



**HAYES HIGGINS PARTNERSHIP**  
**CHARTERED ENGINEERS • PROJECT MANAGERS**

**Preliminary Construction Environmental Management Plan (PCEMP)**

**Residential Development  
Blackglen Rd, Sandyford,  
Co Dublin**

**Dun Laoghaire Rathdown County Council**

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**23D059**

**March 2025**



## DOCUMENT CONTROL SHEET

	<b>Client</b>	Dun Laoghaire Rathdown County Council							
	<b>Project Title</b>	Residential Development, Blackglen Road, Sandyford							
	<b>Project Ref.</b>	23D059							
	<b>Document Title</b>	Preliminary Stage Construction Environmental Management Plan							
	<b>Document No.</b>	23D059_Report 04 R2							
	<b>This Document Comprises</b>	DCS	PD	TOC	Text	-	-	-	Appendices
	<b>Check</b>								

Revision	Status	Author	Reviewed By	Approved By	Issue Dates
1	Pre Planning	SG	SH	DH	08/10/2024
2	Planning	SG	SH	DH	24/03/2025



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## 1.0 INTRODUCTION

### 1.1 Background

1.1.1 This Preliminary Construction Environmental Management Plan has been prepared by Hayes Higgins Partnership at the request of our client DLR County Council.

1.1.2 The proposed development comprises the DLR County Council Accelerated Delivery Programme for Residential Housing in Dun Laoghaire Rathdown.

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

1.2.1 This Preliminary Construction Environmental 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 local communities and environs.
- 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 waste is minimised, and 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/permitted 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 Environmental Management Plan (CEMP) has been prepared to outline the general considerations of the works, from initial enabling works to residential construction with regards to waste and the environment. An experienced and competent contractor shall be appointed for the duration of this project.

1.2.3 Due to the nature of this project the CEMP shall require constant updating and revision throughout the construction period. Therefore, this is a working document and shall be developed further prior to and during construction by the appointed competent Contractor and/or their Agents.

### 1.3 Responsibility

1.3.1 The appointed Design Build contractor shall designate & properly resource a competent person to deal with the construction phase Construction Environmental Management and Waste Management plans. Qualifications, competence, and knowledge must be acceptable to the design team.

1.3.2 This design and preconstruction phase plan has been prepared for a contractor that has not yet been appointed to conduct the proposed works. Once appointed it shall be the responsibility of the contractor to prepare a construction stage CEMP and to update it throughout the work as the project proceeds.

1.3.3 Our approach to the preparation of the CEMP 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 surveys.
- Desktop study of site investigation information which was available.
- Review scheme proposal as residential scheme design developed.
- Review of the hazards / risks associated with the project,

## 2.0 PROPOSED SCHEME & SITE WORKS

### 2.1 Site Location



Site Location

2.1.1 The proposed development site (the Site) is located on the Blackglan Road in South County Dublin and is approximately centred at Irish Transverse Mercator (ITM) Grid Reference: 717920, 725466. The Site measures c. 2.8 hectares with access gained from the R113 Blackglan Road which runs along the southern boundary of the Site. The Site is surrounded to the north by Fitzsimon's Woods pNHA, with the National Sports and Science Centre on the western boundary and an area of Dun Laoghaire Rathdown County Council (DLRCC) owned land known as Gorse Hill on the eastern boundary.



Site Boundary

There are several stand-alone dwellings along the southern boundary of the Site, all with access to the R113 road. The site itself is a greenfield site comprising rough pasture and dense scrub vegetation with direct links to the woodland to the north. The Site is surrounded to the south and east by urban developments of the new and existing housing estates within Simon's Ridge, Aiken Village and Leopardstown Heights.

There are no designated Natural Heritage Areas (NHA) within 5 km of the development site. Proposed NHAs (pNHAs) are sites that have been formally proposed but not yet designated on a statutory basis. The proposed development is not within any designated sites for nature conservation, but it is immediately adjacent to one such site, Fitzsimon's Wood pNHA.

The pNHA site synopsis (NPWS, 2009) give the following account of Fitzsimon's Wood: Fitzsimon's Wood occupies an area of approximately 8ha near Lamb's Cross in Sandyford, Co. Dublin. The woodland consists of mature birch (*Betula* spp.) with some oak (*Quercus* spp.), together with a well-developed understorey of Holly (*Ilex aquifolium*). Natural regeneration is occurring and there is a profuse growth of young birch, ash (*Fraxinus excelsior*), oak and other species. Some marshy areas also occur within the woodland. An area of heath, dominated by Gorse (*Ulex europaeus*) scrub is also included in the site. The underlying rock of the area is granite and where this outcrops it is often covered with ferns and mosses. Fitzsimon's Wood is directly adjacent to a housing estate and is subject to significant recreational pressure. Dumping of cars and rubbish is a problem. The sporadic removal of wood, coupled with campfires, also poses a threat to the site. These activities will need to be controlled if the gradual attrition of the wood is to be prevented. Nonetheless, the basic woodland structure remains intact and as birch woodland is very rare in Co. Dublin, Fitzsimon's Wood continues to be of ecological importance (NPWS, 2009).

There are no Natura 2000 sites within 2 km of the Site. The nearest Natura 2000 sites are Wicklow Mountains SAC (002122), Wicklow Mountains SPA (004040)



**Natura 2000 Sites within 15km of the Proposed Development Site**

Natura 2000 Site	Site Code	Location at Closest Point to Project Site
Wicklow Mountains SAC	002122	4.7 km south-west
Wicklow Mountains SPA	004040	4.9 km south-west
South Dublin Bay SAC	000210	5.3 km north-east
South Dublin Bay and River Tolka Estuary SPA	004024	5.3 km north-east
Fitzsimon's Wood pNHA 001753	001753	Adjacent to Site
Dingle Glen pNHA	001207	4.4 km south-east
Ballybetagh Bog pNHA	001202	4.8 km south-east

**2.1.2 General works associated with the proposed development include:**

The proposed development is to construct 129 No. houses and apartments on a site area of approx. 2.8ha

The proposal includes all necessary infrastructure such as landscaping, boundary treatments, pedestrian links, public lighting and service connections to site services and all associated works and assets. Included as part of this development shall be SuDS infrastructure.

