



## Quay Street and Environs Balbriggan



## Preliminary Construction Management Plan

### Planning Stage

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John Hayes BE CEng FIEI ACIArb MSAE  
Sean Murphy BEng CEng MIStructE MIEI

Donal Higgins BE Ceng FIEI EurIng  
Paul Nolan BEng(Hons) MSc CEng MIEI

Niall Patterson B.Sc.(Eng) CEng MIStructE MIE  
Ross Lynam BEng CEng Dip StructEng CertEng MIEI MIstructE

2nd Floor, The Glass House, 11 Coke Lane, Smithfield, Dublin 7.  
Tel: +353 (0)1 661 2321 Email: admin@hayeshiggins.ie  
Web: www.hhp.ie



Member Institution  
of Structural Engineers



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## CONTENTS

<b>1.0</b>	<b>INTRODUCTION .....</b>	<b>4</b>
1.1	Background.....	4
1.2	Objective of the Preliminary Construction Management Plan .....	4
1.3	Responsibility .....	5
<b>2.0</b>	<b>PROPOSED SCHEME &amp; SITE WORKS .....</b>	<b>5</b>
2.1	Site Location.....	5
2.2	Proposed Public Realm Regeneration .....	6
<b>3.0</b>	<b>Site Environmental Conditions .....</b>	<b>7</b>
3.8	Pre-Construction Activities .....	8
<b>4.0</b>	<b>Outline Traffic Management Plan .....</b>	<b>9</b>
<b>5.0</b>	<b>River Widening Works.....</b>	<b>11</b>
<b>6.0</b>	<b>Site Working Hours .....</b>	<b>12</b>
<b>7.0</b>	<b>Waste Management Plan .....</b>	<b>13</b>
<b>8.0</b>	<b>Environmental Management Plan .....</b>	<b>16</b>
<b>9.0</b>	<b>Implementation .....</b>	<b>18</b>
<b>10.0</b>	<b>CONCLUSIONS .....</b>	<b>20</b>



## **1.0 INTRODUCTION**

### **1.1 Background**

- 1.1.1 This Planning Stage Preliminary Construction Management Plan has been prepared by Hayes Higgins Partnership at the request of our client Paul Keogh Architects & Fingal County Council.
- 1.1.2 The proposed development comprises the Quay Street and Environs Public Realm Scheme

### **1.2 Objective of the Preliminary Construction Management Plan**

- 1.2.1 This preliminary Construction Management Plan is an outline document of the proposed approach to ensure that construction activities have the least impact on the surrounding environment. Below is an outline of the objectives:
  - Ensure appropriate measures to prevent or mitigate nuisance emissions of noise and dust and uncontrolled discharges to water courses during construction.
  - Minimise the impact of construction activities on the Bracken River.
  - Ensure that all activities on site are effectively managed to minimise the generation of waste and to maximise opportunities for reuse and recycling of waste materials.
  - Ensure that all wastes generated onsite are removed from site by an appropriately permitted waste contractor and that all wastes are disposed of at an appropriate licensed/permited facility in accordance with the Waste Management Act 1996 as amended.
  - Ensure that an adequate system is in place for the management, storage, segregation and recycling of waste.
  - Minimise the impact on local traffic conditions resulting from construction activities.
  - Outline how the measures proposed above shall be implemented.
- 1.2.2 This preliminary Construction Management Plan (CMP) has been prepared for the planning phase of the development to outline the general considerations of the works, from initial enabling works to public realm construction with regards to waste and the environment. An experienced and competent contractor will be appointed for the duration of this project.
- 1.2.3 Due to the nature of this project the CMP will require constant updating and revision throughout the construction period. Therefore, this is a working document and will be developed further prior to and during construction by the competent contractor.



### **1.3 Responsibility**

- 1.3.1 This preliminary CMP has been prepared for the planning stage and a contractor has not yet been appointed to carry out the proposed works. Once appointed it will be the responsibility of the contractor to prepare a construction stage CMP and to update it throughout the work as the project proceeds.
- 1.3.2 Our approach to the preparation of the CMP has involved the following:
  - Review all information provided as part of the brief.
  - Review all information provided regarding existing services in the vicinity of the site.
  - Review of Topographical & Ground Penetrating Radar (GPR) surveys.
  - Desktop study of site investigation information which was available.
  - Review scheme proposal as public realm scheme design developed
  - Review of the hazards / risks associated with the project,
  - Review of arrangements for safe access and exit of construction traffic.

