

**Margaret's Fields SHD
Kilkenny**

**Construction & Environmental Waste
Management Plan**

**Denis Treacy Construction Limited
March 2021**

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1 GENERAL PROJECT INFORMATION

1.1 Purpose and Scope of the Construction and Environmental Waste Management Plan (CEWMP)

This CEWMP has been developed to provide the management framework needed for the planning and implementation of construction activities, in accordance with environmental commitments and requirements, for the proposed residential development by Denis Treacy Construction Limited on a site of c. 3.2ha at Margaret's Fields, Callan Road, Kilkenny, Co. Kilkenny.

Should the project secure planning permission, the CEWMP will be updated, in line with all conditions and obligations which apply to any grant of permission. The CEWMP will be provided to the Project Supervisor Construction Stage (PSCS) once appointed, so that it remains a 'live' document for the duration of the construction phase. The CEWMP will be updated as the construction progresses, ensuring that it remains current, reflects work activities and environment on site and that all construction works remain within the constraints of this document in order to guarantee that the work is carried out in a way that minimizes the potential for any environmental impacts to occur.

1.2 Site Location/General Description

The development site is located to the south west of Kilkenny city adjacent to the N76 Kilkenny / Callan road which links to the Kilkenny Ring Road and the R909 to the city centre. The site is bounded to the east and north-east by existing residential dwellings of the Phase 01 & Phase 02 development and to the west by a green field site with an indicative line of the future proposed Western Bypass Road.

The proposed development will constitute the final phase of development (Phase 03) of Margaret's Fields by the applicant.

The proposed apartment & duplex accommodation will be provided within 4 No. buildings ranging in height from 2 to 4 storeys and the housing accommodation in two & 2.5 storey dwellings. A wide variety of dwelling typologies is proposed from one, two & three bedroom apartment & duplex units to a mix of two, three & four bedroom houses.

The proposal includes for three primary green public open space green areas; a new landscaped main public open space in the centre of the site, a pocket park to the north west of the site which will be an extension of the proposed homezone area adjacent to the proposed apartment building and a linear green space shared between Phase 2 and Phase 3 of the subject development.

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Figure 1 – Site Layout Masterplan

These public open spaces are located and designed to extend and enhance the existing pedestrian connections through the development and to complete a loop route from the existing green space in the north east of the estate to the new green space in the north west.

1.3 Project Description

The proposed development will provide for 115 no. housing units including 6 no. four bed houses, 37 no. three bed houses, 14 no. two bed houses, 15 no. 3 bed duplex houses, 15 no. one bed apartments, 27 no. two bed apartments and 1 no. three bed apartment. Access to the site will be from Seville Grove.

The proposed development includes the partial reconfiguration and redesign of the permitted Phase 2 development on the site, which is partially complete (Kilkenny County Council, Reg. Ref. 06/1089). The proposed development also includes hard and soft

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landscaping, associated car and bicycle parking spaces, bin storage and all associated works including site excavation, infrastructural and site development works.

1.4 Phasing of Works

It is proposed that that works will be completed in one phase.

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2 RESPONSIBILITIES OF PERSONNEL

The Safety, Health and Welfare at Work Act 2005 and the Safety, Health and Welfare at Work (Construction) Regulations 2013 and (Amendment) Regulations 2019 place a responsibility on all parties involved in construction process from initial design phase through to construction completion.

A competent and experienced Project Supervisor Construction Stage (PSCS) will be appointed to manage the construction stage of the project. Responsibilities of the Design and Construction Team for this project include:

2.1 Client Responsibilities

- Appoint a competent and adequately resourced Project Supervisor for the Construction Stage (PSCS);
- Be satisfied that each designer and contractor appointed has adequate, training knowledge, experience, and resources for the work to be performed;
- Co-operate with the project supervisor and supply necessary information;
- Keep and make available the safety file for the completed structure;
- Provide a copy of the safety and health plan prepared by the PSDP to every person tendering for the project;
- Notify the Health and Safety Authority of the appointment of the PSDP using the AF1 form.