Ancillary site development works will also be undertaken, facilitating pedestrian, cycle and vehicular access/egress with Blackglen Road. The proposed layout includes 138No. car parking spaces and 182No. bicycle spaces.



Proposed Site Layout

Delivery of this development will be under a Design Build Contract, with a complete package of detailed design drawings and specification, within a programme which shows time saving at each contract stage, including detailed design and construction, demonstrated by a combination of management strategy and optimum use of building technologies/systems, resulting in a substantial reduction on traditional build programmes, from appointment of contractor to substantial completion

### 3.0 SITE ENVIRONMENTAL CONDITIONS

#### 3.1 Ground Conditions

Ground Investigations Ireland carried out site investigation works between December 2023 and January 2024, with additional works carried out in May and July 2024, Ground Investigation Reports are included in the Tender Documentations.

The ground conditions encountered during the ground investigations are summarised below with reference to insitu and laboratory test results. The full details of the strata encountered during the ground investigation are provided in the exploratory hole logs included in the appendices of the ground investigation report.



The sequence of strata encountered were consistent across the site and generally comprised.

- Topsoil/Surfacing
- Made Ground
- Cohesive Deposits
- Weathered Bedrock
- Bedrock

No ground water was noted during the ground investigation works

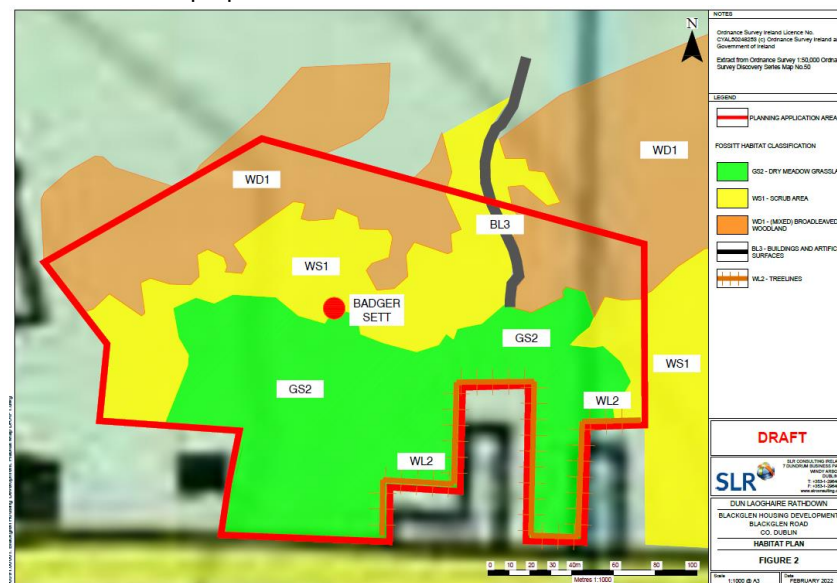
Associated laboratory testing of soil samples taken during sub soil investigation includes appropriate soil classification testing.

### 3.2 Ecological Report

SLR Consulting Ireland Ltd. have prepared a Preliminary Ecological Appraisal Report

which is included in the project documentation and concluded

- There is an active badger sett identified on site during the Site survey. Which cannot be disturbed during the proposed development.
- Some of the woodland of Fitzsimon’s Wood extends into the site and must not be removed as part of the development and has been included as part of the landscaping plan.
  - Lighting design has regard for
  - BCT Guidance on Bats and artificial lighting in the UK (Bat and the built environment series), and
  - Institution of Lighting Engineers (2011) Guidance notes for Reduction of Obstructive Light
- Native planting and pollinator friendly landscape planting should form part of the landscape plans for the Site.



Habitat Plan from Ecological Report

### 3.3 Pre-Construction Activities

The appointed design build main contractor shall 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 shall include welfare facilities, material storage, site office and meeting room. Temporary connection to water, drainage and electricity shall be set up to connecting to existing services to facilitate site works.

The appointed contractor shall provide perimeter hoarding around the work zones to prevent unauthorised access from the public areas.

The hoarding shall be well maintained and may contain site graphics portraying project information.

Access to site shall be controlled and monitored by the appointed contractor 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 and educational facilities in the vicinity of the site.



Proposed Site Access

- 4.2 The site access is located off Blackglen Road (R113), to the south of the site. All traffic associated with the residential development will access the site through Blackglen Road (R113) which is a single carriageway of approximately 6.5 metres in

width which caters for two-way traffic flow. The road runs east to west connecting the site to Enniskerry Road (R117) to the east and to Harold's Grange Road to the west. The speed limit along Blackglen Road is 50 km/h.

- 4.3 The Design Build main contractor shall be required to ensure the elements of this 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
- 4.4 Construction Traffic shall enter the site from Blackglen Road as shown above, Traffic management plan shall be sighted by main contractor prior to works commencing on site.
- 4.5 Strong lines of communication with hauliers, strict delivery schedules and just-in-time delivery methods shall be in operation to ensure no more than two trucks shall visit the site at any one time and school drop off and collection times shall be avoided.
- 4.6 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 shall comply with Regulation 97 of the Safety, Health, and Welfare at Work (Construction) Regulations 2013.
- 4.7 Construction vehicles shall fall into 2 no. categories, heavy and light vehicles. Heavy vehicles shall 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.