## **2.0 PROPOSED SCHEME & SITE WORKS**

### **2.1 Site Location**

- 2.1.1 The site for the proposed Quay Street & Environs public realm scheme encompasses part of Quay Street through to the beach and includes public footpaths, public roads, open green space, public carparks, the Bracken River, foot and road bridges over the Bracken River, areas beneath Railway viaduct arches, public toilets and playground. The site includes the area between the Railway viaduct, the West Pier and the Harbour Road. The site also includes part of the Harbour Road to the rear of the Railway Viaduct, and the site of the former nightclub building which is currently being demolished. The site is bordered by residential properties of varying scales from multi-storey apartment buildings to small artisan cottages. The site also includes part of Mill Street and is bordered by both residential and commercial properties of varying scales and use and which are included within the site boundary but are private properties and as such do not fall within the scope of works for the Council's Quay Street & Environs project. The Bracken River flows through the centre of the site. Within the site boundary, the channelised river flows under three pedestrian bridges, the Balbriggan Viaduct, and a fourth bridge before discharging to the Balbriggan Harbour / Irish Sea.





### Quay Street and Environs Site Outline

2.1.2 The overall site area measures approximately 19,300m<sup>2</sup> / 1.93 hectare.

## 2.2 Proposed Public Realm Regeneration

2.2.1 The proposed public realm regeneration works includes rearrangement of existing car parking, public and play area, new plaza area for events /market space, widening of the

Bracken River aimed at improving general amenity, provision of new harbour building and kiosks to the south pier of the harbour area, upgrade of the harbour east pier and provision of areas under the Viaduct for market stalls.

- 2.3 The public Realm Scheme will be phased over 2 to 3 years. The appointed contractor will clearly outline within the construction phase CMP that shall be submitted and agreed with the Design Team and Fingal County Council (FCC)

### 3.0 Site Environmental Conditions

- 3.1 The Bracken River (EPA Name: "Matt\_010") runs SW-NE through the centre of the site, feeding with Balbriggan Harbour (EPA Name: "North-western Irish Sea") bounding the site. The River Bracken was determined "At Risk" by the Water Framework Directive with no WFD status assigned. The North-western Irish Sea was determined "Not At Risk" by the Water Framework Directive and was assigned a WFD Status of "High". A cross reference with the EPA database on the below criteria highlighted the following sensitivities for the watercourses near the site:
- Bathing Waters Areas – Balbriggan, Front Strand Beach ca. 171m NE of site.
  - Groundwater for Drinking Water.
- 3.2 The site was cross referenced with the Teagasc SIS soil profile map which states that is underlain with Urban Sediments/Imported Fill Material. According to the Geological Survey of Ireland's map viewer, the quaternary sediments underlying imported fill layer is characterised as Irish Sea till derived from Lower Paleozoic sandstones and shales.
- 3.3 According to the Geological Survey of Ireland's map viewer, the site is underlain by a locally important aquifer – bedrock which is moderately productive; named the Balbriggan Groundwater Body and groundwater vulnerability is classified as "low to moderate" at the site, meaning groundwater is likely to be encountered at 3-10 metres below ground level. Subsoil permeability is classified as "low". Overall, the risk posed by the site to groundwater receptors is low.
- 3.4 A detailed sub soil investigation commenced in April by Ground Investigations Ireland (GII). The scope of works included trial pits, slit trenches, boreholes, window samples, CBR tests, infiltration tests and dynamic probes with further site Investigation works currently ongoing.
- 3.5 As part of this public realm scheme there will be excavation to accommodate foundations, services, pavements and carparking and any material which may be excavated and removed from site needs to be assessed in terms of waste disposal and waste classification is being carried out as part of the geotechnical site investigation. (in so far as it impacts on the proposed works).
- 3.6 Historical maps show a former Gasworks in an area adjacent to the existing playground and a Salt Works in the location of the demolished O'Shea's building. GII have issued an Interim Waste Classification Report June 2022 on the soil samples tested to date and is included in the Civil and Structures Report.