2.2 PSDP Responsibilities

- Identify hazards arising from the design or from the technical, organisational, planning or time related aspects of the project;
- Where possible and taking into account the General Principles of Prevention, eliminate the hazards or reduce the risks;
- Communicate necessary control measure, design assumptions or remaining risks to the PSCS so they can be dealt with in the construction safety and health plan;
- Ensure that the work of designers is coordinated to ensure safety;
- Organise co-operation between designers;
- Prepare a written safety and health plan for the project;
- Prepare a safety file for the completed development and give it to the client;
- Notify the Authority and the client of non-compliance with any written directions issued.

2.3 Designers Responsibilities

- Identify any hazards that their design may present during construction and subsequent maintenance;

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- Where possible, eliminate the hazards or reduce the risk taking into account the General Principles of Prevention;
- Communicate necessary control measures, design assumptions or remaining risks to the PSDP so they can be dealt with in the safety and health plan;
- Co-operate with other designers, PSDP and PSCS;
- Take account of any existing safety and health plan or safety file;
- Comply with directions issued by the PSDP or PSCS.

2.4 PSCS Responsibilities

The PSCS is responsible for the safety and environmental management of the construction phase of the project. The appointed PSCS will be fully briefed by the PSDP in the content and requirements of this CEWMP.

- Co-ordinate the identification of hazards, the elimination of the hazards or the reduction or risks during construction;
- Develop the Safety and Health Plan initially prepared by the PSDP before construction commences. A key component of the Plan also includes environmental management and adhering to the requirements of this CEWMP throughout the construction phase;
- Coordinate the implementation of the construction regulations by contractors;
- Organise cooperation between contractors and the provision of information to them;
- Co-ordinate the reporting of accidents / dangerous occurrences to the Authority and to the Client;
- Notify the Authority before construction commences using the AF2 form;
- Provide information to the site safety representative, if appointed;
- Co-ordinate the checking of safe working procedures amongst contractors;
- Co-ordinate measures to restrict entry in to the construction zone;
- Co-ordinate the provision and maintenance of welfare facilities;
- Co-ordinate arrangements to ensure that craft, general construction workers and security workers have a Safety Awareness card, e.g. Safe Pass and a Construction Skills card where required;
- Co-ordinate the appointment of a site safety representative where there are more than 20 persons on site;
- Appoint a safety adviser where there are more than 100 on site however, for this project there will definitely not be anywhere close to 100 personnel on site.
- Provide all necessary safety file information to the PSDP in an organized manner;
- Monitor the compliance of contractors and others and take corrective action where necessary;
- Notify the Authority and the client of non-compliance with any written directions issued.

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3 CONSTRUCTION MANAGEMENT

3.1 Working Hours

It is expected that the construction works will be subject to conditions relating to the permitted hours of work. On this basis, the following working hours are estimated based on the typical allowance from Kilkenny County Council:

8am - 6pm Mon – Fri,
8am - 3pm, Saturdays.

It is not expected that any works will be carried out on a Sunday. Every effort will be made to ensure that no works are required outside of these periods. However, there may be some instances where this may not be possible for a variety of reasons. In such instances, specific agreement will be required from Kilkenny County Council in advance of any such works taking place.

Note: Restrictions to working hours may require amendment to comply with all conditions and obligations which apply to any grant of planning permission.

3.2 Construction Site Access

All construction delivery and waste vehicles will approach and depart the site via Seville Grove and through its junction with Callan Road (N76).

It is envisaged that most of the delivery and waste vehicles approaching and departing the site will travel to and from the north and connect to Kilkenny City via Callan Road (N76).

Callan Road (N76) is the most direct route to Kilkenny City where the majority building materials will likely be sourced.

There is more than sufficient space within the site for vehicles to turn before exiting while also providing for a considerable degree of vehicle storage within the site which will prevent and stacking of HGV's on the public road network.

Only Safepass accredited personnel will be permitted on site and daily in-out attendance records will be maintained. Appropriate segregation will be employed on site to separate pedestrians from heavy equipment. Fenced off pedestrian walkways will be provided close to the site offices.

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3.3 Site Compound

It is expected that the initial compound location will be on the footprint of the larger piece of proposed open space. As the development progresses, the location of the compound is likely to be subject to change.

3.4 Site Security

The development lands have existing boundaries that prevent access and egress, the development will also be monitored by CCTV cameras. Hoarding/temporary fencing will be erected to delineate and isolate all site works from public areas located adjacent to the development.

