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Construction Environmental Management Plan (CEMP)

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PRESENTED TO

Dublin City Council

Proposed Development at Dalymount Park Stadium, Phibsborough, Dublin 8

DATE

August 2023

Environmental Consultancy Services

DOCUMENT CONTROL SHEET

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03	Final For Client Issue	Aoife Grogan *Senior Environmental Consultant*	Charlotte Lawler-Greene *Principal Consultant*	Charlotte Lawler-Greene *Principal Consultant*	**17/08/2023**

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1 INTRODUCTION

Enviroguide Consulting (hereafter referred to as EGC) was retained by Dublin City Council (DCC) (hereafter referred to as the Client) to prepare an Outline Construction Environmental Management Plan (hereinafter CEMP) for the Redevelopment of Dalymount Park Stadium, Phibsborough, Dublin 8 (hereafter referred to as the Site).

This CEMP describes the proposed works and defines the measures that shall be implemented during the Construction Phase of the Proposed Development to manage, minimise, or mitigate potential environmental impacts that may arise from the Construction Phase of the Proposed Development at the Site.

A detailed description of the Proposed Development is provided in Section 2. This is a 'live' document which will be continually updated throughout the construction phase by the Construction Management Team (CMT). Any conditions of planning permission will be included in this CEMP, once granted.

The CEMP is an integral part of the Project's Health, Safety, Environmental and Quality Management System (HSEQMS). The CEMP is subject to the requirements of the Site Quality Management System (QMS) with respect to documentation control, records control, and other relevant measures.

The CEMP defines the measures that shall be implemented during the works to manage, minimise, or mitigate potential environmental impacts that may arise from the construction phase of the Proposed Guesthouse Accommodation at the site.

The primary distribution list for this document includes the following personnel.

- Construction Director;
- Construction Manager;
- Construction Management Team (CMT);
- Environmental Officer;
- Site Supervisors; and
- Other Relevant Personnel including authors of reports submitted with the planning application.

1.1 Objective and Purpose

The purpose of this CEMP is to provide effective, site-specific procedures and mitigation measures to monitor and control environmental impacts throughout the Construction Phase of the project and ensure that construction activities do not adversely impact the environment.

The objective of this document is to set out and communicate the procedures, standards, management responsibilities and key environmental obligations that apply to the Main Contractor and sub-contractors to address and prevent environmental effects that may arise

from the Construction Phase of the Proposed Development.

This CEMP is to be read in conjunction with the Environmental Impact Assessment Screening Report, the Appropriate Assessment Screening Report, and the Construction and Demolition Waste Management Plan prepared for the Development.

1.2 Scope of CEMP

This CEMP defines the approach to environmental management during implementation and roll-out of the Construction Phase of the project.

Compliance with the CEMP, procedures, work practices and controls is mandatory and must be adhered to by all personnel and contractors employed during the Construction Phase of the Proposed Development. This CEMP seeks to promote best environmental practices on-site for the duration of the Construction Phase.

This CEMP will provide a framework to:

- Comply with current environmental and waste legislation, codes of best practice and guidelines;
- Comply with all relevant conditions attached to the grant of planning from Dublin City Council (DCC), once issued;
- Provide a plan for achieving and implementing construction related measures identified in design drawings and documents;
- Ensure that environmental risks are identified and will be appropriately mitigated to ensure any adverse effects are minimised during construction; and
- Outline the procedures for reporting and communicating on environmental aspects of the Project.

1.3 Live document

This CEMP is considered a ‘live’ document and as such will be reviewed on a regular basis. Updates to this CEMP may be necessary due to any changes in environmental management practices and/or contractors. In addition, further mitigation measures that may be identified as part of detailed design and review in terms of Environmental Impacts.

As detailed in the later sections, the procedures agreed in this CEMP will be audited throughout the project roll-out phase to ensure compliance.

2 PROPOSED DEVELOPMENT DESCRIPTION

2.1 Site Location and Description

The Proposed Development Site is located at Dalymount Park Stadium, Phibsborough, Dublin 8. Dalymount Park is bounded by a gated laneway to the north and a public laneway to the south, which provide access to the main Jodi stand and stadium. The Site is located south of Connaught Street, east of St Peter's Road, north of North Circular Road and west of Phibsborough Road.

Existing structures on the Site consist of the Connaught Street uncovered stand to the northeast, the Jodi Stand to the south and the Des Kelly Stand (roof has been removed) to the west. Ancillary facilities such as changing rooms, club bar, car park, storage rooms and electrics room.

The Connaught Street stand is currently subject to a granted planning permission for demolition (Plan Ref: 3038/21) which is currently underway.

Only the Jodi stand remains in use in the existing stadium as does the Des Kelly Stand, although the roof has been removed. The Connaught Street Stand has been closed due to safety concerns and is partially demolished.