- 4.8 Estimates of vehicle movements per day for both categories shall be outlined upon appointment of a main contractor for the project.
- 4.9 Deliveries of materials to site shall 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 shall be periods where multiple vehicle deliveries shall be required, e.g., site fill material under roads, buildings and landscape areas, pre-cast concrete and large concrete pours. These shall be planned well in advance and no queuing of vehicles allowed on the public road at the entrance to the site and avoid school drop off and collections times where possible.
- 4.10 All off-loading of material shall 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 and school drop off and collection times within a six-day week as to minimise impact on the existing road network.
- 4.11 Sign Management: Signs are to comply with statutory requirements on public roads. Other construction sites may be conducting construction activity at the same time as the subject site. It is therefore imperative that directions to each site are distinctly identifiable.
- 4.12 Adherence to posted / legal speed limits shall be emphasised to all contractors and sub-contractors during induction training.
- 4.13 Drivers of construction vehicles / HGVs shall 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 shall only apply to construction traffic and shall not apply to general traffic.
- 4.14 Road sweeping operations to remove any project related dirt and material deposited on the road network by construction / delivery vehicles shall be used as required. All material collected shall be disposed to a licensed waste facility.
- 4.15 A regular program of site tidying shall be established to ensure a safe and orderly site and mud spillages on roads and footpaths outside the site shall be cleaned regularly and shall not be allowed to accumulate.
- 4.16 The traffic management plan shall be enforced by both the Competent Contractor and the Design Team.
- 4.17 All project staff and material suppliers shall be informed of the measures proposed by the TMP during site induction and shall 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.

- 4.18 Deliveries of materials to site shall be between the hours of 08:00 and 18:00 Monday to Friday, and 08:00 to 14:00 on Saturdays. No deliveries shall be scheduled for Sundays or Bank Holidays.
- 4.19 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.
- 4.20 The contractor shall also ensure that the local community is informed of any proposed traffic management measures in advance of their implementation.
- 4.21 Due to works taking place there shall be some impact on local residents in the vicinity of the site.

## 5.0 WATER QUALITY

- 5.1 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 Site development and building works shall be carried out only between the hours of 0700 to 1900 hours Mondays to Saturdays inclusive, and not at all on Sundays and public holidays. Deviation from these times will only be allowed in exceptional circumstances where prior written approval has been received from the Employer's Representative.
- 6.2 No deliveries of material, plant or machinery shall take place before 0700 or after 1900 hours Mondays to Saturdays inclusive.

## 7.0 WASTE MANAGEMENT PLAN

- 7.1 The construction of the development will lead to the generation of waste. The key to minimising the production of waste is to implement the waste hierarchy of Prevent, Reuse, Recycle, Recover and Dispose. The Contractor will apply the principles in 'Best practice guidelines for the preparation of resource & waste management plans for construction & demolition projects', published by the EPA.

7.1.1 The Contractor Resource & Waste Management Plan (RWMP) shall 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 including 2023.
- Waste Management (Collection Permit) Regulations 2007 (SI No. 820 of 2007) as amended.
- Waste Management (Collection Permit) Amendment Regulations 2008 (SI No. 87 of 2008), as amended.
- The Waste Framework Directive (Directive 2008/98/EC) as amended.
- “Best Practice Guidelines for the Preparation of Resource & Waste Management Plans for Construction & Demolition Projects” as published by the Environmental Protection Agency.
- 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 shall 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.
- Waste Management Act 1996 as amended.
- The Waste Framework Directive (Directive 2008/98/EC) & (Directive (EU) 2018/851)
- European Union (Waste Directive) Regulations 2011-2020 (S.I. No. 126 of 2011 - S.I. No. 323 of 2020)
- Waste framework directive regulations, 2011, as amended.
- Circular economy and miscellaneous provisions act, 2022.

### 7.3 Waste Minimisation and Management

7.3.1 The Appointed 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.

The Contractor shall implement a Waste Strategy for the project to deal with waste generation during the construction phase.

- 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 shall be responsible for the management of their wastes. The Waste Strategy shall set out the requirements of the project including how the project shall clearly identify all wastes that are likely to be produced during construction and classify them as ‘controlled’ (‘general’) or hazardous wastes. The main contractor must minimise waste and litter generated and are strongly encouraged to.
- Reuse or recycle wherever possible.
- The contractor must collect, separate, store and contain securely and label all wastes at all time.
- A waste management plan and strategy must be created and maintained for the life cycle of the project. The main contractor shall employ suitable licensed waste contractor(s) and audit their licence(s); Monitor and periodically audit the waste management scheme and activities.
- The Contractor shall endeavour to ensure that. Material is reused or recovered off-site insofar as is reasonably practicable before considering disposal at an authorized facility.
- The waste must be removed from site by an appropriately licensed contractor; and disposed of at an appropriately Waste Collection permitted licenced landfill or soil recovery facility. A waste register shall be maintained to collate all waste management Duty of Care documentation such as waste transfer notes and consignment notes and waste.
- Waste streams shall be segregated and managed.
- A copy of all dockets and details for Waste collection permits must be kept on site.

### 7.4 Ongoing Review of RWMP

7.4.1 It is proposed that a review of waste management practices shall 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. This will be discussed at multiple design team meetings throughout the life cycle of the project.

## 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 shall 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 shall 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 the appropriate waste collection permit for the waste streams which shall 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, below.
- 7.5.7 It is proposed that materials shall be collected and stored in separate, clearly labelled skips, within a predefined waste storage area in the site compound and that these materials shall 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 Appointed Competent Contractor shall 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: Indicative List of Wastes arising at the site**

Description of Waste	EWC Code
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
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
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
Green Waste – trees, bushes, and Vegetation	20 02 01

## 7.6 Onsite Resource / Waste Reuse and Recycling Management

7.6.1 Each waste stream shall have a dedicated area for segregation to allow easy reuse or recycling of materials. Collections for these shall be as usage requires. Where possible recyclable waste shall be kept dry and clean to allow processing. Recyclable waste shall be transferred by suitable means to a licenced/permited facility. Material for recycling shall be

segregated into suitable containers which have adequate access for collection vehicles. No burning of green waste on site. Contractor shall shred or mulch green waste on site.