Security of the site is an important issue with respect to restricting site entry to personnel solely involved in the construction process during working hours and preventing unauthorised access out of hours. Site access for all personnel and visitors will be strictly controlled and all visitors will report to the site offices prior to entering the construction area.

Regular inspections of the hoarding will be undertaken to ensure that the safety of any vehicles or pedestrians is not compromised. Site accommodation including offices and welfare facilities will be provided on the existing Site area within the construction boundary.

PSCS shall ensure the following site access and security arrangements as a minimum are carried out:

- Site to be enclosed by herras fencing with one gated point of access / egress. PSCS to ensure gates are kept locked at all times outside of working hours. Suitable signage to be displayed to warn of construction in progress and no unauthorised entry.
- Suitable signage to be displayed on approach to the work area to warn of construction in progress and to proceed with caution.
- Implement procedures to record entry / exit of all construction employees, visitors and contractors to and from the work area including: date, name, purpose of visit, time of entry, time of exit, safe pass number.
- Implement procedures to record and ensure all workers on site carry current safe pass, CSCS certification as required for the work activities they carry out or other relevant certification as required for the specific equipment they will be operating.
- Implement procedures to record and ensure all employees, contractors and visitors to the site receive a site specific health and safety induction prior to commencement of work on site or accessing the site.

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3.5 Site Storage

Storage of materials will be minimal. No large materials will be stored on site until such times as they are required. Glazing and cladding systems will be delivered with a view to only keeping one week's worth of installation on site at any one time. At no given time during the project will materials or other items be placed outside the hoarding line.

3.6 Car Parking & Mobility Management

The provision of car parking on-site will require balanced consideration. It will be a goal throughout the project to limit the number of workers travelling to the site by car through a variety of mobility management measures such as:

- Promoting the use of the public transport options, with information on relevant services, timetables, apps etc.;
- Promoting the use of the National Transport Authorities “Journey Planner” which identifies all potential travel options available to and from any location across the country and is a key tool for increasing awareness of alternate travel modes, particularly of public transport;
- Promoting awareness of ticket options available and tax saver ticket options;
- Providing an adequate amount of on-site cycle parking;
- Promoting car sharing amongst workers either through the development of a site car sharing database or promoting the use of existing databases.

Mobility Management at the site will be an ongoing and iterative process, adapting to the experience gained to ensure the most effective measures are in place.

However, parking provision will also be mindful of the potential for overspill parking on the local road network should insufficient parking be provided. On this basis, the successful contractor will be required to identify a realistic on-site parking provision for staff and put in operation a Mobility Management Plan for their workers to ensure this required number is minimised throughout the project. Please refer to the accompanying Traffic Construction Plan prepared by Roadplan.

3.7 Welfare Facilities

Suitable welfare facilities for construction workers in accordance with Part 14: Construction Site Welfare Facilities of the Safety, Health & Welfare at Work (Construction) Regulations 2013 will be provided.

To prevent over-crowding in the canteen, morning and lunch breaks for construction personnel will be set at different times. All personnel are required to tidy up after themselves when they use the welfare facilities.

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3.8 Emergency Procedures

PSCS shall ensure the following emergency procedures are maintained as a minimum on site:

- All construction personnel will be informed of the emergency procedures as part of their site-specific induction to the construction site
- At least one trained first aid officer to be on site at all times.
- First aid location will be clearly signposted within the construction compound. First aid provisions will include eye wash station and all first aid supplies to be kept stocked up and accessible at all times during working hours. First aid reporting register will be maintained.
- List of local emergency contact numbers and the contact numbers of trained occupational first aid officers on site to be posted in the construction site office once established. Site evacuation procedures are already displayed in the canteen / welfare facilities.
- Appropriate fire fighting facilities to be maintained in the work area at all times.
- Emergency assembly point to be nominated and clearly signposted on site.
- Emergency evacuation procedure to be posted in the site office/ site canteen. The PSCS to ensure that all workers are aware of the Building’s evacuation procedures.
- Unobstructed access for emergency service vehicles to be maintained to site at all times.