- 3.7 The ground conditions encountered during the site investigation were variable across the site but the sequence of strata encountered generally comprised of topsoil/surfacing and made ground to a relatively consistent depth of between 2.00m and 2.60m below ground level. A hydrocarbon impacted layer was encountered in one trial pit TP05 in the existing park area, with a strong creosote type odour noted upon excavation. A sample of this material at 1.0 to 2.0m was tested and classified as hazardous due to elevated levels of TPH and the associated hazardous properties HP7 Carcinogenic and HP11 Mutagenic. All other samples were classified as being non-hazardous (see GII Quay Street & Environs Waste Classification Report June 2022 in Appendix 5 of Civil and Structures Report)
- 3.8 To assist in the quantification of any contaminated material that may need to be removed from site as part of this public realm scheme additional window sampling has taken place around TP05 and across the wider site and laboratory testing and soil waste classification is currently ongoing and GII will issue an updated report. All waste will be disposed to a licenced facility.
- 3.9 McCloy Consulting have carried out a Stage 2 Flood Risk Assessment for the proposed public realm scheme and the initial assessment has determined that the site is affected by Flood Zone A and Flood Zone B as defined in the OPW Guidelines, however given the nature of the development (i.e., open amenity space) the proposal is considered "appropriate" in any flood zone. The impact of proposed changes to ground level and watercourse channel on flood risk at the site and elsewhere will require detailed, site-specific hydraulic modelling as part of a stage 3 Flood Risk Assessment

### **3.10 Pre-Construction Activities**

- 3.10.1 The main contractor will establish site set up, appropriate signing, hoarding, security fencing and welfare facilities. Adequate space is available within the site boundary for the contractor to provide an adequate secure site compound which will include welfare facilities, material storage, site office and meeting room. Temporary connection to water, drainage and electricity will be set up to facilitate site works.
- 3.10.2 The appointed contractor will provide perimeter hoarding around the work zones to prevent unauthorised access from the public areas. Pedestrian and vehicular access will have to be maintained for harbour users.
- 3.10.3 The hoarding will be well maintained and may contain site graphics portraying project information.
- 3.10.4 Access to site will be controlled and monitored outside of site working hours.



## 4.0 Outline Traffic Management Plan

- 4.1 This Outline Traffic Management Plan, (OTMP) is designed to facilitate access to the site by plant, machinery, and work vehicles during collections/deliveries; and to minimise traffic impacts of construction to local residents in the vicinity of the site.
- 4.2 The main contractor will be required to ensure the elements of this outline OTMP shall be incorporated into the final TMP. The contractor shall also agree and implement monitoring measures to confirm the effectiveness of the mitigation measures outlined in the OTMP. The final TMP shall address the following issues (including all aspects identified in this outline TMP):
- Site Access & Egress;
  - Traffic Management Signage;
  - Routing of Construction Traffic / Road Closures;
  - Timings of Material Deliveries to Site;
  - Traffic Management Speed Limits;
  - Road Cleaning;
  - Road Condition;
  - Road Closures;
  - Enforcement of Construction Traffic Management Plan;
  - Details of Working Hours and Days;
  - Details of Emergency plan;
  - Communication;
  - Construction Methodologies;
  - Particular Construction Impacts
- 4.3 Construction Traffic will enter the site from Georges Hill or Quay Street, however due to the low level of the bridge 3.82m under the Viaduct on Quay Street leading to Seapoint, high vehicles or HGV will have to exit via Mill Street.
- 4.4 Strong lines of communication with hauliers, strict delivery schedules and just-in-time delivery methods will be in operation to ensure no more than two trucks will visit the site at any one time.
- 4.5 The main contractor is required to ensure that the provision of adequate guarding and lighting appropriate to the circumstances. Traffic signs should be placed in advance of the works area on both sides to ensure adequate warning to the general public and maintained when necessary, they should be operated as reasonably required for the safe guidance or direction of the public with regard to the needs of people with disabilities. The main contractor will comply with Regulation 97 of the Safety, Health and Welfare at Work (Construction) Regulations 2013.