## 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 in accordance with EPA / DLR County Council requirements. 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 shall be maintained by the competent contractor.

## 8.0 ENVIRONMENTAL MANAGEMENT ELEMENTS

8.1 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 shall be required to restrict noise levels at the site boundary to the following levels:

- Daytime Monday to Friday (08:00 to 18:00 hrs) – 55dB
- Saturday 08:00 -14:00 – 55dB
- No activities on Sundays or Bank Holidays

- 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 18.00, 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 be expected to cause annoyance to residents in the vicinity, shall take place on site between the hours of 18.00 and 08.00. No deliveries of materials, plant or machinery shall take place before 08.00 in the morning or after 18.00 in the evening.
- 8.2.3 The proposed development shall be obliged to comply with EPA Act 1992 & Noise regs 1994 (SI no 179 of 1994) 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 DLR 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 shall be put in place for any particulate pollution. The extent of dust generation under construction activities being conducted is dependent on environmental factors such as rainfall, wind speed and wind direction. The 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 shall be strategically placed to reduce wind exposure. Materials shall be ordered on an "as needed" basis to reduce excessive storage.

- The contractor shall 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 shall be employed to prevent fugitive emissions affecting those occupying neighbouring properties or pathways if required.
- Restrict vehicle speeds to 15 kmph or less 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 material shall be burned on-site.
- All access and egress roads close to the site shall be managed to suppress dust and remain muck free.
- Dust Emissions must not exceed 350mg/m<sup>2</sup>/ day.

## 8.4 Water Quality, 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 during construction phase:

- Monitoring of potential impacts to the environs shall be conducted for the duration of the construction programme to ensure there is no impact from site activities.
- The contractor shall implement a pollution prevention programme and shall ensure daily checks are conducted to ensure compliance.
- An Environmental Emergency Response Plan shall 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 far away from storm water drains, gullies.
- Refuelling of machinery should be conducted 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, far away from storm water drains and gullies leading off-site.
- Open excavations to be backfilled immediately following installation of services/foundations etc.

- Soiled water, construction water, run off and silt traps to be managed by the main contractor.
- Silt runoff from site which does not enter into a surface water feature. Toolbox talks shall be delivered by the main contractor.

## 8.5 Ecology and Biodiversity

8.5.1 A separate Ecological Impact Assessment report has been prepared and any recommendations from this shall be included in the Construction Phase Environmental Management Plan completed by the competent contractor to maximise protection for local ecological receptors.

## 9.0 IMPLEMENTATION

9.1 The Competent Contractor shall have the overall responsibility of ensuring the measures outlined in the Project CEMP 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 CEMP.
- 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 CEMP.
- Conduct regular site inspections to facilitate the timely identification of environmental risks or incidents.
- Ensure all construction activities are conducted 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 CEMP shall be summarised and integrated into the general site induction. Site-specific concerns and best work practices shall be outlined to all contractors and sub-contractors due to conduct work at the site. A separate EIA Screening report has been completed and this addresses biodiversity elements of the project.

As a minimum contractors appointed shall include:

- Their roles and responsibilities of the Competent Contractor along with the responsibilities of contractors/sub-contractors themselves.
- Incident and complaints procedure.
- Outline of the Construction Stage Environmental CMP structure.
- Site specific environmental concerns.
- Best work practices

### 9.3 Environmental Incidents and Complaints Procedures

9.3.1 The Appointed Contractor shall maintain a register of environmental incidents and all complaints which shall 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 shall consult with the competent authority if necessary.
- The details of the incident shall be recorded on an Environmental Incident Form which shall 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 shall be consulted.
- The Project Environmental Consultant and Contractor shall fully cooperate with any investigations conducted by the competent authority.

## 10.0 POLLUTION CONTROL AND WATER

The Contractor shall adhere to best practice guidance as detailed below, particularly the CIRIA guidance document C532 Control of water pollution from construction sites. The construction approach shall also adhere to the requirements set out in the Inland Fisheries Ireland guidance document Requirements for the Protection of Fisheries Habitat during Construction and Development Works and Development Sites.

- The Good Practice Guidance notes proposed by EA/SEPA/EHS:
- PPG 1: Understanding your environmental responsibilities – good environmental practices
- GPP 2: Above ground oil storage tanks
- PPG 3: Use and design of oil separators in surface water drainage systems
- GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer
- GPP 5: Works and maintenance in or near water
- PPG 6: Working at construction and demolition sites
- PPG 7: Safe storage – The safe operation of refuelling facilities
- GPP 8: Safe storage and disposal of used oils
- GPP 8: Safe storage and disposal of used oils
- GPP 8: Safe storage and disposal of used oils
- GPP 19: Vehicles: Service and Repair
- GPP 21: Pollution incident response planning
- GPP 22: Dealing with spills
- GPP 26 Safe storage – drums and intermediate bulk containers
- PPG 27: Installation, decommissioning, and removal of underground storage tanks
- CIRIA Environmental Good Practice on Site.

- CIRIA Control of Water Pollution from Construction Sites. Technical Guidance C648.
- CIRIA SuDS Manual Technical Guidance C697.
- Development on Unstable Land. Department of Environment (DOE), UK.

Where possible, hard surfaces that are positively drained shall be laid at an early stage in the construction to allow permanent facilities to be used to collect silt and hydrocarbons. The extent of exposed ground shall be minimised at all times during construction and any. Stockpiles of mud, sand or other fine sediments shall be stored away from water courses. Stockpiles shall be levelled and compacted and shall be covered with thick plastic. Membranes in order to prevent the creation of contaminated run off.