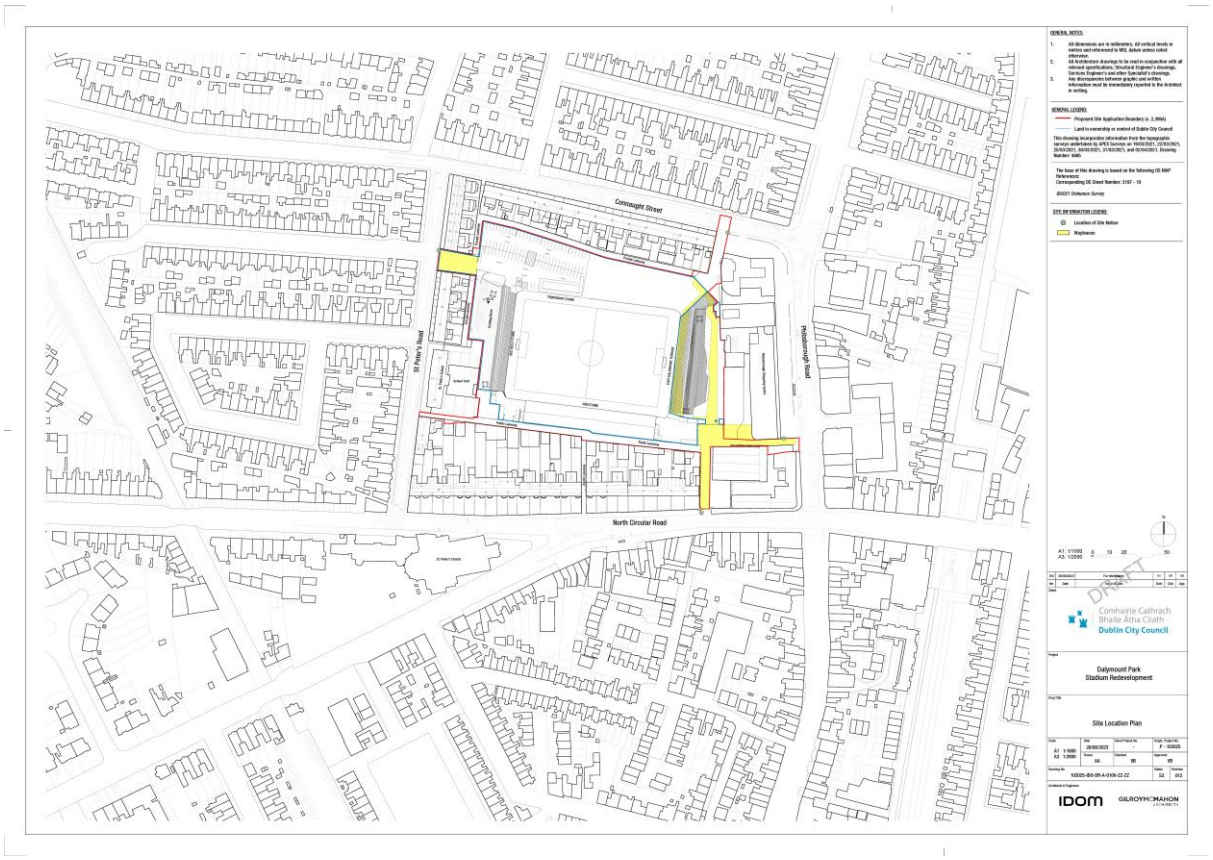

Figure 2-1: Site Location

2.2 Proposed Development

The proposed redevelopment of Dalymount Park which provides a site area of approx. 2.39ha will consist of the following:

- The demolition of the existing stadium and structures located on the site;
- The development of a new c.8,066 capacity stadium with provision for c. 6,272 seats and c.1,794 standing and new modern floodlighting;
- Reorientation of the pitch to a North/South Axis (105m x 68m) and installation of a new sand based grass pitch;
- A basement area (640 sq.m) to facilitate competition area changing rooms and facilities;
- The provision of modern match-day facilities for teams and officials;
- Club offices & a merchandise shop for the anchor tenants Bohemian FC;
- The provision of a stadium bar/function room;
- The provision of 12 car parking spaces and 25 bicycle spaces within the site;
- A community facility with an area of 673sq.m over two floors to include a multi-functional community room and a community gym;
- The provision of a public plaza and public thoroughfare along the eastern boundary to include various eateries; and
- All associated plant, substation, waste storage, landscaping, boundary treatment, lighting and all ancillary site works to facilitate the proposed development.

Figure 2-2 displays the proposed Site layout:

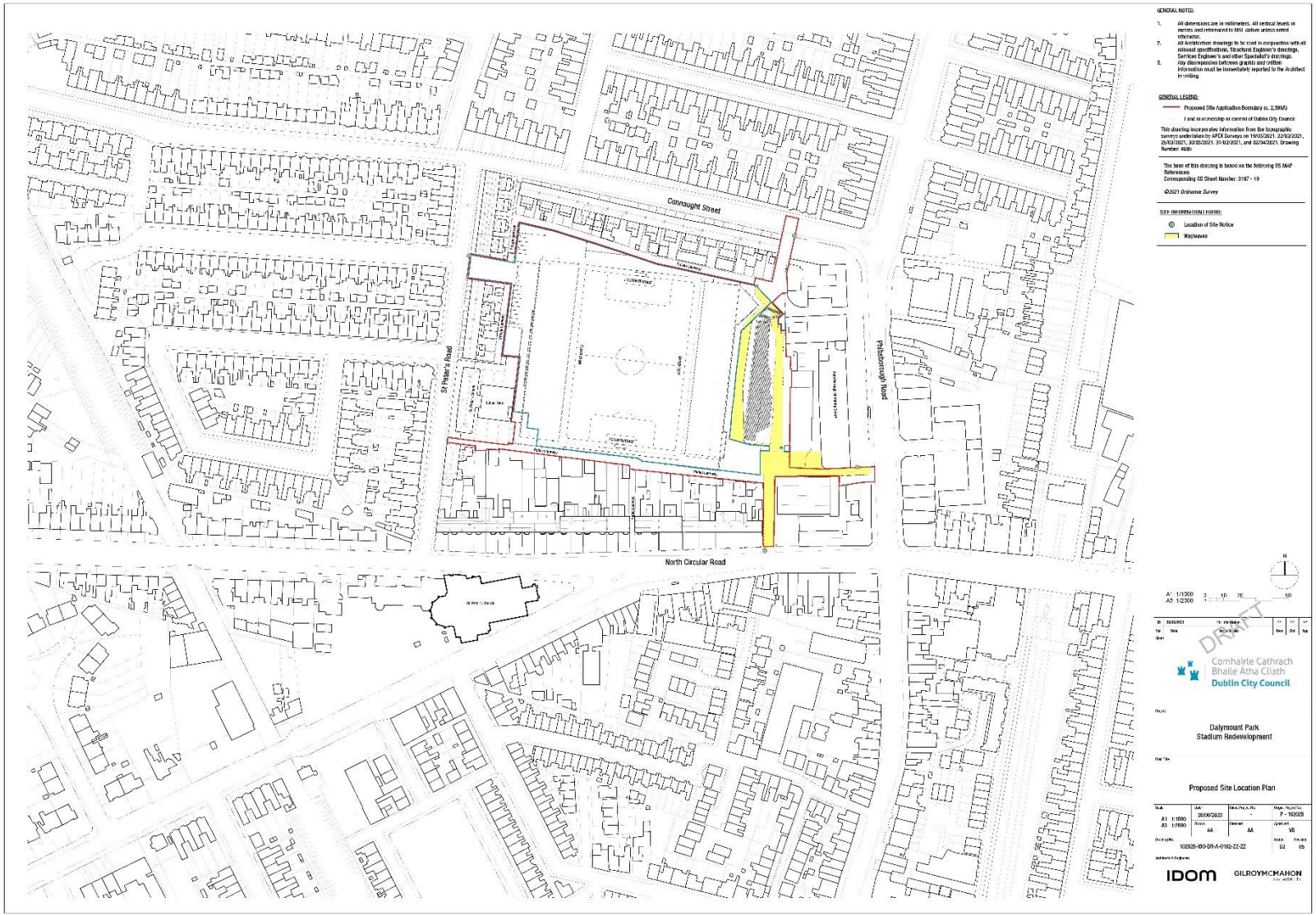

Figure 2-2: Proposed Site Layout

3 CONSTRUCTION SCHEDULE AND WORKS MANAGEMENT

3.1 Programme

The construction programme for the construction phase of the development at the Site will be undertaken over a period of approximately 18 months. It is anticipated that the Park should be operational by early 2026.