- 4.6 Construction vehicles will fall into 2 no. categories, heavy and light vehicles. Heavy vehicles will consist of HGV's involved in the removal of material off-site and for the delivery of concrete and other large construction materials. Light vehicles include cars and tradespeople's vans.
- 4.7 Estimates of vehicle movements per day for both categories will be outlined upon appointment of a contractor for the project.
- 4.8 Deliveries of materials to site will be planned and programmed to ensure that the materials are only delivered when required by adopting a 'just in time', lean construction management approach. There will be periods where multiple vehicle deliveries will be required, e.g., site fill material under roads, buildings and landscape areas, pre-cast concrete and large concrete pours. These will be planned well in advance and no queuing of vehicles allowed on the public road at the entrance to the site.
- 4.9 All off-loading of material will take place within the site, remote from the public road and access via the agreed access construction point only. Bulk deliveries to take place outside of peak traffic hours within a six-day week as to minimise impact on the existing road network.
- 4.10 Sign Management: Signs are to comply with statutory requirements on public roads. Other construction sites may be carrying out construction activity at the same time as the subject site. It is therefore imperative that directions to each site are distinctly identifiable.
- 4.11 Adherence to posted / legal speed limits will be emphasised to all contractors and sub-contractors during induction training.
- 4.12 Drivers of construction vehicles / HGVs will be advised that vehicular movements in locations, such as local community areas, shall be restricted to 50 km/h. Special speed limits of 30 km/h shall be implemented for construction traffic in sensitive areas such as school locations. Such recommended speed limits will only apply to construction traffic and shall not apply to general traffic.
- 4.13 Road sweeping operations to remove any project related dirt and material deposited on the road network by construction / delivery vehicles will be utilised as required. All material collected will be disposed to a licensed waste facility.
- 4.14 A regular program of site tidying will be established to ensure a safe and orderly site and mud spillages on roads and footpaths outside the site will be cleaned regularly and will not be allowed to accumulate.
- 4.15 The traffic management plan will be enforced by both the Competent Contractor and the Resident Engineer.
- 4.16 All project staff and material suppliers will be informed of the measures proposed by the TMP during site induction and will be required to adhere to the final TMP. As outlined above, the contractor shall agree and implement monitoring measures to confirm the effectiveness of the TMP.
- 4.17 Deliveries of materials to site will generally be between the hours of 08:00 and 19:00 Monday to Friday, and 08:00 to 14:00 on Saturdays. No deliveries will be scheduled for Sundays or Bank Holidays.



- 4.18 The main contractor shall ensure that unobstructed access is provided to all emergency vehicles along all routes and site accesses. The contractor shall provide to the local authorities and emergency services, contact details of the contractor's personnel responsible for construction traffic management.
- 4.19 The contractor shall also ensure that the local community is informed of any proposed traffic management measures in advance of their implementation.
- 4.20 Due to works taking place on Mill Street and Quay Street there will be some impact on local residents in the vicinity of the site and also to harbour users.

## 5.0 River Widening Works

- 5.1 It is proposed to widen the Bracken River channel that flows through the site over a short section of its length (approx. 70m).
- 5.2 The widening will result in a river cross section approximately twice the area as the existing river channel. One river edge will accommodate terraced seating while the second edge will be planted. This will encourage biodiversity and improve flood mitigation. An appropriate flood risk assessment report will be prepared.
- 5.3 To minimise the impact on the Bracken River during the widening works and the construction of the new terraced seating area on the southern bank and the landscaped area to the northern bank it will be necessary to divert / protect the river to allow "working in the dry" for the works in close proximity to the riverbanks.
- 5.4 It is proposed to construct a temporary cofferdam bund upstream of the works area with an in-flow gravity pipe within the existing watercourse channel to below the works area. This temporary diversion within the watercourse channel should be scheduled during drier times of the year and construction in the watercourse should progress as quickly as possible to reduce the risk of exceeding the temporary diversion capacity.
- 5.5 Timing and duration of construction are primary considerations for determining the design flow most appropriate for the diversion. Extended weather forecast should be continually evaluated to avoid periods of anticipated prolonged and heavy rainfall resulting in river flow overtopping the upstream bund and the resultant health and safety and workmanship consequences. A contingency plan should be put in place to prevent damage or pollution during extreme weather and high flow events.
- 5.6 The contractor will be required to engage a competent person to design the temporary works and prepare a detailed river works methodology plan with the objective of providing a safe place of work for anybody working in the vicinity of the river, minimising the risk of pollution and damage to the water environment and minimising the upstream impact from the works by careful planning and providing training to all site personnel to ensure they are aware of the potential impact of their activities and the part they play in preventing pollution and harm to the water environment which can occur during construction.
- 5.7 The main pollutants with potential to impact water quality are silt, fuel/oil, concrete and chemicals and the contractor should consult with Inland Fisheries Ireland prior to