Surface Water Run-off and Silt Mitigation: No pollutants, including sediments shall be allowed to enter any surface watercourse or River Tullyeskar during construction activities. The Contractor shall follow the principles of the CEMP in order to prevent sediment or other contaminate entering any adjacent watercourse. It is proposed to maintain existing on-site levels as far as is practical, which shall reduce the volumes of soils being disturbed, and soils being stockpiled which shall reduce the potential for sediment run-off and sediment loading of surface waters. All watercourses drain and potential conduits for silt laden runoff shall be identified and where necessary, measures shall be taken to minimise direct sediment run-off from the working site into adjacent watercourses. No permanent, or semi-permanent stockpile shall remain on the site during the construction phase of the Development. Suitable locations for temporary stockpiles on site shall be identified on a case-by-case basis. The suitability of any particular location shall consider characteristics of the proposed site. Including slope incline and topography, drainage networks in the vicinity and proximity to same, other relevant characteristics which are likely to facilitate, increase, or compound. The potential for entrainment by surface water runoff.

Earthworks shall be limited to seasonally dry periods and shall be suspended if high intensity.

Local rainfall events are forecast (e.g. >10 mm/hr, >25 mm in a 24-hour period, or high winds). Silt fencing shall be installed around the perimeter of the site at any locations where surface.

Water is likely to run off, directly into watercourses. This could include the riverbank, land drains, natural depressions in the soil surface, or any other geomorphological feature. Which might accommodate surface water run-off. The location of the silt fencing shall be finalised by the Appointed Contractor in accordance with the programme of works and detailed within the final CEMP prepared for the site prior to construction commencing. The purpose of the silt fencing shall be to prevent silt leaving the site in run-off water and entering adjacent land with the potential to impact nearby watercourses.

2 Silt fences shall consist of a geotextile membrane fixed to wooden stakes 600 mm high. The membrane shall be anchored into the ground to form a continuous barrier with the soil surface. Silt fences shall be monitored and maintained when necessary. During the construction period. Maintenance shall include the replacement of the geotextile. When damaged and the removal of any silt build-up on the upslope side of the silt fence.

Emergency contact numbers for the Local Authority Environmental Section, Inland Fisheries Ireland, the Environmental Protection Agency, and the National Parks and Wildlife Service shall be displayed in a prominent position within the site compound. These agencies shall be notified immediately in the event of a pollution incident road sweepers, or a wheel wash

shall be agreed with the design team to clean the site access route as required. For example, any hard surface site roads shall be swept to remove mud and aggregate materials from their surface. Terram shall be placed under new drain covers and in road gullies, where appropriate, in order to intercept silt-laden surface run-off and prevent it from entering the existing surface water drainage network.

This mitigation shall be assessed on a regular basis (especially after heavy rain) and maintained if required. The Contractor shall provide resolute persons to ensure that the required mitigation is to an appropriate standard. They shall be inspected on at least a daily basis for the duration of the works, and a record of these inspections shall be maintained.

### **10.2 Water Pumping**

If pumping of water is required onsite, this shall be done by pumping water, through terram. And/or through installed silt fencing or into a settlement tank / pond using Sediment Filters. These methods shall slow the water flow and filter any potential silt from the water. The suspended solids shall be left to settle, and then discharged via a buffered Outflow to a soakaway. The requirement for water pumping shall be planned in advance (as far as is practicable). The appointed Contractor shall ensure that all necessary discharge consents are in place before commencing any dewatering activities.

### **10.3 Storage of fuels and hazardous materials**

Any temporary storage areas for chemicals or fuels shall be contained within impermeable. Bunds constructed in line with current best practice. Pollution Prevention Plans shall be Prepared, and site staff trained to implement them. Chemical, fuel, and oil stores shall be sited on impervious bases and within a secured bund. Of 110% of the storage capacity, within the lay down area. The integrity and water tightness of all the bunding structures and their resistance to penetration by water or other materials stored therein shall also be evaluated and demonstrated. Consideration shall be given to the phasing of construction activities to reduce the time when. Temporary facilities for storage of chemicals refuelling, and vehicle maintenance are used. To a minimum. Diesel shall be stored in integral bunded fuel bowers / bunded tanks. All connections shall be situated. Within the bund. Fuel shall be stored away from any watercourse, where. Practicable. Oils and lubricants used on the site shall be stored in temporary vessels designed to hold. 110% of the containers. No oil or lubricants shall be stored within 50m of a watercourse, where practicable. All fuels are required to be bunded on site, spill kits to be procured and utilised By the appointed contractor. Appropriate procedures and legislative requirements must be followed by the main contractor. In the event of emergencies. All information must be captured in the contractor's construction stage environmental.



Management plan and updated for the lifecycle of the project.

All plant shall be checked for leaks of fuel and lubricants before being allowed onto the site. Pumps and generators used on the site shall have integral drip trays where possible. All items of plant without an integral drip tray shall be stored over a portable drip tray. Drip trays shall be inspected and kept free of accumulated rainwater, as necessary. Any oily water shall be disposed of at an appropriate licensed facility.

Any cleaning/arising from drip trays etc. to be disposed of as hazardous waste in accordance with applicable guidance and legislation. All oil, fuel etc. storage areas shall be decommissioned upon completion of the construction phase. Litter from the site shall be the responsibility of the appointed contractor and prevented from becoming wind borne and leaving the site. Appointed contractor to implement a litter management plan.

#### **10.4 Cement / Concrete**

Wet concrete operations shall be conducted in dry conditions. Operations shall be suspended if high-intensity local rainfall events are forecast (e.g. >10 mm/hr, >25 mm in a 24-hour period or high winds) or low / warm temperatures in accordance with the civil / structural engineers' specification. All concrete pours shall be carefully planned, and special procedures adopted as required.

