

CLANCY

Built on Partnership

Construction & Demolition Waste Management Plan

**PRUSSIA STREET
STUDENT ACCOMADATION**

PSCS



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1. Document Initial Issue	Author	Tender Information	Date:
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Revision	Author	Summary of Changes	Version Ref:

Table 1 - 1 Document History

**Construction and Demolition Site Waste Management Plan has been presented,
published and endorsed by:**

Name	Title	Date	Status
	Construction Director		
	Environmental Director		
	Contracts Manager		
	Senior Site Manager		
	Site Manager		
	Environmental manager		
	Project Environmental manager		

Table 1 - 2 Distribution

2. Introduction

The Construction and Demolition Waste Management Plan (CDWMP) has been prepared to set out the means in which PSCS propose to ensure that all construction and demolition wastes arising from the project are dealt with in a systematic way and in accordance with the governing legislation i.e. The Waste Management Act 2021 and subsequent amendments.

This plan has been prepared in accordance with the “Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects” (Department of Environment, Heritage and Local Government, July 2021).

This plan sets out the management measures which will be undertaken by PSCS Ltd, as PSCS and main Contractors, to ensure that waste from the construction activities is dealt with in a systematic way and in accordance with the governing Waste Management legislation.

PSCS operate an Environmental Management System which has been accredited by **NSAI to IS EN ISO 14001: 2015** CDWMP forms part of this environmental system and our overall Construction and Environment Management Plan (CEMP) for the operational phase of the development of the Prussia Street Student Accommodation project. The primary objective of this Plan is to provide an overall framework for the management of the LEED process on site.

The plan outlines:

- Measures to minimise the generation of construction and demolition waste.
- Measures for the management, storage and disposal of waste generated.
- Roles and responsibilities of those involved in the implementation of waste management plan.
- Protocols for monitoring and recording.

The management plan will be reviewed as required to incorporate any improvements to the waste management system processes.

3. Project Description

The proposal for the redevelopment of the former 'BA Steel Fabrication Site' is to create a transformative piece of improved urban fabric whilst protecting the established built form and incorporating its location on the fringe of the TU Dublin Grangegorman campus.

The proposed development provides retail unit at street level and a range of student rooms and studios with associated amenities set within an urban landscaped environment of high quality.

Access to the site will be via main entrance from Prussia Street.

Deliveries and access to the site will be carefully arranged, managed and coordinated. PSCS will erect and maintain in good order an effective hoarding/Partition designed to prevent unauthorized access to work areas. This barrier will be highly visible. Appropriate signage shall be erected. All offloading of materials and/or plant, and all other construction site activities will be from inside the site boundaries in allocated areas as agreed with the Client on site.

Works will include the following scope, but not limited to:

- The works involve the construction of a residential development of student apartments
- Works also include the installation of all services, roadways and associated works.
- Installation of all M&E Waste and Water Services
- Installation of crane to facilitate construction works.
- Fit-out of all floors
- Installation of all associated M&E services.

As part of the above works, Protocols will be implemented to ensure:

- Control and monitoring of Noise, vibration and Air Quality Management Plan
- Compliance with Regulatory Planning consents
- Security and access controls
- Maintenance of safe environment for all users such as subcontractors on site as well as adjacent building users and the public.

The waste minimisation techniques including, but not limited to:

- management of materials storage to prevent spoilage, damage and contamination.
- minimising wastage allowances.

- avoiding, reducing and reusing packaging.
- off-site manufacture; and modularisation of components.

Figure 3 - 1 Site Plan



4. Legislation

As mentioned previously The Department of the Environment provides a document entitled, ‘Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects.’ This document was referred to throughout the process of completing this CDWMP.

The Waste Management Act 2021 and its subsequent amendments provide for measures to improve performance in relation to waste management, recycling and recovery. The Act also provides a regulatory framework for meeting higher environmental standards set out by other national and EU legislation.

In relation to construction and demolition waste, the Act requires that any waste related activity has to have all necessary licenses and authorisations. It will be the duty of the Site Management on the site of the proposed development to ensure that all contractors hired to remove waste from the site have valid Waste Collection Permits. It will then be necessary to ensure that the waste is delivered to a licensed or permitted waste facility. The hired waste contractors and subsequent receiving facilities must adhere to the conditions set out in their respective permits and authorisations.

5. Waste Diversion Goals

This Project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.