3.9 Arrangements for Liaison between Parties

A forum for discussion of safety matters to be provided in the meetings between PSCS, main contractor and sub-contractors (where required) on a weekly basis. Additional meetings between the PSCS and PSDP with design team should any design issues arise, these meetings will be arranged on request from either party in a timely manner.

3.10 Reporting of Accidents/Incidents/Environmental Occurrence

Accidents / Incidents

PSCS shall record any accidents / incidents / dangerous occurrences that occur on site and maintain copies in the site ‘Accident / Incident Register’. Investigations to be carried out as required.

Accidents at work resulting in a person not being able to carry out their normal functions for more than 3 days shall be reported to the HSA by the Project Site Supervisor. The HSA shall be notified using the IR1 form which will be obtained from the HSA website www.hsa.ie. Dangerous occurrences to be reported in the same manner using the IR3

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form. PSCS must report any accidents / incidents / dangerous occurrences to the Client as soon as practicable on the day of the occurrence.

Environmental Incidents

PSCS shall ensure that any environmental incidents are reported immediately to the Client / PSDP so that they in turn can make the necessary notifications to the EPA in accordance with their licence requirements.

3.11 Monitoring and Review of Health & Safety

Inspection and Auditing

PSCS shall coordinate inspection and auditing of their quality, environmental and safety management system(s) throughout the construction phase. All such inspections / audits to be documented. The PSCS must address any deficiencies identified during the audit(s) in a timely manner.

Consultation and Coordination of Works

PSCS to establish and implement procedures on site to ensure site housekeeping is maintained to the highest degree possible, consultation on health and safety matters and coordination of works between all parties on site. Such procedures shall include but not be limited to:

- Daily review of scheduling of works and notification to on site foreman and sub-contractors
- Implementation of H.S.A.’s ‘Safe System of Work Plan’ or similar safe system of work plan that is worker lead and site / task specific for work activities
- Fortnightly ‘10 Minute Toolbox Talks’ with employees and contractors on site
- Daily site housekeeping inspections
- Weekly Monday morning meetings with the Client / PSDP

Site Specific Induction

- PSCS shall conduct a site-specific induction for all employees and contractors prior to their commencement of work on the site. The induction shall include all safety and environmental restrictions and management requirements that must be adhered to by all personnel while working on site.
- All contractors and their employees must attend the site-specific induction prior to their commencement of work on the site.

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- Records of the site-specific induction shall be maintained and include:
 - date, printed name and signature of person being inducted, name of contractor who the person is working for, signature of the person conducting the induction.

3.12 Provision for Training

The PSCS shall ensure that training in various aspects of construction site safety shall be provided to site personnel as required.

3.13 Records of training:

Site specific training records will be maintained by the PSCS in their site office.

These records will contain the following information.

- Date of instruction or training.
- Name of instructor.
- Name of person receiving training
- Nature and content of instruction

3.14 Monitoring Safe Pass Cards

- The PSCS shall inform all contractors prior to commencing work on site that on the morning of their site-specific induction, the contractors must present copies of safe pass cards held by their employees.
- The PSCS shall maintain copies of these cards on the site-specific safety file.
- In addition, all employees on site must have their cards available for inspection at any time by the Client’s Safety Officer.
- If any of the contractors personnel do not hold a safe pass card, they will not be permitted to commence work on site.

3.15 Construction Skills Cards

- If any member of the Contractors personnel will be required to operate plant or equipment on site eg: crane, excavator, erect scaffold etc, a copy of their construction skills card must also be provided to the PSCS at the site-specific induction.
- The PSCS or, the Client’s Safety Officer may request any member of personnel on site, that is operating plant or equipment for which a construction skills card is required, to show proof of their construction skills card at any time.
- No personnel shall be permitted to operate plant or equipment on site without the appropriate construction skills card.

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3.16 Construction Works Ecology

In line with the Wildlife Amendment 2000 (s46.1), the PSCS shall make every effort not to cut, grub, burn or destroy any vegetation on uncultivated land or such growing in any hedge or ditch from 1st March to 31st August.

While there are exemptions for construction works, we will make every effort to adhere to the above dates and in particular the peak breeding dates of April to June inclusive in order to minimise the potential disturbance of breeding birds outside of the proposed development site boundary.