Any in-situ concrete work to be lined and areas bunded (where possible) to stop any accidental spillage. Smaller individual amounts for grouting and patching may need to be mixed on site, as well as larger amounts for general block and brick laying. All washout material and spillage shall be contained to prevent cement material from entering the watercourse. The wash-out shall comprise either a lined skip or a pit lined with heavy-gauge polythene. No wash down or washout of concrete trucks shall be undertaken on site. The wash down or washout of trucks shall take place off site in an appropriate facility. All vehicles used to transport the cement around the site shall be suitable for the amount. To be carried. Extra care is to be taken when using public roads and these shall be assessed for suitability in transporting large loads. All staff should be informed of washing procedures. Concrete batching shall take place off site or in a designed area with an impermeable surface. Excess concrete remaining after a pour shall be returned to the batch plant.

At completion of each work section, solidified concrete shall be broken out and disposed of in accordance with the Waste Management Plan. If any cement-based products are to be stored on-site, they shall be kept in a sheltered area at least 50m from any watercourses and covered (e.g. with a thick plastic membrane) to prevent spread by wind.

### **11.0 EMERGENCY PREPAREDNESS AND RESPONSE**

**11.1** All project personnel and sub-contractors shall receive an Environmental Induction Presentation, prior to commencement of works onsite by the appointed contractor. No personnel, including subcontractors, shall be permitted to commence employment on site without prior attendance at an induction.

**11.2** Environmental topics covered in the induction shall include but will not be limited to:

- Water resources.
- Pollution prevention.

- Emergency response procedures.
- Waste management and housekeeping; Toolbox Talks and Specialist training and monitoring.
- Management structure.
- Duties and responsibilities.
- Relevant procedures.
- Ecologically sensitive areas.
- Incident reporting.
- Consents and licenses.
- Legislation; and,
- Environmental best practice.

### **11.3 Emergency Response Plan.**

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

The ERP is a working document and will require updating and submissions from the Appointed main contractor/PSCS throughout the various stages of the project. Where sub-contractors that are contracted on site are governed by their own emergency response procedure, arrangements will be made to allow for inclusion of the sub-contractor's ERP within this.

Document.

### **11.4 Roles and Responsibilities**

The Site Manager will be responsible for activating and coordinating the emergency Response procedure. In a situation where 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.

### **11.5 Spill Kits**

Spill kits capable of dealing with hydrocarbon and chemical spills shall be provided by the appointed contractor and available at all appropriate locations on site. Each storage location shall be clearly visible to the workforce, for instance by deploying clear signage.

The spill kit contents shall include absorbent pads, absorbent booms, absorbent granules.

And hazardous waste disposal sacks as a minimum. Regular checks of the spill kits shall be completed to ensure they remain adequately stocked to deal with environmental.

Incidents. Spill drills shall be performed periodically to confirm that the workforce can effectively.

Contain and clear up potentially polluting spillages. All drills will be documented, and details kept on record for the duration of the works.

### **11.6 Fire Prevention**

Means to raise the alarm in the event of a fire such as a siren or foghorn shall be available.

At the points of work. An assembly point marked with a sign shall be designated a safe distance from the active works locations and will be communicated to all members of the workforce before works commence.

The workforce shall assemble at the point for a rollcall to be conducted by the Site.

Security Officer.

The Site Manager will decide the appropriate course of and will advise.

All personnel accordingly.

**All individuals on site, including visitors, will be obliged to immediately sign in on arrival.**

## 12.0 ACCIDENT AND INCIDENT REPORTING

All incidents, including near misses, shall be classified according to the categories outlined below. All categories of environmental incident shall be reported by the Contractor to Louth CC as outlined in the table below.

### Incident Reporting and Investigation

Incident Classification	Definition
<b>Near Miss</b>	An event, controlled through implementation of an effective incident control measure (e.g., drip tray used, effective use of noise barrier).
<b>Minor Environmental Incident</b>	Incidents that have caused minor harm or damage to the environment e.g. <ul style="list-style-type: none"> <li>• a minor fuel spill below 20 liters onto ground which is immediately cleared.</li> <li>• a minor spill of a chemical not classified as presenting an ecotoxic risk.</li> <li>• exceeding noise levels.</li> <li>• silt runoff from site which does not enter a surface water feature; or</li> <li>• excess dust emissions.</li> </ul>
<b>Major Environmental Incident</b>	Incidents that have caused or may cause significant harm or damage to the environment e.g. <ul style="list-style-type: none"> <li>• a minor fuel spill which impacts a sensitive land feature, a water body, or drains.</li> <li>• a major fuel spillage over twenty liters.</li> <li>• any spillage of a chemical which is classified as presenting an ecotoxic risk.</li> <li>• silt runoff from site which enters a water feature; or</li> <li>• receipt of a nuisance complaint.</li> </ul>

The Contractor shall report all environmental incidents that are required to be reported to the relevant statutory or regulatory bodies. The Contractor shall prepare an investigation report for all environmental incidents. The report is to include:

Summary of the environmental incident, describing the:

nature of the incident; details of any pollutant released including the type and quantity of pollutant released; and,

location for the incident (e.g., grid reference); Receptors that were or could have been impacted.

An analysis of what led to the incident occurring; Summary of immediate actions

taken to mitigate the incident.

Summary of any remedial action required; and Lessons learned and future measures or actions to be implemented.

The Contractor shall verify the incident investigation and agree with their contractors any further actions which are to be implemented to prevent a reoccurrence of comparable incidents. A timeline for the implementation of all actions shall be established and the Contractor shall provide details of when they have been implemented.