Prior to any site works commencing, the Main Contractor will investigate/ identify the exact location of and tag all existing services and utilities around and through the site with the assistance of Dublin City Council technical divisions and utility companies.

The Health and Safety Authority's (HSA) Code of Practice for Avoiding Danger from Underground Services will be adhered to during excavation work, and when any other work involving underground services, is carried out. The Code of Practice aims to reduce the incidence of damage to underground services. Electricity cables, gas pipes, water pipes and sewers, if damaged, may pose a direct danger to personnel who are working on the site, and may also pose a pollution risk to the surrounding environment. If an electricity cable, telecommunications cable, gas pipeline or water main suffers any impact or any damage, however slight, the incident must be reported to the network operator without any undue delay (HSA, 2016).

3.2 Working Hours

On sites where noise generated by construction would seriously affect residential amenity, the site and building works must be carried out between 0700 and 1800 hours Monday to Friday only, and between 0800 and 1400 hours on Saturdays only. No works shall be carried out on Sundays or bank holidays.

Should there be a requirement, in exceptional circumstances, for works outside of the normal site working hours a written submission seeking authorisation will be made to Dublin City Council.

Works will take account of any restrictions identified in the grant of planning.

3.3 Site Construction Compound

All construction support-related activities will be contained within the site compound. The site compound will consist of:

- Offices
- Meeting Rooms
- Toilet / Shower Rooms
- Drying Rooms
- Canteens

- Storage Containers

All cabins will be steel securi-type with steel lockable shutters on the windows and a steel lockable door. All cabins will be brought to site in good condition and will be maintained in good order throughout the project. Double stacking of cabins may be required, with safe stairs and walkways provided to the upper levels of offices.

A power supply from ESB Networks to power both the compound and the construction site will be applied for by the Main Contractor. The size of supply will be calculated to ensure it is sufficient to power both the site compound and construction site activities. In the event of any delays securing the required power supply to power offices and cranes, generators may be required. Diesel generators will have sound enclosures and will be regularly serviced to prevent noise and odour pollution, and setup in a spill tray to prevent any spillage contaminating the ground. Temporary site lighting will be installed to provide safe and well-lighted walkways around the site compounds and task lighting to the construction sites.

Water and drainage will be required to service the site toilets and canteen facilities. The Main Contractor will carry out a site survey to identify the locations of the water and foul drainage connections to the site. It will be the Main Contractor's responsibility to apply to Irish Water for connections to the water main and foul drain, ideally utilising existing connections.

Materials handling and storage areas, including waste segregation and storage areas, will be contained within the boundary of the Site. The required size for the site compound and waste storage areas will be specified by the Main Contractor. All waste storage areas will be identified by clear legible signage and recorded on a site layout drawing which will be maintained on-site.

Information notices located at the site entry, site compound and appropriate locations throughout the site will identify the site-specific PPE requirements and the potential risks associated with entering a live construction environment.

Figure 3-1 provides an overview of the access points, site hoarding, enabling works and areas for construction compounds.

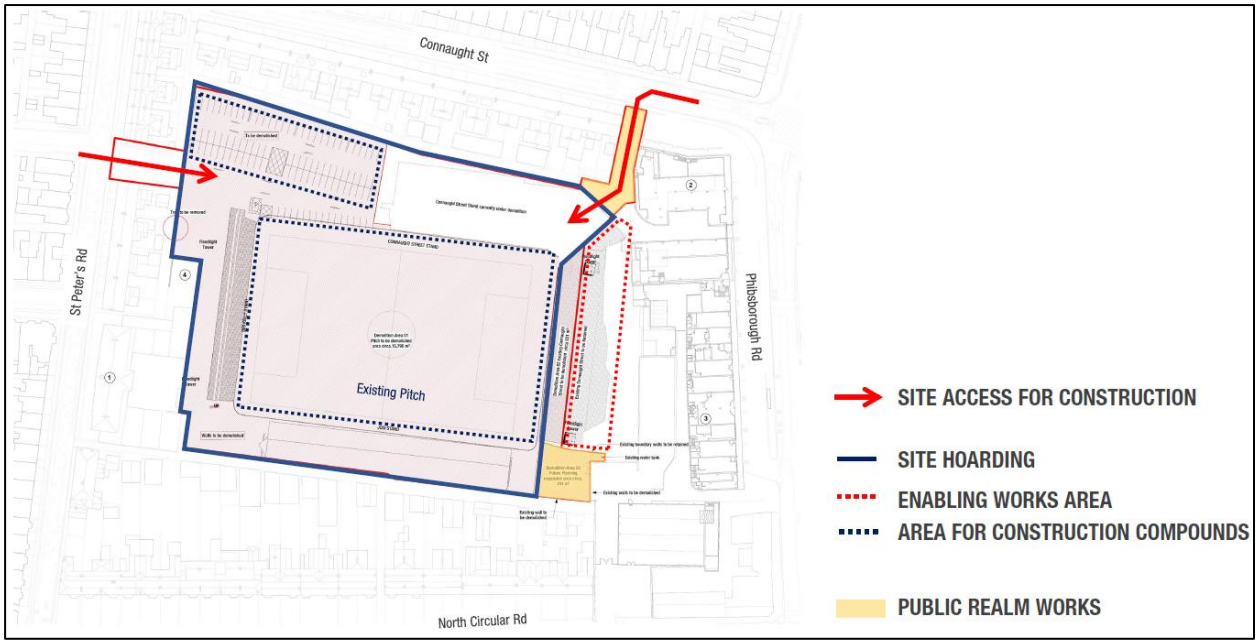

Figure 3-1: Construction Phase Site Compound

3.4 Traffic

3.4.1 Traffic Management

Gutteridge Haskins and Davey Ltd (GHD) in partnership with Allan Gooch Associates Ltd has been appointed to provide an Outline Construction Traffic Management Plan (OCTMP) for the redevelopment of Dalymount Park Stadium.