To prevent incidental damage by machinery or by the deposition of spoil during site works, any habitats earmarked for retention in close proximity to the proposed works will be identified and will be securely fenced early in the construction phase as indicated below. Fencing will be clearly visible to machine operators.

3.17 Construction Noise Control and Dust Minimisation

Noise

The Site Induction process for all site operatives will ensure awareness of the environment they are working in and the potential nuisances that may result if they do not carry out their duties in an appropriate manner. Detailed work method statements will be developed for all activities and will address noise and vibration potential for the specific activity and will devise appropriate measures.

Potentially noisy operations will be rescheduled to a favourable time during the day as far as reasonably possible. It will be policy to avoid leaving plant and machinery running while not in use.

Plant and equipment is well maintained, in good working order, inspected weekly and will comply with European Commission Directive regarding noise limits.

Environmental complaint log to be maintained by the PSCS for the duration of the project.

Airborne Particles and Dust Minimisation

Construction activities have the potential to generate dust emissions. The main activities for generating dust resulting in airborne emissions would normally occur from excavation activities and general site works e.g.: cutting of materials etc. Potential dust may arise from:

- Excavation works
- Site cutting of raw materials – rebar, concrete, bricks, stone etc.
- Site Drilling – baseplates/angles etc

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- Driving of mobile plant / trucks on dry or dusty roads

To mitigate the potential of dust being generated from these activities, the following measures will be taken;

- The Site Induction process for all site operatives will ensure awareness of the environment they are working in and the potential nuisances that may result if they do not carry out their duties in an appropriate manner.
- Detailed work method statements will be developed for all activities and will address dust potential for the specific activity and will devise appropriate measures.
- Wet cutting equipment will be used.
- Tools with vacuum attachments.
- Trucks transporting aggregate of fill will be covered.
- Good housekeeping will be enforced at the site.
- Wheel washing facilities are available at site.
- Haul roads and access roads will be kept wet or cleaned where required on regular basis.

3.18 Housekeeping

PSCS to ensure best practice housekeeping standards are maintained on site to include the following as a minimum:

- Established facilities for waste segregation, storage and disposal.
- Waste to be disposed of off-site by the PSCS through licenced waste removal contractors as work progresses and not left to build up around the work site. Skip set down locations will be agreed prior to commencement of work. All rubbish to be kept in the skips, no protruding objects are permitted out the side of the skip.
- Clearly set out access routes free of obstruction.
- Designated set down areas for stock delivery and storage
- Smoking is prohibited within the construction zone and biogas facility. The designated smoking zone for site is back up near the car park at the main office.
- Tools and equipment kept in designated secure storage areas when not in use.

3.19 Personal Protective Equipment (PPE)

PSCS shall enforce the minimum site PPE requirements of steel toe capped boots, hard hat and high visibility vest or high visibility overalls / shirt. Minimum PPE requirements to be worn by all personnel on site unless a risk assessment specifies otherwise due to

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task specific work activities. Additional task specific PPE requirements to be clearly outlined in work method statements and risk assessments.

Additional PPE envisioned:

- Respiratory protection
- Hearing protection
- Eye protection (glasses, goggles or full visor)
- Gloves
- Disposable overalls

PPE must be correctly specified, fitted, used, maintained and replaced as necessary so as to provide the protection intended and personnel shall be provided with training if required to facilitate this.

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4 ENVIRONMENTAL CONSIDERATIONS & WASTE MANAGEMENT

4.1 Minimisation, Reuse and Recycling of C&D Waste

C&D waste will arise on the Project mainly from excavation activities. It is expected that while there will be unavoidable construction waste, material surpluses, and damaged materials that will need to be disposed of, the PSCS shall ensure that materials are ordered so that the quantity delivered; and the storage is not conducive to the creation of unnecessary waste.

Excavated soil/stone will be carefully stored in segregated piles on the site for subsequent reuse within the development where it is deemed acceptable by the site engineer to do so. Excess material will be removed from site to a suitable permitted C & D disposal site. Concrete waste resulting will be minimal and will be generated from the construction process. This waste will be source segregated and will either be stored in piles for further processing on site or will be used as lean mix in conjunction with hard-core fill. Where necessary it is intended that hardened concrete waste will be crushed on site with the resulting aggregate being used as part of the hard-core fill. As the concrete waste will be the excess left as a result of ordering there will not be any reinforcing steel to recycle. Masonry waste resulting from the construction process will be source segregated and will be stored in piles for further processing on site. It is intended that suitable masonry waste will be crushed on site with the resulting aggregate being used as part of the hard-core fill for the car parking and circulation pavement areas.