**An incident investigation shall be complete when all details have been recorded on file.**

## 13.0 EMERGENCY CONTACTS

In the event of an emergency occurrence at the Site, the Contractor shall determine the relevant statutory and regulatory bodies that must be notified. Notification shall be in accordance with the measures outlined above.

A list of emergency contacts is presented in the table below. A copy of these contacts will be included in the Site Safety Manual and in the site office.

### 13.1 List of emergency contacts

Emergency Contacts	
Contact	Contact details
Project Supervisor Construction Stage (PSCS)	TBC prior to commencement
Project Supervisor Design Stage (PSDS)	TBC prior to commencement
Environmental Protection Agency	053 916 0600
Inland Fisheries Ireland	0818 33 55 99
National Parks and Wildlife Service's regional office	0818 34 74 24
National Environmental Complaints Line (NECL)	01 888 2000
Health and Safety Authority	1800 365 123
DLR County Council – environmental incident report	0818 289 389
Emergency Services – Ambulance, Fire, Gardai	999 / 112
Hospital – Our Lady of Lourdes, Drogheda	041 983 7601
Bord Gáis Emergency	1850 20 50 50
Dundrum Garda Station	01 6665600
ESB	1800 372 999
Uisce Eireann	1850 278 278

## 13.2 Incident Response

All pollution incidents should be managed through the STOP – CONTAIN – NOTIFY concept. As soon as an incident is identified, the first action should be to STOP and prevent further discharge to drainage/river/ground.

CONTAIN may constitute control of discharge in the event of a spill, or cessation of works if it is the works that are resulting in the incident, e.g., halting excavations until silt runoff is contained. It is recognised that due to personal health and safety risks it may not always be safe to stop the source of the spill, for instance if a significant volume of an unidentified substance has been released.

NOTIFICATION should take place as soon as practicable, and frequently can take place while further release is being stopped or while a spill is being contained.

## 14.0 ENVIRONMENTAL MONITORING

Environmental monitoring shall be conducted as necessary and requirements for environmental monitoring shall be reviewed as consents are received and consultations completed.

Key parameters that will require environmental monitoring include:

Waste generation during construction; to be monitored as part of the Site Waste Management Plan to ensure the appropriate treatment, handling, management, and disposal measures are applied. Records shall be kept of quantities and types of waste managed; Inspections of the surface water course; The site compound including fuel storage and spill control equipment.

Construction Plant and Equipment; and Dust and noise pollution arising from construction site activities. In the unlikely event that noisy plant or machinery are to be operated that may have the potential to exceed the daily noise target (70 dB Laeq,1hr) or following a complaint, spot checks and/or continuous monitoring may be undertaken using a sound level meter to assess noise levels during such activities. This shall be kept under review and appropriate mitigation measures instigated if necessary. All environmental incidents and near misses shall be reported and investigated by the Contractor. All environmental incidents shall be reported as soon as possible. Where relevant, the appropriate statutory authority (e.g., EPA) shall be informed immediately. Copies of incident investigation reports shall be supplied by the Contractor and action taken to prevent recurrence.

All corrective action, incident and near miss report forms shall be held in a register maintained at the construction site office. Where the client has a concern or raises an issue for resolution, or where potential issues are raised from an inspection or audit of the site/ operations, or by a regulatory authority, the Contractor shall investigate the root cause and any implications arising from the issue and shall if necessary following discussion with the client implement measures to rectify the problem. The Contractor shall monitor the effectiveness of the corrective action and report the outcome to the client and where relevant the regulatory authority. All documentation of the issue/ event and corrective action/ outcome shall be retained by the Contractor.

Where necessary the CEMP and any associated documentation shall be revised and re- issued to avoid recurrence of the issue/ problem.

**\*Review and updates to the CEMP\***

**The final CEMP will be reviewed on a monthly basis; or following any significant change to the work activities, client requirements, legislation or guidance and updated accordingly. Therefore, the final CEMP will be continuously updated as required.**

## 15.0 SURPLUS SOIL AND STONE

A quantity of soil, stone and made ground which will need to be excavated to facilitate the proposed development. Stripping of topsoil will be conducted in a controlled and carefully managed way and coordinated with the proposed staging for the development., Approximately 40% of stripped topsoil will be reused on site (incorporated into landscaping) with remaining topsoil reused on another site as a by-product in accordance with Article 27 of the EC (Waste Directive) Regulations (2011) or recovered of at a licenced waste receiving facility (subject to the approval of the facility operator in accordance with their facility permit or licence). At any given time, the extent of topsoil strip (and consequent exposure of subsoil) will be limited to the immediate vicinity of active work areas. Topsoil stockpiles will be protected for the duration of the works and not located in areas where sediment laden runoff may enter existing surface water drains. Topsoil stockpiles will also be located so as not to necessitate double handling. Where soil is be removed offsite, it is envisaged that excavated material will be reused on site. Correct classification and segregation of the excavated material is required to ensure that any potentially contaminated materials are identified and managed in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.

## 16.0 MITIGATION / WASTE RECORD KEEPING

In addition, the following mitigation measures will be implemented:

- Building materials will be chosen with an aim to 'design out waste.'
- On-site segregation of waste materials will be conducted to increase opportunities for off-site reuse, recycling, and recovery – it is anticipated that the following waste.

Types, at a minimum, will be segregated: Concrete rubble (including ceramics, tiles, and bricks). Plasterboard; Metals; Glass; and Timber. Left over materials (e.g. timber off-cuts, broken concrete blocks/bricks) and any. Suitable construction materials shall be re-used on-site, where possible. All waste materials will be stored in skips or other suitable receptacles in designated areas of the site; Any hazardous wastes generated (such as chemicals, solvents, glues, fuels, oils) will also be segregated and will be stored in appropriate receptacles (in suitably bundled areas, where required); A waste manager shall be appointed by the main contractor(s) to ensure effective management of waste during the excavation and construction works. All construction staff will be provided with training regarding the waste management procedures.