In advance of construction works commencing onsite, the appointed Main Contractor will prepare a full Construction Traffic Management Plan (CTMP) taking account of the particulars of the grant of planning and in consultation with Dublin City Council where necessary. The plan will detail all information regarding the traffic management required to complete the project works.

The hours of construction would be agreed with the Council prior to commencement of construction. At this time, it is envisaged that construction vehicle movements to / from the site would be limited the following working hours:

a. Monday to Friday between 07:00 – 18:00

b. Saturday between 08:00 – 14:00

c. No construction activities will take place on Sundays or Bank Holidays.

There may be circumstances where deliveries may be required outside of these times, for example if large loads are required. Work may be permitted outside of these hours only in exceptional circumstances (or by prior agreement with the Council).

Advisory Construction Heavy Goods Vehicle Routes have been identified in order to manage the arrival and departure of vehicles from the wider surrounding highway network, minimising the impact to existing road users and upon highway safety and capacity. The advisory route

has been developed in consultation with local stakeholders including St Peter's National School.

All Construction vehicles accessing or egressing the Site via St Peter's Road would travel via Connaught Street and avoid passing St Peter's National School. The origin/destination of construction vehicle trips will be confirmed in the full Construction Traffic Management Plan (CTMP). The Outline Plan has indicated proposed routes between the Site and the M50 along the primary road network.

Construction related HGVs with 5 axles or more will adhere to the Dublin City Council HGV Management Strategy and the associated cordon within the city.

The access to the Site for construction traffic will be directly from Connaught Street and from St Peter's Road via Connaught Street.

An overview of the access points, site hoarding, enabling works and areas for construction compounds are illustrated in Figure 3-1.

The Site Manager will be responsible for controlling and monitoring vehicle movements to and from the Site as well as while vehicles are on Site.

Deliveries will be given set times to arrive, and instructions will be sent to all suppliers and contractors. Trained staff will assist when vehicles are accessing the Site. Vehicles will enter and exit the Site in forward gear. Banksmen will be posted on the access points to manage potential conflict between vehicles and pedestrians and to ensure construction vehicles can enter the Site without queuing on the highway.

Deliveries from HGVs will be re-timed where possible to occur outside peak network times, and during the start and finish of St Peter's National School. This will aid the operational efficiency of the construction site and also the neighbouring area.

The Site will not require off-site locations for storage or for holding vehicles. The phasing of construction will allow for storage of plant and vehicles on site.

The types and number of construction vehicles accessing the Site will be confirmed once a contractor is appointed with details included in the full CTMP. At this stage it is expected that the following vehicles may require access to the site:

- 16.5m articulated
- 12m rigid truck
- Large tipper truck
- Concrete mixer
- Low loader.

The 16.5m articulated and low loader vehicles, which represent the vehicles with the most onerous access requirements, have been tested using AutoCAD to show they can enter and exit in a forward gear. The drawings are available in the OCTMP.

The analysis shows that parking suspensions would be required on one side of St Peter's

Road between the site access and Connaught Street if an articulated vehicle or low loader are required. Additionally, the low loader would require a few parking spaces on Connaught Street opposite the junction with St Peter's Road to be suspended. No parking suspensions will be required for vehicles accessing the site via the Connaught Street access.

Banksmen will be required to assist with traffic management on St Peter's Road and Connaught Street when large construction vehicles are accessing or egressing the Site.

A crane is also likely to be required at the Site. The type of crane will be confirmed by the appointed contractor with access analysis provided in the full CTMP.

It is important that staff use sustainable modes of transport such as public transport to commute to/ from the Site and staff will be encouraged to do so. Car parking for construction staff and for operational vehicle movements will be provided on-site. Measures to support sustainable travel for staff and encourage modal shift away from car-based travel will be included in the revision of this document once a main contractor has been appointed.

Cycle parking spaces will be provided on the Site for construction staff.

A copy of the route plan will be given to all suppliers when orders are placed to ensure drivers are fully briefed on the required route to take. The supplier will be made aware that these routes are required to be followed at all times unless agreed or alternate diversions are in place.

3.4.2 Strategy to Reduce Impacts

All construction vehicles using the St Peter's Road access would travel via Connaught Street and avoid passing St Peter's National School.

The main contractor will investigate opportunities to restrict HGV vehicle movements during term time to ensure vehicles avoid the local school start times and to avoid network peak periods.

Operational areas will be properly separated from publicly accessible areas using hoardings, barriers, fences or other appropriate equipment.

Dedicated access gates for pedestrians and vehicles will be provided, which will be manned by the Contractor's transport co-ordinator or a representative to ensure pedestrian safety during arrival or departure of vehicles.

All HGV drivers will have attended HGV Cycle Awareness sessions to ensure they are aware of and understand (and look out for) cyclists on the roads.

All access to and egress from the Site will be made in a forward direction.

Where possible, deliveries will be made outside of network peak hours.

Traffic marshals would be prominent at all times during construction operations to control construction vehicle movements from and onto the site. The number of required traffic marshals would be determined by the main contractor and agreed with the Council.

The phasing of construction will allow the storage of materials, plant and vehicles on Site. Space will be available on site so that delivery vehicles will not need to wait on the highway to enter the Site.

The contractor will seek to minimise construction staff vehicles by providing measures such as offering incentives for travel by sustainable modes, encouraging care sharing and providing on site cycle parking and shower/locker facilities.

Access to adjacent properties shall be maintained.

It is envisaged that all footways would remain in use during the construction stage and that no traffic diversions will be required.

It is envisaged that temporary parking suspensions would be required on St Peter's Road during the construction stage to enable construction vehicles to access the Site via the St Peter's Road access. Temporary parking suspensions would be required at the site access junction and the St Peter's Road and Connaught Street junction.