Wood material generated as part of the site clearance will be minimal and will be source segregated for subsequent separation and recovery at a remote facility.

4.2 Assignment of responsibilities

The Site Foreman appointed by the PSCS will be the designated C & D Waste Manager and have overall responsibility for the implementation of the Project C & D Waste Management Plan. The C & D Waste Manager will be assigned the authority to instruct all site personnel to comply with the specific provisions of the Plan. At the operational level, the Site Foreman from each sub-contractor on the site shall be assigned the direct responsibility to ensure that the discrete operations stated in the Project C&D Waste Management Plan are performed on an on-going basis.

4.3 Training

Copies of the Project C&D Waste Management Plan will be made available to all relevant personnel on site and included as part of the site induction information. All site personnel and sub-contractors will be instructed about the objectives of the Project C&D 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

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apply, each member of staff will be given instructions on how to comply with the Project C&D Waste Management Plan.

4.4 Waste Auditing

Denis Treacy Construction Ltd. will manage the development and the implementation of the construction and environmental management plan and monitoring/mitigation measures. The C&D Waste Manager shall arrange for full details of all movements and treatment of construction and demolition waste discards to be recorded during the construction stage of the Project. Each consignment of C&D waste taken from the site will be subject to documentation, which will conform to the requirements of Table 1 and ensure full traceability of the material to its final destination.

Table 1 C & D Waste Details to be Included in Transportation Dockets

Details	Particulars
Name of project of origin	-
Material being transported	Identify the material being transport e.g. soil and stone, timber
Quantity of material	Record the quantity in tonnes (use three place decimals)
Date of material movement	Record the date
Name of permitted carrier	Record the driver name, vehicle registration and permit number
Material Destination	Record site address and permit number if applicable
Proposed Use	Record the proposed use, recovery or disposal.

Details of the inputs of materials to the construction site and the outputs of wastage arising from the Project will be investigated and recorded in a Waste Audit, which will identify the amount, nature and composition of the waste generated on the site. The Waste Audit will examine the manner in which the waste is produced and will provide a commentary highlighting how management policies and practices may inherently contribute to the production of construction and demolition waste. The measured waste quantities will be used to quantify the costs of management and disposal in a Waste Audit Report, which will also record lessons learned from these experiences which can be applied to future projects. The total cost of C&D waste management will be measured and will take account of the purchase cost of materials (including imported soil), handling costs, storage costs, transportation costs, revenue from sales, disposal costs etc. Costs will be calculated for the management of a range of C&D waste materials, using the format shown in Table 2 below.

Table 2 Standard Record form for Costs of C & D Waste Management

Material	Estimated quantities	Units	Associated costs
Quantity of waste material			
Purchase Costs i.e. Import Costs			
Material Handling Costs			
Material Storage Costs			
Material Transportation Costs			
Revenue from Material Sales			
Material Disposal Costs			
Material Treatment Costs			
Total Waste MATERIAL Management Costs			
Unit Waste MATERIAL Management Cost			

A separate table is required to be compiled in respect of each waste material replacing “MATERIAL” with the relevant item. Final details of the quantities and types of C & D Waste arising from the Project will be forwarded to Council’s Environmental Department.

5.5 Hazardous Wastes

It is not anticipated that there will be any need for hazardous waste on-site, however if required, the management of hazardous waste will comply with current legislation:

- The Waste Management Acts (WMA) 1996 to 2005
- Waste Management Regulations 1998; Hazardous waste which may be produced or encountered on site includes:
 - Soils contaminated with waste oils or fuels;
 - Waste oils and fuels;
 - Used aerosol containers.

Hazardous wastes will be kept separate from other C & D waste materials in order to avoid further contamination. Hazardous wastes will be stored on site in suitable receptacles for subsequent separation and disposal at a suitably permitted remote facility. Other C & D waste materials will be collected in receptacles with other mixed C & D waste materials for subsequent separation and disposal at a remote facility. Packaging will be source segregated for recycling and return to the suppliers. Excavation soil and C & D waste derived aggregates are considered suitable for certain on-site construction applications.