Hazardous and Non-Hazardous Construction and Demolition Waste (C&DW) streams generated during the all stages of the construction site activities is to be segregated, collected, re-used / recycled / disposed of and recorded to ensure comprehensive Waste Management records are maintained by PSCS, to minimise the environmental impact of waste generated by on-site activities.

8. Targeted Material Streams

Wastes generated on site must be identified and segregated accordingly. In order to enable this, the works will be carried out in phased nature to aid the segregation of the materials expected to be encountered during all phases of works. Any reusable materials will be set aside on each floor slab in a designated area. All non-reusable material will be segregated and disposed of into specific skips. Due to confined space arrangement skips will be distributed by crane and as required to designated location for each stream segregation.

Collection of the skips will be schedule on weekly basis and as required no later than 07.30 AM each time. Total estimated volume of waste for full duration of the project is approximate 300 tonnes.

Targeted Material Streams each material comprises of the total waste material as follow.

EWC Cod	Waste Type	Steps Taken to Prevent/Minimise/Reuse/Reduce/Recycle/Recover
17 05 04	Soil & Stone	On Site Backfilling Fully recycled at Licensed Waste Recovery Facility
17 02 01	Wood	On site shuttering for reinforce concrete slab Fully recycled at Licensed Waste Recovery Facility
17 01 07	Concrete & Bricks	Fully recycled at Licensed Waste Recovery Facility
19 12 12	Clean Construction Rubble	Fully recycled at Licensed Waste Recovery Facility
17 04 05	Iron & Steel	Fully recycled at Licensed Waste Recovery Facility
15 01 06	Mixed Packaging	Fully recycled at Licensed Waste Recovery Facility

9. Contamination Prevention Measures

PSCS will monitor excavation works to check for unexpected or unusual materials with a contaminative potential. This material may consist of, but not be limited to, buried drums, tanks or containers, soil, groundwater or liquids with an unusual colour or odour, or other evidence of contamination. If this type of material is encountered works will be stop in the affected area until the identification the exact nature and extent of the material, undertaken (or amended) risk assessments and amended and submitted the risk assessments and revised mitigation proposals to the Project Environmental Manager for acceptance. This approach shall be included in the Health and Safety Plan as required by this part of the EMP

10. Waste Handling Procedures

The primary aim of this CDWMP is to ensure that the wastes generated during the project are managed in accordance with the governing Waste Management Legislation and the principles of Waste Hierarchy i.e. prevention, minimization, reuse, recovery and recycling.