## 17.0 WASTE COLLECTION

All waste leaving site will be reused, recycled, or recovered where possible to avoid material designated for disposal; All waste leaving the site will be transported by suitable permitted contractors and taken to suitably registered, permitted, or licenced facilities; and All waste leaving the site will be recorded and copies of relevant documentation maintained. Nearby sites requiring clean fill material will be contacted to investigate reuse opportunities for clean and inert material, if required. If any of the material is to be reused on

another site as by-product (and not as a waste), this will be done in accordance with Article 27 of the EC (Waste Directive) Regulations (2011). EPA approval will be obtained prior to moving material as a by-product. These mitigation measures will ensure that the waste arising from the construction phase of the development is dealt with in compliance with the provisions of the Waste Management Act 1996, as amended, associated Regulations and the Litter Pollution Act 1997, the EMR Waste Management Plan (2015-2021). It will also ensure optimum levels of waste reduction, reuse, recycling, and recovery are achieved and will encourage sustainable consumption of resources. This pre-construction environmental management plan specifies the need for the contractor to appoint a waste manager to be appointed who will have responsibility to monitor the actual waste volumes being generated and to ensure that contractors and sub-contractors are segregating waste as required. Where targets are not being met, the waste manager should identify the reasons for targets not being achieved and work to resolve any issues. Recording of waste generation during the project will enable better management of waste contractor requirements and identify trends. The data should be maintained to advise on future projects. The management of waste during the construction phase should be monitored to ensure compliance with relevant local authority requirements, and effective implementation of this Pre-construction plan requires the main contractor to retain waste documentation.

Importation of fill to another site will be required. Materials imported to site for use as fill will be natural stones sourced from locally available quarries or materials that have been approved as by-products by the EPA in accordance with the EPA’s criteria for determining a material is a by-product, per the provisions of article 27(1) of the European Communities (Waste Directive) Regulations, 2011. No large or long-term stockpiles of fill material will be held on the site. At any time, the extent of fill material held on site will be limited to that needed in the immediate vicinity of the active work area. Smaller stockpiles of fill, where required, will be suitably protected to ensure no sediment laden runoff enters existing surface water drains. Such stockpiles are to be located in order to avoid double handling.

## 18.0 CONSTRUCTION WASTE GENERATION

### Construction Waste Generation

Table 1 below shows the breakdown of Construction & Demolition (C&D) waste types produced on a typical site based on data from the EPA National Waste Reports and the joint EPA & GMIT study along with other research reports.

Waste Types	%
Mixed C&D	33
Timber	28
Plasterboard	10
Metals	8
Concrete	6
Other	15
<b>Total</b>	<b>100</b>

**Table 1**Waste materials generated on a typical construction site.

Table 2 below shows the estimated construction waste generation for this residential development based on the gross floor area of construction. The estimated waste amounts for the main waste types (except for soils and stones) are based on an average large-scale development waste generation rate per m<sup>2</sup>, using the waste breakdown rates shown in Table 1.

Waste Type	Tonnes	Reuse		Recycle/Recovery		Disposal	
		%	Tonnes	%	Tonnes	%	Tonnes
Mixed Construction & Demolition	262.2	10	26.2	80	209.8	10	26.2
Timber	222.5	40	89.0	55	122.4	5	11.1
Plasterboard	79.4	30	23.8	60	47.6	10	7.9
Metals	63.6	5	3.2	90	57.2	5	3.2
Concrete	47.7	30	14.3	65	31.0	5	2.4
Other	119.2	20	23.8	60	71.5	20	23.8
<b>Total</b>	<b>794.6</b>		<b>180.4</b>		<b>539.5</b>		<b>74.7</b>

**Table 2 Estimated Construction Waste**

It is estimated there will be c. 13,245t soil, stones, clay, made ground excavated to facilitate construction of new foundations, drainage, and underground services. Any suitable excavated material will be temporarily stockpiled for reuse as fill or in landscaping, where possible, but reuse on site is expected to be limited and most of the excavated material is expected to be removed offsite for appropriate reuse, recovery and/or disposal. It should be noted that until final materials and detailed construction methodologies have been confirmed, it is difficult to predict with a high level of accuracy the construction waste that will be generated from the proposed works as the exact materials and quantities may be subject to some degree of change and variation during the construction process. When this material is removed off-site it could be reused as a by-product (and not as a waste), if this is done, it will be done in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011. Article 27 requires that certain conditions are met and that by-product notifications are made to the EPA via their online notification form. Excavated material should not be removed from site until approval from the EPA has been received.



## 19.0 CONCLUSIONS

- This Preliminary Construction Environmental Management Plan (CEMP) shall form part of the construction contract and is designed to reduce impacts which may occur during the construction of the proposed development.
- The main contractor shall develop a construction stage environmental management plan from this CEMP. The proposed housing scheme shall be constructed and developed to minimize 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 optimize the potential for off-site reuse and recycling.
- All construction waste materials shall be exported off-site by an appropriately permitted waste contractor to licensed facilities. Extensive measures shall be taken to prevent uncontrolled emissions to drains and gullies leading off the site.
- Noise mitigation measures shall be utilized as required. Several measures have been outlined to ensure adequate dust suppression throughout the project.
- Noise and dust monitoring shall be carried out by the contractor at various stages throughout the project to ensure compliance with the relevant standards. Suitably qualified personnel shall be appointed to implement the procedures and protocols relevant to their profession as outlined in this CEMP.
- The Competent contractor manages the construction activities in accordance with this Construction Environmental Management Plan and shall ensure that any conditions of the pre-construction and design phase are incorporated into the final CEMP prepared by the appointed works contractor.
- A complaints register must be maintained by the main contractor.