4.5 Construction Works – Hydrocarbons and Waste Management

The construction and demolition waste management plan will meet the requirements of the DoEHLG Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects.

- Oil, petrol and other fuel containers will be double-skinned and banded to be able to contain 110% volume to guard against potential accidental spills or leakages entering local watercourses linked to the European sites. Bund specification will conform to the current best practice for oil storage such as Enterprise Ireland’s Best Practice Guidelines. Construction materials will be stored in a secure compound to prevent the potential for vandalism and theft of material.
- All vehicles and plant will be regularly inspected for fuel, oil and hydraulic fluid leaks. Suitable equipment to deal with spills will be maintained on site.
- It will be ensured that all staff are trained and follow vehicle cleaning procedures. Details of the procedures in the work area will be posted for easy reference. Use of cleaning chemicals will be minimised.
- Machinery including hand-tools will never be washed in watercourses or drainage ditches or within 50m of same.
- It will be ensured that all areas where liquids are stored or cleaning is carried out are in a designated impermeable area that is isolated from the surrounding area, e.g. by a roll-over bund, raised kerb, ramps or stepped access.
- Concrete pouring will not take place during heavy rain when run off is likely due to excess water. Shuttering will be designed to accommodate small increases in the volume of material contained within the shuttered area due to rainfall.
- Wash down and washout of concrete transporting vehicles will not be permitted at the location of construction. Such wash down and washout activities will take place at an appropriate facility offsite or at the location where concrete was sourced.
- To minimise the potential for elevated silt levels in surface water run-off, the working area used during construction will be clearly outlined prior to the commencement of works and will be kept to the minimum area necessary to effectively complete the works.
- Works will be suspended during severe flood events or when such events are forecast. This makes all activities and measures easier to implement and manage and limits the potential for generation of sediment and mobilisation of both sediment and pollutants downstream.

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- A detailed spillage procedure will be put in place and all will be trained with respect to the relevant procedures to be undertaken in the event of the release of any sediment, hydrocarbons into a watercourse. Spill kits will be maintained on site and relevant staff will be trained in their effective usage. All site personnel will be trained and aware of the appropriate action in the event of an emergency, such as the spillage of potentially polluting substances.
- All wastes generated as part of the construction process will be controlled and managed to ensure environmental protection. All site wastes (hazardous and non-hazardous), will be stored in designated areas and taken off-site regularly to prevent large quantities accumulating. Careful ordering of materials will be undertaken to minimise quantities present on-site.
- Wastes which cannot be recycled will be removed from site by a licensed waste contractor to an appropriate licensed landfill facility ensuring adherence to the Environmental Protection (Duty of Care) Regulations 1991.
- Segregated waste for recycling will be removed from site to an appropriate Materials Recycling Facility for reprocessing.

4.6 Stockpiled Material

Where feasible, soil excavation will be completed during dry periods and undertaken with excavators and dump trucks. Topsoil and subsoil will not be mixed together. Stockpiles will be graded to a <1:4 profile. Topsoil and subsoils will be stored separately. Stockpiles of mineral soils and peat will be <2m and <1m respectively. Stockpiles will be covered with plastic sheeting during wet weather to prevent run-off of silt and will be located on flat ground where possible. Excavated material will be used for backfill where possible. Surplus material will be removed from site.

Construction materials will be stored in a secure compound to prevent the potential for vandalism and theft of material.

4.7 Water Run-Off

Run-off from the building roofs and impermeable areas is collected and directed via an oil interceptor into the existing storm water system. The SuDS drainage design incorporates drains and silt traps already in situ and additional features including appropriately sized attenuation and hydrocarbon interception which will ensure that there is no risk of any damaging run-off reaching and impacting upon hydrologically connected conservation sites or their conservation objectives.

A detailed emergency response and spillage procedure is in place and all staff are trained with respect to the relevant procedures to be undertaken in the event of any potential

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release of deleterious material on site and/or into a watercourse. Spill kits are maintained on site and relevant staff are trained in their effective usage.

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