construction commencing to put in place control measures to eliminate contamination of site surface water runoff and watercourse.

## 6.0 Site Working Hours

- 6.1 Construction operations on site will generally be subject to the planning permission and conditions. However, it may be necessary for some construction operations to be undertaken outside these times, for example, service diversions and connections, concrete finishing and fit-out works, etc.
- 6.2 Deliveries of materials to site will generally be between the hours of 08:00 – 19:00 Monday to Friday, and 08:00 to 14:00 on Saturdays. There may be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times.



## **7.0 Waste Management Plan**

### **7.1 Background**

**7.1.1** The Waste Management Plan (WMP) will address the following points;

- Analysis of waste arisings / material surpluses
- Specific waste management objectives for the project including the potential to re-use existing on site materials for further use.
- Methods proposed for prevention, reuse and recycling
- Waste handling procedures
- Waste storage procedures
- Waste disposal procedures
- Waste auditing
- Record keeping

### **7.2 Policy and Legislation**

**7.2.1** The principles and objectives to deliver sustainable waste management for this project have been incorporated in the preparation of this report and are based on the following strategic objectives:

- Environmental Protection Agency Act 1992
- Waste Management Acts 1996 to 2005
- Waste Management (Collection Permit) Regulations 2007 (SI No. 820 of 2007)
- Waste Management (Collection Permit) Amendment Regulations 2008 (SI No. 87 of 2008), as amended.
- The Waste Framework Directive (Directive 2008/98/EC)
- Department of the Environment, Heritage and Local Government – Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects – July 2006
- In reference to the above legislation the below hierarchy has been adapted for this site:
  - Reduction of the amount of waste generated by the construction process.
  - Segregation of waste will be implemented during the construction phase of the development to enable easy re-use and recycling, wherever possible.
  - Recycle waste material where feasible, including the use of excess excavations as fill material, recycling of various waste fractions such as metals, packaging etc.

### **7.3 Waste Minimisation**

**7.3.1** The Competent Contractor shall take primary responsibility for the minimisation and prevention of waste generation. The following initiatives should be implemented to assist in this task;



- Materials to be ordered on an “as needed” basis to prevent oversupply and material build up on site.
- Appropriate storage facilities should be provided to ensure materials are correctly handled and stored thus reducing damage to materials.
- Material ordering shall coincide with the programme of works to reduce the need to store materials on site.
- Sub-contractors will be responsible for the management of their wastes.

#### **7.4 Ongoing Review of WMP**

7.4.1 It is proposed that a review of waste management practices will form part of regular site inspection audits to be conducted by the construction contractor. This information should be forwarded to the Competent Contractor to assist in determining the best methods for waste minimisation, reduction, re-use, recycling and disposal as the works progress.