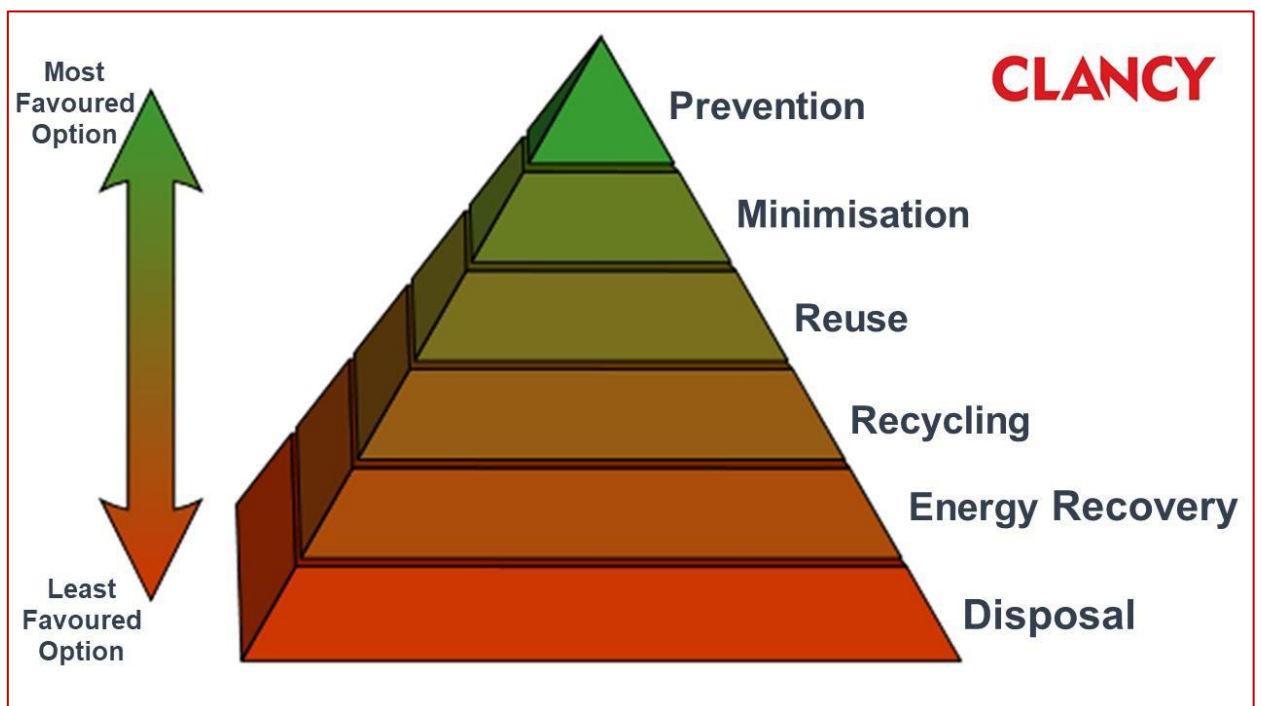


Figure 9 - 5 Waste Management Hierarchy

Under the Waste Management (collection Permit) Regulations 2007 a waste collection permit, for the appropriate code(s) and destinations, is required by a waste hauler to transport waste from one site to another. Compliance with the Waste Management (Movement of Hazardous Waste) Regulations, 1998 is also required for the transportation of hazardous waste by road. The export of waste from Ireland is subject

to the requirements of the Waste Management (Shipment of Waste) Regulations, 2007. PSCS will ensure that the transport and movements of all wastes are carried out in compliance with these requirements. Details of proposed waste collection company and permit references can be found in Appendix A

Waste will only be treated or disposed of at facilities that are licensed to carry out that specific activity (e.g. recycling, landfill, incineration etc) for a specific waste type. Records of all waste movements and documentation should be held on site. Details of proposed waste destinations and license references can be found in Table 4.1

In order to prevent and minimize the generation of wastes PSCS will ensure that raw materials are ordered so that the timing of the delivery, the quantity delivered, and the storage is not conducive to the creation of unnecessary waste. By following a “just in time” approach, this decreases waste, utilises storage space better, reduces potential losses and damage as well as making the site safer.

The construction work planning will be carried out closely with the waste management contractors, in order to determine the best techniques for managing waste and ensure a high level of recovery of materials for recycling. PSCS will continuously seek to improve the waste management process on site during all stages of construction and maximise opportunities for reuse or recycling where they exist.

11. Primary Waste Streams

Activity	Waste Generated	Disposal / Treatment Recommendations*
Delivery of Materials	Materials Wrapping	Segregated Waste is to be removed from the Site by Approved Waste Contractor and disposed / recovered at an Approved Registered or Licenced Waste Facility as a last resource.
Operation of Machinery	Oils, Filters and Cleaning Materials	
Contractor Canteen Facilities	Food Waste, Packaging Materials, Dry Recyclables	
Electrical Fit Out	Metal, Wire	
Mechanical Fit Out	Pipe Off Cuts, Wrapping, Insulation, Weld Rods	
Ready Mixed Concrete	Wash Out from Trucks	To Be removed from site and recycled at the concrete batch plant.

Table 11 - 4 Primary Waste Streams

Concrete:

It will be confirmed with the concrete supplier that there will be no wash out area on site due to areas of the site being protected and that all concrete trucks will return to their own yard for wash out.

Non-recyclable waste:

Mixed non-hazardous waste, which is not recyclable will be stored on-site, pending collection by in either a large wheelie-bin or enclosed skip. This waste is typically made up of residual wastes including soiled paper, fibreglass, plasterboard, insulation etc... The designated container will be on-site at all times during construction work. There will be a designated storage/compound area on site in which all skips will be located, and waste will be segregated in this area and placed in the designated skip.

1. Asbestos Hazardous Waste:

Appropriate handling, storage, transportation and disposal of waste will be undertaken. Prior to being removed from the site, waste will undergo a comprehensive waste assessment and classification by a suitably qualified person, in accordance with the European Waste Catalogue (EWC) and Hazardous Waste List.

A specialist contractor will then be contracted to collect and dispose of the waste and a waste disposal certificate will be provided.