The main contractor will endeavour to limit the length and duration of the parking suspensions.

The Contractor will assess the condition of the highway on a daily basis. Road sweeping measures will be employed by the Contractor, when required, to ensure that highways are kept clean. Wheel wash facilities will be provided.

Any damage caused to highway infrastructure by site construction traffic would be repaired.

The CTMP will be managed and updated before and during the construction phase. The main contractor will be responsible for complying with the CTMP and will be responsible for ensuring that all sub-contractors conform to restrictions, mitigations and obligations within the plan.

3.5 Site Security, Public Health and Safety and Site Access and Egress

Access to the site will be from the Connaught Street entrance and a one-way system will be followed with the exit for construction phase traffic via St Peter's Road. The site access points from Connaught Road and St Peters Road 'Public Realm' locations and public access/entry to this area is to be maintained at all times.

Warning signs will illustrate the required PPE and risks associated when entering the construction site.

Hoarding will be required to secure the entire site boundary. The hoarding will reach a height of approximately 2.4m and will be secure and non-climbable. No stored material will be stacked against hoarding and no storage will be allowed adjacent to public trafficked areas.

Vehicle gates with barriers will likely be accommodated at a security hut combined with a secure turnstile to control pedestrian and vehicle access.

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.

Safety and ease of access to the site are to be provided for by the Main Contractor when planning the works. Separation of vehicular and heavy plant traffic from pedestrians and operatives will be implemented as far as is practical when considering the layout of the site infrastructure and access points.

Regular inspections of the hoarding will be undertaken to ensure that the safety of any vehicles or pedestrians is not compromised.

Where a site access crossing is required on a pavement this will require a dedicated pedestrian management setup to ensure there are no incidents of crossovers between pedestrians and site vehicles. This may require a turtle-gate barrier in addition to with semi-permanent barriers along the kerb edge, flagmen to control barriers and flagmen to watch truck movement and pedestrians.

In addition to the perimeter hoarding at the site, the following security measures will be adopted by the Main Contractor:

- The Contractor will know who is on site at all times.
- There will be a site CCTV system which may be extended to cover the footpaths and roads around the site (depending on the GDPR regulations).
- Motion sensor hoarding lighting on short (1min) timers will be incorporated to increase the general illumination levels around the site, with the exception of boundaries to residential gardens and houses. Additionally, all lighting installed at the site will comply with the controls listed in Section 6.4.3.3 (Protection of Bats) of this CEMP.
- Siting the cabins behind the hoarding with windows overlooking the streets will provide a greater degree of natural surveillance to the area to prevent anti-social behaviour.

3.6 Communication & Consultation

The Main Contractor will appoint a Project Communications Officer who will undertake any required third-party communication and liaise directly with landowners/ local authorities/ members of the public, and all other stakeholders as required by the project.

3.6.1 Managing Enquiries and Complaints

All complaints and requests for information from members of the public will be handled appropriately, efficiently in compliance with the complaints and corrective action procedures to be developed by the Main Contractor. All follow up actions on the construction Site will be managed by the CMT.

A record will be maintained on site of all complaints detailing the following as a minimum:

- Name and address of complainant (if provided).
- Time and date the complaint was made.

- Date, time, and duration of incident.
- Nature of the complaint (e.g., noise nuisance, dust nuisance etc.).
- Characteristics, such as noise, dust etc.
- Likely cause or source of incident.
- Weather conditions, such as wind speed and direction.
- Investigative and follow-up actions; and
- Root cause analysis and preventive actions.

All personnel working on the Proposed Development Site will be inducted into the complaints handling procedure and will be aware that complaints are to be directed immediately to the CMT.

All enquiries and complaints received will be investigated by the CMT. Where appropriate corrective and preventative actions will be implemented as required to ensure that the complaint is effectively dealt with and to prevent a recurrence of the incident which led to the complaint being received. Staff will be informed by toolbox talk of corrective and preventative actions implemented as relevant to their role or overall operations.

3.6.2 Advance Works Notice

The CMT will be responsible for regular consultation and public communications activities required during the construction works and will include all contact details for relevant project personnel, public bodies and emergency services.

3.7 Maintenance of Roads

The Main Contractor will ensure that on-site control measures will be established and maintained at the Site to prevent any nuisance and debris associated with the demolition/construction works on public roads adjoining the Site. The main consideration will be to combat mud and dust at source so as not to let it adversely affect the surrounding areas. The objective will be to contain any mud or dust within the site, which is large enough for comprehensive control measures.

The main problems, which may arise during the early part of construction, will be controlled by the following designated and operational measures:

- Designated hard routes through the Site to work front.
- Each departing vehicle will be checked by the banksman.
- Wheel wash facility at egress point and the channelling of departing vehicles through the wheel wash.
- Sweeping of public streets adjacent to egress from site.
- Provision and facilities to cover lorry contents, as necessary.
- Controlled loading of excavated material to minimise risk of spillage of contents.
- Spraying/damping down of excavated material on site by dedicated crews.
- Facility to clean local roads if mud or spillage occurs.
- Ongoing monitoring during working hours.

4 PROJECT ROLES AND RESPONSIBILITIES

The Main Contractor appointed to the project will have overall responsibility for the implementation of the CEMP and appointing the following roles and responsibilities within the Construction Management Team (CMT).

4.1 Construction Director

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

- Overall responsibility for the implementation of the CEMP;
- Ensuring adequate resources are available to ensure the implementation of the CEMP;
- Responsibility for the management review of the CEMP for suitability, adequateness, and effectiveness; and
- Setting out the focus of environmental policy, objectives, and targets for the Contractor.

4.2 Construction Manager

The Construction Manager is directly responsible to the Construction Director for the successful execution of the project. The principal duties and responsibilities of this position will include:

- Reporting to the Construction Director on the on-going performance of the CEMP;
- Discharging his/her responsibilities as outlined in the CEMP;
- Supporting the CMT and the Environmental Officer through the provision of adequate resources and facilities to ensure the implementation of the CEMP;
- Give Contractors precise instructions as to their responsibility to ensure correct working methods where risk of environmental damage exists;
- Where appropriate, ensure Contractor's method statements include correct waste disposal methods; and
- Co-ordinate environmental planning of CMT activities to comply with environmental authorities' requirements and with minimum risk to the environment.