#### **7.5 Management of Construction/Demolition Waste Disposal**

- 7.5.1 It is proposed to establish a dedicated and secure compound on site for the setting down of bins / skips to facilitate waste storage prior to disposal.
- 7.5.2 The site manager on behalf of the construction contractor will ensure that all staff are made aware of their responsibility in relation to waste management on site. The Competent Contractor shall inform staff by means of clear signage and verbal instruction of housekeeping and waste segregation practices.
- 7.5.3 It will be the responsibility of the Competent Contractor to ensure that a written record of all quantities and nature of waste removed off site are maintained on site in a waste file to be kept at the project office.
- 7.5.4 It is the responsibility of the Competent Contractor or nominated person that all contracted waste hauliers employed at the site hold an appropriate waste collection permit for the waste streams which will be generated and that all waste materials are disposed of at an appropriately licensed or permitted waste facility.
- 7.5.5 The Competent Contractor nominated person is also responsible for ensuring that all waste materials are disposed of at an appropriately licensed or permitted waste facility.
- 7.5.6 Typical waste materials anticipated to be generated throughout the course of the project are classified under Section 17 – Construction and Demolition Wastes – of the List of Waste (LoW) as detailed in Table 7.1, overleaf.
- 7.5.7 It is proposed that materials will be collected and stored in separate, clearly labelled skips, within a predefined waste storage area in the site compound and that these materials will be collected by a permitted waste contractor and disposed of at an appropriately licensed/permited waste facility.
- 7.5.8 Prior to the commencement of the project the Competent Contractor will instruct an appropriately permitted waste contractor to collect the waste and ensure that the waste contractor and licensed/permited waste facility hold relevant waste permits and licenses.
- 7.5.9 All waste soils shall be classified as inert, non-hazardous or hazardous in accordance with the EPA’s Waste Classification Guidance – List of Waste & Determining if Waste is Hazardous or Non-Hazardous prior to being exported off site. This is to ensure that the waste material is transferred by an appropriately permitted waste collection permit holder and brought to an appropriately permitted or licensed waste facility



**Table 7.1: Anticipated List of Wastes arising at the site**

<b>Description of Waste</b>	<b>EWC Code</b>
Concrete, Bricks, Tiles and Ceramics	17 01
Concrete	17 01 01
Bricks	17 01 02
Tiles and Ceramics	17 01 03
Mixture of concrete, bricks tiles & ceramics	17 01 07
Wood, Glass and Plastic	17 02
Wood	17 02 01
Glass	17 02 02
Plastic	17 02 03
Bituminous mixtures, coal tar and products	17 03
Bituminous mixtures containing other than those mentioned in 17 03 01	17 03 02
Bituminous Mixtures including Coal Tar and Tarred products	17 03
Metals (including their alloys)	17 04
Copper, Bronze, Brass	17 04 01
Aluminium	17 04 02
Lead	17 04 03
Zinc	17 04 04
Iron and Steel	17 04 05
Tin	17 04 06
Mixed Metals	17 04 07
Cables other than those mentioned in 17 04 10	17 04 11
Insulation and asbestos-containing Construction Materials	17 06
Gypsum based construction Materials	17 08
Other Construction and Demolition Materials	17 09
Mixed Construction and Demolition Waste other than those mentioned in 17 09 01, 17 09 02, 17 09 03	17 09 04
Sewage Screenings	19 08 01
Paper and Cardboard	20 01 01
Wood other than that mentioned in 20 01 37	20.01 38
Soil and Stones	17 05 04
Mixed Municipal Waste	20 03 01

## 7.6 Onsite Waste Reuse and Recycling Management

- 7.6.1 Each waste stream will have a dedicated area for segregation to allow easy reuse or recycling of materials. Collections for these will be as usage requires. Where possible recyclable waste will be kept dry and clean to allow processing. Recyclable waste will be transferred by suitable means to a licenced/permitted facility. Material for recycling will be segregated into suitable containers which have adequate access for collection vehicles.



## **7.7 Record Keeping**

**7.7.1** It is the responsibility of the Competent Contractor or his/her delegate that a written record of all quantities and natures of wastes reused / recycled during the project are maintained in a waste file at the Project office. Details to be included are as follows:

- Contractors and subcontractors on Site every day
- All main contractor employees on Site
- All plant and equipment on Site
- All visitors [including Health and Safety procedures] and any associated reports
- Weather every day
- Activity during the day
- Invoices showing standard of material installed adheres to specifications
- Results of concrete cube, slump and other testing
- Any accident and incident reports, safety audits internal or external
- Safety statement and safety file
- Site programme
- Any other items required by the Contractor to maintain on site by law, building regulations, building control or health and safety.
- Minutes of all site meetings
- Any applicable certificates

