL

Issued for :
PLANNING

Client:
TORCA DEVELOPMENTS LTD

Drawn By:
JOHN CREED & ASSOCIATES,
CONSULTING ENGINEERS
145 THE FAYTHE, WEXFORD.
PHONE (053) 9147429
FAX (053) 9147636
E-MAIL john@johncreed.net

Date:	Scale:	Drawing No. :	Revision:
04.10.2021	AS SHOWN	JCA-008P	-