Waste Metals:

A metal skip will be provided when required to store any waste metals. The waste metal will be re-used or recycled by the licensed waste contractor.

Excavated Material:

Any excavated materials which are not intended to be discarded are not considered as waste. In re-using this type of excavated material, it will be ensure that the use of the soil will not result in pollution of local watercourses.

Waste from Welfare Facilities:

This will typically be domestic refuse (food waste, paper, plastics, glass etc.) generated in the offices and canteen areas within the site compound. All waste of this type will be stored in an appropriate location within the construction compound and protected from wind, rain and wildlife. Designated receptacles will be provided to facilitate the segregation waste into appropriate waste streams (glass, paper, food etc.). These will include for example brown bins for food, green bins for dry recyclables, separate containers for glass and tins and black bins for residual waste.

Fuel and Oils:

Shuttering mold oils, will be stored and handled in accordance with Best Practice Pollution Prevention procedures as follows:

- A bunded chemical storage unit is provided in the main stores on site. The chemical storage unit is also equipped with a spill kit, MSDS sheets for all chemicals stored there and signage

- Any leaks or spills must be contained in accordance with our emergency spill and clean-up procedures.
- Oily rags, used spill kit materials, will be stored in hazardous bags which are located in the chemical storage unit on site until collected by the PSCS environmental officer who will bring back to the yard at head office where the waste will be segregated and placed in the hazardous waste bins which are located there. These bins will be collected by Enva Environmental when full and the waste will be disposed and PSCS will receive a waste disposal certificate for each bin.
- Waste disposal records will be maintained, including copies of all Waste Collection Permits detailing disposal routes and waste carriers used.

8. Packaging:

This includes waste materials arising from packaging of equipment or materials brought onto site, including paper, plastics and wood used for packaging construction materials.

In line with the Waste Hierarchy, wherever possible, packaging will be returned to originator for reuse ahead of recycling or disposal. Otherwise waste packaging will be segregated and stored on site in appropriate skips within the construction compound and disposed of in accordance with waste management regulations.

Skips will be clearly labelled for plastics, timber, and other waste materials to ensure segregation. Materials will be placed in these and can be reused as required during construction. PSCS will ensure these are emptied by a licensed waste facility as necessary. Cardboard/paper needs to be stored separately in a dry location pending collection.

12. Expected Waste Streams & Disposal Procedures

Waste Material	EWC Code	Approximate Quantity	Waste Management Option 're-use' on site 're-use' at transfer 'hazardous' waste disposal	Removal
Steel Reinforcement	17 04 05	0 ton	Actual quantity shall be supply from Midlands Steel based on Bar Bending Schedule	Any excess rebar or structural steel will be returned to the supplier or manufacturer where possible otherwise it will be stockpiled for delivery to Licenced Facility. All waste will be removed by an authorised waste collector and the destinations of all waste streams will be outlined in the waste collection permit
Blockwork	17 01 02	0 ton		Reused as fill where possible otherwise removed off site as inert waste to a Licenced Recycling Facility.
25-50mm diameter copper pipework	17 04 01	0 ton	Contractually agreed to be collected by appointed subcontractor	Any excess copper will be returned to the supplier or manufacturer where possible otherwise Removed off site to a Licenced Recycling Facility (Mechanical Contractor)
C&D Wood	17 02 01	18 ton	After completion Plywood and timber will be collected and reused on the project	Any excess timber will be returned to the supplier or manufacturer where possible otherwise disposed of off-site to a Licenced Recycling Facility. All waste will be removed by an authorised waste collector and the destinations of all waste streams will be outlined in the waste collection permit
Electrical cable	17 04 11	0 m	Contractually agreed to be collected by appointed subcontractor	Any excess cables will be returned to the supplier or manufacturer where possible otherwise removed off site to a Licenced Recycling Facility (Electrical Contractor) All waste will be removed by an authorised waste collector and the destinations of all waste streams will be outlined in the waste collection permit
Plasterboard, suspended ceilings	17 08 02	0 m ²	Reuse on Site	Any excess plasterboard or partition/studding materials will be returned to the supplier or manufacturer where possible otherwise removed off site to a Licenced Recycling Facility. All waste will be removed by an authorised waste collector and the destinations of all waste streams will be outlined in the waste collection permit
Mixed C&D	17 09 04	0 ton	Due to confined space arrangement Waste will be segregate at the contractor Waste Facility	All waste will be removed by an authorised waste collector and the destinations of all waste streams will be outlined in the waste collection permit
Bulky Municipal	20 03 07	0 ton		All waste will be removed by an authorised waste collector and the destinations of all waste streams will be outlined in the waste collection permit