## **7.8 Waste Collector and Waste Facility Details**

**7.8.1** Details of all waste collectors and waste facilities details will be maintained by the competent contractor

## **8.0 Environmental Management Plan**

### **8.1 Background**

**8.1.1** Due to this development being in close proximity to residential units this section outlines suitable measures to minimise nuisance noise, water and dust emissions to minimise any impact of the proposed development on surround receptors

### **8.2 Noise and Vibration**

**8.2.1** The Contractor will be required to restrict noise levels to the following levels:

- Daytime (08:00 to 19:00 hrs) – 55dB
- Evening (19:00 to 23:00 hrs) – 50dB
- Night-time (23:00 to 08:00 hrs) – 45dB (measured from nearest noise sensitive location)

**8.2.2** To minimize noise from construction operations, no heavy construction equipment/ machinery (to include pneumatic drills, construction vehicles, generators, etc) shall be operated on or adjacent to the construction site before 08.00 or after 19.00, Monday to Friday, and before 08.00 or after 14.00 on Saturdays. No activities shall take place in site on Sundays or Bank Holidays. No activity, which would reasonably be expected to cause annoyance to residents in the vicinity, shall take place on site between the



hours of 19.00 and 08.00. No deliveries of materials, plant or machinery shall take place before 08.00 in the morning or after 19.00 in the evening.

8.2.3 The proposed development will be obliged to comply with BS 5228 “Noise Control on Construction and Open Sites Part 1”. The appointed contractor shall implement the following measures to eliminate or reduce noise levels where possible:

- All site staff shall be briefed on noise mitigation measures and the application of best practicable means to be employed to control noise.
- All staff should be briefed on the complaint’s procedure, the mitigation requirement and their responsibilities to register and escalate complaints received.
- Good quality site hoarding is to be erected to maximise the reduction in noise levels.
- Contact details of the contractor and site manager shall be displayed to the public, together with the permitted operating hours.
- Material and plant loading and unloading shall only take place during normal working hours.
- Ensure that each item of plant and equipment complies with the noise limits quoted in the relevant European Commission Directive 2000/14/EC.
- Fit all plant and equipment with appropriate mufflers or silencers of the type recommended by the manufacturer.
- Use all plant and equipment only for the tasks for which it has been designed.
- Locate movable plant away from noise sensitive receptors.
- Ensure at least 4 days’ notice is given to Fingal County Council Planning Department when applying for extensions to normal working hours. No out of hours work to be undertaken unless permission to do so has been granted.

### 8.3 Dust and Air Quality

8.3.1 Dust prevention measures will be put in place for any particulate pollution. The extent of dust generation under construction activities being carried out is dependent on environmental factors such as rainfall, wind speed and wind direction. The most likely sources of dust generation at this site include stripping of existing surfaces and the sawing of concrete throughout the duration of the project.

8.3.2 Control Measures are outlined as follows:

- Material stockpiles will be strategically placed to reduce wind exposure. Materials will be ordered on an “as needed” basis to reduce excessive storage.
- The contractor will spray water on the surface of all roads in the vicinity of the site if required in order to minimise dust generation from the construction activities.
- Appropriate dust suppression will be employed to prevent fugitive emissions affecting those occupying neighbouring properties or pathways if required.
- Restrict vehicle speeds to 15 kmph as high vehicle speeds cause dust to rise.
- Covers are to be provided over soil stockpiles when high wind and dry weather are encountered if required.



- All consignments containing material with the potential to cause air pollution being transported by skips, lorries, trucks or tippers shall be covered during transit on and off site.
- No materials shall be burned on-site.