4.3 Environmental Officer

The Environmental Officer will be responsible to the Construction Manager for, but not limited to, the following activities:

- Ensuring that the requirements of the CEMP are developed and environmental system elements (including procedures, method statements and work instructions) are implemented and adhered to with respect to environmental requirements;
- Reviewing the Environmental responsibilities of all sub-contractors in scoping their

work and during their contract tenure;
- Ensuring that advice, guidance, and instruction on all CEMP matters is provided to all managers, employees, construction contractors and visitors on site;
- Reporting to the Construction Manager on the environmental performance of Line Management, Supervisory Staff, Employees and Contractors;
- Advising site management on environmental matters;
- Be aware of any potential environmental risks relating to the Contractors and bring these to the notice of the appropriate management;
- Ensure materials/waste register is completed; and
- Maintenance of all environmental related documentation.

The Environmental Officer will also have the overall responsibility to oversee recording of all waste management at the site in line with the Construction and Demolition Waste Management Plan (Ashview Consultants, 2023). Some of the principal duties and responsibilities of this role include:

- Report to Project Manager on the management of waste at the site;
- Delegate responsibility to sub-contractors, where necessary;
- Coordinate with suppliers, service providers and sub-contractors;
- Prioritise waste prevention and salvage;
- Maintain a record of each load of waste materials being transported off-site; and
- Maintain a record of all necessary documentation including contractor waste collection permits, waste destination consents, waste transfer documents and waste management facility gate receipts in the waste management file.

4.4 Project Environmental Consultant (as required)

An Environmental Consultant will be engaged on an ad-hoc basis when required. The appointed Environmental Consultant will be competent, qualified, and experienced in the field of environmental management; with expertise in the areas of contaminated land, water and waste management and will be responsible for producing all environmental reporting procedures.

The Project Environmental Consultant will be responsible to the Environmental Officer for, but not limited to, the following activities:

- Preparation of this CEMP, environmental control plans, supporting procedures;
- Advising the site management on environmental matters as appropriate;
- Carrying out environmental surveys (data logging (noise, water, dust, etc.)) as required;
- Generating reports when required to show environmental data trends and incidents;
- Advising on the production of written method statements and site environmental rules and on the arrangements to bring these to the attention of the workforce as required; and
- Investigating incidents of significant, potential, or actual environmental damage, ensure corrective actions are carried out and recommend means to prevent recurrence.

4.5 Project Archaeologist Clerk of Works (as required)

The Project Archaeologist Clerk of Works (if required) will report to the Environmental Officer and is responsible for advising on all archaeological monitoring activities, conducting watching briefs and distributing information relevant to monitoring. The responsibilities and duties of the Project Archaeologist will include the following:

- Monitor all ground disturbance works associated with the construction of the development;
- Ensure the appropriate course of action is taken in the event that archaeological material is discovered during the works;
- Liaison with the CMT throughout the Construction Phase of the project; and
- Liaison with the Department Applications Unit, National Monuments Service, Department of Arts, Heritage and Gaeltacht and the Dublin City Council archaeologist as required.

4.6 Project Ecological Clerk of Works (EcCOW) (as required)

The Project Ecological Clerk of Works (if required) will report to the Environmental Officer and is responsible for the protection of sensitive habitats and species encountered during the Construction Phase of the project. The responsibilities and duties of the Project Ecologist will include the following:

- Provision of specialist input and supervision where necessary of critical construction activities in relation to habitats and species and any specified protection measures;
- Provision of specialist advice on ecological monitoring and site inspections and surveys as required; and
- Liaison with the National Parks and Wildlife Service (NPWS) and other relevant stakeholders if required.

4.7 Project Communications Officer

The Project Communications Officer is responsible for conducting all public liaison associated with the Construction Phase of the project. The responsibilities and duties of the Project Communications Officer include the following:

- Responding to any concerns or complaints raised by the public in relation to the Construction Phase of the project;
- To liaise with the Environmental Officer on community concerns relating to the environment;
- Ensure the Environmental Officer is informed of any complaints relating to the environment; and
- Keep the public informed of project progress and any construction activities that may cause inconvenience to the local community.

The Communications Officer will report to the Construction Manager.

4.8 Site Supervisors

All Site Supervisors are required to:

- Read, understand, and implement the CEMP;
- Have knowledge of the requirements of the relevant law in environmental matters and take whatever action is necessary to achieve compliance. Where necessary seek the advice of the contracted Environmental Officer;
- Ensure that environmental matters are considered at all times;
- Be aware of any potential environmental risks relating to the site, plant, or materials to be used on the premises and bring these to the notice of the appropriate management; and
- Ensure that any plant is environmentally suited to the task in hand.

4.9 Site Personnel

All Contractors, and other site personnel, on the project will adhere to the following principal duties and responsibilities:

- To co-operate fully with the CMT and the Environmental Officer in the implementation of the CEMP at the site;
- To conduct all their activities in a manner consistent with regulatory and best environmental practice;
- To participate fully in the environmental training programme and provide management with any necessary feedback to ensure effective environmental management at the site; and
- Adhere fully to the requirements of the site environmental rules.

5 PROJECT ENVIRONMENTAL POLICY

DCC recognises and seeks to minimise the impacts of its business on the environment. The appointed contractor will be obliged to:

- Carry out the Project in full compliance with all applicable environmental regulations and to other requirements to which we subscribe;
- Implement good environmental practice as part of designs, e.g., carry out design reviews, risk assessments, etc. on all relevant projects;
- Prevent pollution from activities through a system of operational controls that include written instructions and staff training appropriate to the environmental requirements of their work;
- Continually improve Project environmental performance by setting objectives and targets and implementing them through an environmental programme;
- Informing all project employees about Environmental Policy and explaining what they are required to do to protect the environment; and
- Implement this Policy through the successful operation of the CEMP.

This policy will be reviewed periodically, considering current and potential future business issues.

5.1 Site Environmental Awareness

The following general Site Environmental Rules will apply. These general rules will be communicated to all site personnel via the site induction training, and they will be posted across the Site at strategic locations, such as the Site entrance, canteen and near the entrances to buildings.