Table 12 - 5 Expected Waste Streams & Disposal Procedures

13. Assignment Of Responsibilities And Training

13.1. Project Environmental Manager

A Construction and Demolition Waste Project Environmental Manager (WPEM) will be appointed who will have overall responsibility for the management of waste on site. The WPEM appointed will be experienced in all aspects of site logistics including waste and materials management. Project goals will include:

- Distinguish reusable materials from materials suitable for recycling
- Ensure maximum segregation at source;
- Co-operate with site manager on best locations for stockpiling reusable materials;
- Separate materials for recovery; and
- Identify and liaise with operators of recovery outlets

The WPEM will be responsible for educating all site staff, sub-contractors and suppliers about the available alternatives to conventional waste disposal. The WPEM will continually identify waste minimization actions on site and these will be updated in the plan.

13.2. Site Manager

- The Site Manager will ensure that copies of this Waste Management Plan will be made available to all relevant personnel on site.
- The Senior Site Manager will ensure that all site personnel and sub-contractors will be instructed about the objectives of the Site Waste Management Plan and informed of the responsibilities which fall upon them as a consequence of its provisions.
- Where source segregation and material reuse techniques apply, each member of staff will be given instructions on how to comply with this Project Waste Management Plan.
- Toolbox talks will be held to highlight the importance of proper waste management throughout the construction phases.

13.3. Appointed Site Storeman/ Crane operator

- Co-ordinate with sub-contractors to ensure that appropriate storage conditions are available.
- Keep a record of all materials brought to site to enable assessment against what was used.
- Routinely inspect waste storage areas to ensure that materials are being stored appropriately.

- Arrange for the collection and removal of waste off-site with Senior Site Manager.

13.4. Sub-Contractors and Construction Personnel

Sub-contractors will liaise with PSCS to ensure materials are supplied in an appropriate manner and in the correct quantity. Building materials disclosure and optimisations a part of environmental management LEED implementation.

13.5. Training

Copies of the Waste Management Plan will be made available to all personnel on site. All site personnel and subcontractors will be instructed about the objectives of the Waste Management Plan and informed of the responsibilities which fall upon them. This will typically be carried out during the induction process for all new site staff and subcontractors. Where source segregation and material reuse techniques apply, each member of staff will be given instructions on how to comply with the Waste Management Plan. Site notices will be in place to reinforce the key messages of the Waste Management Plan and will be displayed prominently for the benefit of all site staff.

14. Communication

The types of relevant communication and training required to meet this include:

- The Site Waste Management Plan
- Roles and Responsibilities
- Toolbox Talks
- Waste Procedures on Site
- Duty of Care/Responsibilities
- Material Storage

14.1. Site induction

All Employees / Subcontractors prior to starting works on site will be given an Induction to fully explain and set out all the Waste parameters and requirements of the Project. Part of the induction will set out the Waste criteria to be adhered to. The Induction Register will be signed by all personnel and be available on site at all times. LEED Management will be on the Agenda for discussion and monitoring at all site meetings, including those between sub-contractors.

15. Implementation Protocols and Parties Responsible

Activity		Responsibility
13.1	Skips delivered to site/collected from site - A numbered docket accompanies the skip. The docket contains the date of collection/delivery, and the truck registration number.	Site Manager
13.2	The skips are located at designated waste generation points on site. For large volume C&D waste streams, specific locations will be identified.	Site Manager
13.3	All employees are responsible for correct filling of skips.	Site Manager
13.4	Encourage employees, through appropriate environmental awareness training sessions to; <ul style="list-style-type: none"> <li data-bbox="384 640 1289 719">☐ Reduce waste by, for example, properly storing and handling construction materials. <li data-bbox="384 719 1289 797">☐ Reuse materials, for example, shuttering, boarding and fencing can be reused many times before they need to be thrown away. <li data-bbox="384 797 1289 875">☐ Save and reuse materials such as paints, thinners, either on-site or at another location. 	Environmental Project Manager/Site Manager
13.5	In general, any hazardous waste streams should be disposed of at the earliest opportunity to avoid possible contamination of other C&DW streams.	Project Manager
13.6	The Site Manager notifies appropriate approved Waste Disposal Contractors for Waste Disposal when collection is due.	Site Manager
13.7	The skip is then transported to the Licensed Waste Facility and weighed. The weighing record is recorded on the weighbridge operating system, showing the time of weighing and the quantity of waste and the truck registration number.	Waste Collector
13.8	The Waste Disposal Contractors will provide a report on a monthly basis, showing the total quantity of waste collected from site and the quantities of the different materials recovered for recycling and the quantity of material either sent for landfill or for use as Refuse Derived Fuel This report will also include the number of the service docket for all collections.	Waste Disposal Contractor /Project Environmental Manager
13.9	The Site Manager / Waste Management Coordinator ensures that all Waste Disposal Contractors used by PSCS have the appropriate waste disposal permit/license to collect and transport waste in accordance with the Waste Management Regulations (refer to guidelines for selection of waste disposal contractors, appendix 1).	Site Manager