## 8.4 Surface Water and Groundwater Protection

8.4.1 The main pollutants with the potential to impact water receptors are silt, fuel/oil, concrete and chemicals. There are a number of steps outlined below to eliminate contamination of site surface water runoff especially protection of River Bracken which runs through the site during the construction phase:

- Monitoring of potential impacts to the Bracken River will be carried out for the duration of the construction programme to ensure there is no impact from site activities.
- The contractor will implement a pollution prevention programme and will ensure daily checks are carried out to ensure compliance.
- An environmental Emergency Response Plan will be put in place for the duration of the construction programme.
- Harmful materials such as fuels, oils, greases, paints and hydraulic fluids must be stored in bunded compounds well away from storm water drains, gullies and Bracken River.
- Refuelling of machinery should be carried out using drip trays. The site compound should include a dedicated bund for the storage of dangerous substances including fuels oils, solvents etc.
- Runoff from machine service and concrete mixing areas must not enter storm water drains and gullies leading off-site.
- Stockpile areas for sands and gravel should be kept to minimum size, well away from storm water drains and gullies leading off-site.
- Open excavations to be backfilled immediately following installation of services/foundations etc.

## 8.5 Ecology and Biodiversity

8.5.1 A separate Ecological Impact Assessment report is being prepared and any recommendations from this will be included in the Construction Management Plan by the competent contractor to maximise protection for local ecological receptors.

## 9.0 Implementation

9.1 The Competent Contractor will have the overall responsibility of ensuring the measures outlined in the Project CMP are adhered to for the duration of the construction phase. The primary responsibilities of the Construction Project Manager are as follows:

- Promotion of awareness of environmental issues associated with each project phase.
- Ensure adherence with all environmental and traffic management standards listed in the Project CMP.
- Facilitate environmental audits and site visits.
- Monitor the impact of construction traffic on local traffic conditions



- Awareness and implementation of relevant legislation, codes of practice, guidance notes as stated in the CMP.
- Conduct regular site inspections to facilitate the timely identification of environmental risks or incidents.
- Ensure all construction activities are carried out with minimal risk to the environment.
- Report environmental incidents in a timely manner to the Design Team and the relevant authorities.

## 9.2 Environmental Induction

- 9.2.1** The key environmental topics outlined in the Project CMP will be summarised and integrated into the general site induction. Site-specific concerns and best work practices will be outlined to all contractors and sub-contractors due to carry out work at the site. As a minimum this will include:
- The roles and responsibilities of the Competent Contractor along with the responsibilities of contractors/sub-contractors themselves.
  - Incident and complaints procedure.
  - Outline of the CMP structure.
  - Site specific environmental concerns.
  - Best work practices

## 9.3 Environmental Incidents and Complaints Procedures

- 9.3.1** The Contractor will maintain a register of environmental incidents which will document the nature, scale and severity of any environmental incident or complaint which arises because of site activities. In the event of an environmental incident the following steps must be followed:
- The Project Environmental Consultant is notified immediately.
  - The Project Environmental Consultant will liaise with the competent authority if necessary.
  - The details of the incident will be recorded on an Environmental Incident Form which will record the following details:
    - Cause of the incident
    - Extent of the Incident
    - Immediate actions
    - Remedial measures
    - Recommendations made to avoid reoccurrence
  - If the incident has impacted on an ecologically sensitive receptor (SPA, SAC, NHA) an ecological specialist will be consulted.
  - The Project Environmental Consultant and Contractor will fully cooperate with any investigations conducted by the competent authority.



## **10.0 CONCLUSIONS**

- 10.1 This Construction Management Plan (CMP) will form part of the construction contract and is designed to reduce possible impacts which may occur during the construction of the proposed development.
- 10.2 The proposed public realm scheme shall be constructed and developed to minimise the generation of construction and demolition waste. During the construction phase, construction waste shall be stored and segregated in dedicated waste storage areas which shall optimise the potential for off-site reuse and recycling. All construction waste materials shall be exported off-site by an appropriately permitted waste contractor
- 10.3 Extensive measures shall be taken to prevent uncontrolled emissions to drains and gullies leading off the site and the Bracken River. Noise mitigation measures will be utilised as required. Several measures have been outlined to ensure adequate dust suppression throughout the project. Noise and dust monitoring shall be carried out at various stages throughout the project to ensure compliance with the relevant standards.
- 10.4 Suitably qualified personnel will be appointed to implement the procedures and protocols relevant to their profession as outlined in this CMP.
- 10.5 The Competent contractor manages the construction activities in accordance with this Construction Management Plan and shall ensure that any conditions of planning are incorporated into the final CMP prepared by the appointed works contractor.