5.1.1 General Site Environmental Rules

- Report any signs of pollution or environmental damage, no matter how small, to the construction manager, environmental officer, or site supervisor.
- Report any spills, incidents or near misses that occur on site immediately to the site supervisor.
- Refuel using bunded mobile bowsers or static bunded tanks in designated, impermeable areas equipped with spill kits.
- Oil or lubricant changes and maintenance work will be carried out offsite.
- All waste must be sent to the designated site waste management areas for interim storage pending compliant removal from site. Do not dispose of anything into a drain, watercourse or onto land.
- Do not throw litter, all waste must be sent to site waste management Contractor.
- As best-practice, all construction-related waste on site e.g., plastic sheeting, netting etc. must be kept in a designated area on site and kept off ground level to protect fauna from entrapment and death.
- Do not drive plant or machinery outside the authorised working boundaries of the site; and
- IF IN DOUBT, ASK THE CONTRACTED SITE SUPERVISOR AND/ OR

ENVIRONMENTAL OFFICER FOR FURTHER INFORMATION.

The CMT will develop Environmental Procedures to control the potential impacts from the Construction Phase of the development. These procedures together with the site Environmental Policy will be made available in the main offices and in the main EHS information points at the site.

The training of site construction staff is the responsibility of the CMT. All personnel working on site will be trained in pollution incident control response. An environmental training programme will be organised for onsite personnel to outline the CEMP and to detail the site environmental policy.

A summary of the main points of this CEMP will be incorporated into the site induction course.

Contractors shall verify the competency of all plant and equipment operators including those employed by sub-contractors.

An environmental audit and inspection programme will be developed by the contractor to ensure compliance with the compliance measures identified in the CEMP.

5.2 Managing Environmental Incidents

All environmental incidents and complaints from members of the public / third parties will be handled appropriately, efficiently in compliance with the incidents and corrective action procedures to be developed by the Main Contractor. All follow up actions on the construction Site will be managed by the CMT.

An environmental incident may include but is not limited to the following:

- Spillage of chemical, fuel or oil
- Fire
- Release of any contaminant to surface water, groundwater, air or soil
- Exceedance of noise limits
- Exceedance of dust limits

A record will be maintained on site of all incidents detailing the following as a minimum:

- Date, time, and duration of incident.
- Nature of the complaint/ incident (e.g., noise nuisance, dust nuisance etc.).
- Characteristics.
- Likely cause or source of incident.
- Weather conditions, such as wind speed and direction.
- Investigative and follow-up actions; and
- Root cause analysis and preventive actions.

All incidents will be investigated by the Environmental Officer and reported to the Construction Manager. Corrective and preventative actions will be implemented as required to ensure that the incident is effectively dealt with and to prevent a recurrence of the incident. Staff will be

informed by toolbox talk of corrective and preventative actions implemented as relevant to their role or overall operations.

6 ENVIRONMENTAL IMPACTS AND CONTROLS

The environmental control measures that will be implemented during the Construction Phase are detailed in the following sections.

6.1 Potential Impacts of the Development

The CEMP is designed to implement mitigation measures to control impacts relating to:

- Air;
- Water;
- Soil and Geology;
- Noise and vibration;
- Biodiversity; and
- Fuel and Oil Storage.

This CEMP is to be read in conjunction with the relevant design drawings and reports relating to the Proposed Development.

The CEMP outlines the measures that will be implemented to prevent and mitigate any potential environmental issues that may arise during the Construction Phase.

6.2 Legal and Other Requirements

Where relevant obligations are identified, these will be adopted into the procedures, forms, plans etc. of the CEMP prepared by the Main Contractor.

For construction sites, any additional requirements of planning consents, statutory authorities and the client are identified and documented in the CEMP.

Where compliance obligations have been assessed and recorded, they will be re-reviewed when personnel become aware of relevant changes that impact directly on operations, or as a minimum quarterly where obligations have changed or where there have been significant changes in work type.

The CEMP prepared by the Main Contractor is regulated by a number of documents:

- Planning Conditions
- Environmental screening reports and mitigation measures.
- Environmental Impact Assessment (EIA) Screening Report (McCutcheon Halley, May 2023).
- Appropriate Assessment (AA) Screening Report (Ash Ecology & Environmental Ltd, May 2023).
- Construction & Demolition Waste Management Plan (C&DWMP) (Ashview Consultants, May 2023).

- Outline Construction Traffic Management Plan (Gutteridge Haskins and Davey Ltd (GHD), July 2023).

As with the CEMP, these documents specify the particular requirements that will be fulfilled during the construction of the project. All contractors involved in the project must comply with these documents.

6.2.1 Conditions of Planning Permission

Compliance with environmental conditions and the control measures set out in the planning permission will be included in the CEMP to be prepared by the Contractor once these planning conditions are known.

6.3 Implementation of Control Measures

The CMT will be responsible for the implementation of control measures as identified in Section 6.4. The Main Contractor and all sub-contractors will comply with the requirements of the CEMP to document and seek approval for Method Statements, Permits and other site-generated documentation as requested.

This CEMP will form part of tender and contract documentation for each works contract. Requirements and responsibilities will be reviewed with each Contractor at inception meetings and at weekly progress update meetings.

Any Contractor submitting a tender for the project must declare any legal proceedings with a regulatory authority, including the Environmental Protection Agency (EPA) or environmental agencies or competent authorities from other jurisdictions.

The Main Contractor shall ensure that all sub-contractors are supplied with a copy of the CEMP, receive sufficient environmental training and are aware of the environmental obligations of the project.

Environmental requirements will be controlled as follows:

- Procedures and control measures as set out in this CEMP.
- Approved Method Statements and Risk Assessments from Contractors which shall address all potential environmental impacts for the specific task.
- Detailed contractor plans for specific environmental aspects.
- Emergency response plans; and
- Specific induction training before commencing work.

In summary, it is expected that all contractors will follow good environmental practice throughout all activities.

6.3.1 Communication & Training - Construction Personnel

In addition to Contractor provided site induction, CMT are obliged to conduct safety meetings / toolbox talks on relevant Environmental Health and Saftey EHS topics for all employees in

their care on a weekly basis. Details of all safety meetings / toolbox talks, including topics and attendees must be submitted to the CMT.