13.10	Waste Statistics Reports will be provided for all skips showing Date of collection, Skip size, Waste Type, Weight Docket Number and Tonnage Details. The statistical report for Mixed Construction & Demolition will be provided for each stream showing the percentage of different waste grades and the breakdown of Waste v Recycling. A final Cumulative Waste Statistics Report will be presented in excel format over a number of sheets showing cumulative analysis of each skip and an overall depicting the percentage recycling rate for each waste stream. The percentage of Non-Recyclable Waste sent to Landfill together with the Tonnage will also be shown.	Waste Disposal Contractor /Project Environmental Manager
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Table 14 - 6 Implementation Protocols and Parties Responsible

16. Construction & Demolition Waste Cork City Council Permit

- The permit holder shall not mix or remix source segregated construction and demolition wastes during collection and transport to ensure compliance with national targets for the recovery, recycling and re-use of construction and demolition wastes.
- The permit holder shall damp down dry or dusty wastes following collection and prior to transport and/or shall provide suitable cover to avoid nuisance being created.
- The permit holder shall ensure that no waste is deposited on the public road during the collection and transportation of the waste.
- The permit holder shall not collect soil contaminated with hydrocarbons, hazardous waste or dangerous substances, unless permitted to do so in accordance with condition 1.3 and as listed in Appendix A.
- The permit holder shall ensure that no pollutants or other waste types are allowed to contaminate loads destined for recovery, recycling or reuse. The permit holder shall transfer contaminated loads to appropriate licensed, permitted or certificate of registration facilities where segregation/treatment can be carried out.
- The collection of construction and demolition wastes that are hazardous in nature is additionally subject to the conditions specified for hazardous wastes.
- The permit holder shall only transfer the control of gypsum wastes to an authorised person for recovery or for disposal in accordance with the Council Decision of 19 December 2002 establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex to Directive 1999/31/EC [2003/33/EC].

17. Waste Records

Full details of all construction and demolition waste discarded from site will be recorded during all stages of the project. Each consignment of C&D waste removed from the site will be documented in the form of a Waste Movement Records which will ensure full traceability of the material to its final destination. Printed documents/records from waste disposal companies quantifying exact amount of waste materials removed from site will also be received. This sheet from the disposal company will also identify how much material went to landfill and how much went for recycling. All such records will be retained in a designated location on site and made available for auditing of the waste management plan.

18. Waste Auditing

- A regime of internal and external audits, consisting of a systematic study of all waste management practices which have been adopted on-site.
- Monthly environmental audit, which will highlight corrective actions that will be taken in relation to management polices of site practices in order to bring about further waste reductions.
- Waste walks, part of our “Lean Approach” to the project, will be carried out to identify opportunities for waste reduction.
- This project will be inspected on a daily basis using the PROCORE management tool.
- The Site Manager is responsible for providing evidence to close out any actions / nonconformances raised and will record this information on PROCORE.
- The project will also be audited on PROCORE. The site management team are responsible for providing evidence to close out any actions / non-conformances
- The Environmental Manager will make regular visits to the project in order to review and assist the project where necessary. Actions from these visits will be logged.

19. Emergency

Who to call in an Emergency:

Emergency Services:

Ambulance, Fire or Garda.....	999/112
Department of Environment.....	1890-20 20 21
Local Council (Dublin City Council)	01 222 2222
Senior Site Manager.....	TBC
Project Environmental Manager.....	TBC
Safety Manager.....	TBC