6.3.2 Keeping of Records

Records pertaining to all aspects of the construction environmental management procedures outlined in this document will be maintained in the onsite Environmental Management File. Information stored in the Environmental Management File will include:

- Records of induction training for operatives, drivers, workers, and visitors.
- Attendance by site personnel and visitor logs
- The location of waste storage areas on site.
- The details of environmental incidents and near misses including incident investigation and corrective and preventative measures implemented.
- Records of environmental inspections completed during the Construction Phase to ensure compliance with the CEMP control measures.
- Copies of Safety Data Sheets (SDS)
- Complaints register.
- Records of the movement and recovery/disposal of all waste generated during the Construction Phase of the project to include date removed from site, waste type, quantities, waste carrier and off-site destination.

6.3.3 Monitoring, Audits, and Inspections

Regular inspection and monitoring of construction activities to ensure that the recommended mitigation measures are being correctly implemented will support environmental protection by identifying potential environmental issues at an early stage will reduce the likelihood of significant effects on human health or the environment.

Inspections by the CMT will address environmental issues including dust, litter, noise, traffic, surface water, waste management and general housekeeping. These will be carried out on both scheduled and random intervals. The findings of these inspections will be recorded.

The specific environmental monitoring requirements relating to the control of potential impacts are detailed in the Operation Controls section (Section 6.4) of the CEMP.

6.3.4 Non-Conformance and Corrective and Preventative Action

Corrective Action Requests (CARs) will be issued by the CMT to those responsible for the implementation of corrective and preventative actions to ensure effective resolution of deviations from the CEMP requirements or to address environmental issues identified.

CARs may be raised as a result of:

- An internal or external communication such as a complaint.
- Internal audit.
- A regulatory audit or inspection.

- A suggestion for improvement; and
- An incident or near miss.

All corrective action requests will be numbered and logged and tracked to ensure completion.

6.4 Operation Controls

6.4.1 Control of Fuel and Chemical Storage

The storage and use of fuel and oils will be kept to a minimum at the Site.

If small quantities of oils and chemicals oils are required at the Site, the use of these will be strictly controlled in accordance with procedures outlined in the CEMP and storage will be avoided where possible. All tank, container and drum storage areas shall be rendered impervious to the materials stored therein. Bunds and storage areas shall be designed having regard to Environmental Protection Agency guidelines 'Storage and Transfer of Materials for Scheduled Activities' (EPA, 2004) and Enterprise Ireland Best Practice Guidelines (BPGCS005). All tank and drum storage areas shall, as a minimum, be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

Any fuels retained on drip trays, mobile bunds, etc., will be emptied into a secure bunded waste oil drum to await appropriate disposal offsite.

Refuelling of plant during the Construction Phase will be carried out in accordance with standard best practice. Refuelling will only be carried out at the designated, impermeable refuelling station location onsite with appropriate containment in place. Each station will be fully equipped for spill response and a specially trained and dedicated Environmental and Emergency Spill Response Team will be appointed before the commencement of works at the Proposed Development Site.

Where possible any oil and lubricant changes and maintenance will take place offsite. Only emergency breakdown maintenance will be carried out on site. Drip trays and spill kits will be available on site to ensure that any spills from vehicles are contained and removed offsite.

All personnel working onsite will be trained in pollution incident control response. Emergency silt control & spillage response procedures contained within the CEMP will ensure that appropriate information will be available on site outlining the spillage response procedures and a contingency plan to contain silt during an incident.

Provided that these requirements are adhered to, and site crew are trained in the appropriate refuelling techniques, it is not expected that there will be any fuel/oil wastage at the Site

6.4.2 Control of Emissions to Surface Water and Groundwater

As part of the overall construction methodology, sediment and water pollution control risks arising from construction-related surface water discharges will be considered.

All works carried out as part of the Proposed Development will comply with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990 and the contractor will cooperate fully with TCC and other stakeholders in this regard.

Personnel working on the site will be trained in the implementation of environmental control and emergency procedures. The CEMP and the relevant documents produced will be formulated in consideration of standard best international practice including but not limited to:

- Construction Industry Research and Information Association (CIRIA), 2001. Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors;
- Construction Industry Research and Information Association (CIRIA), 2006. Control of Water Pollution from Linear Construction Projects: Technical Guidance (CIRIA C648);
- Construction Industry Research and Information Association (CIRIA), 2015. Environmental Good Practice on Site (CIRIA C741);
- EPA, 2004. IPC Guidance Note on Storage and Transfer of Materials for Scheduled Activities;
- UK Environment Agency, 2004. UK Pollution Prevention Guidelines;
- Construction Industry Research and Information Association (CIRIA), 2006. Control of Water Pollution from Linear Construction Projects: Technical guidance (CIRIA C648); and
- Inland Fisheries Ireland (IFI), 2016. Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters.

The following standard operational measures will protect surface waters during the Construction Phase of the Proposed Development:

- There will be no discharge to groundwater and there will be no requirement for dewatering of groundwater during the construction phase of the Proposed Development;
- There will be no direct discharge to surface water courses or drains during the construction works.
- A general operational set-back of 10m will be maintained from any open water course or drainage channel.
- There are no watercourses or drainage channels adjoining the Proposed Development site;
- Where required, run-off from the working site or any areas of exposed soil must be channelled and intercepted at regular intervals for discharge to silt-traps or lagoons with over-flows directed to land rather than to a watercourse;
- All containment and treatment facilities will be regularly inspected and maintained;
- Under no circumstances will any untreated wastewater generated onsite (from equipment washing, road sweeping etc.) be released to ground or to nearby drains and watercourses;
- All work will be carried out in the dry and effectively isolated from any drains and nearby water courses. A suitable risk assessment for wet concreting will be completed prior to works being carried out;
- There will be no mixer washings or excess concrete discharged onsite. All excess concrete is to be removed from Site and all washout of concrete chutes to be captured in a tank which shall be removed offsite for disposal at an authorised waste facility
- A regular review of weather forecasts of extreme heavy rainfall will be conducted, and a contingency plan will be prepared for before and after such events to minimise any potential nuisances. As the risk of the break-out of silt laden run-off is higher during

these weather conditions, no work will be carried out during such periods where possible

- Any imported materials (i.e., aggregate materials for the construction of the site service road) will be placed on-site in designated locations and double handling will be avoided. Where this is not possible, designated temporary material storage areas will be used.
- Temporary storage areas will be located at least 10m away from any open drains which will be protected for the duration of the works (i.e., surrounded with silt fencing) or temporary diversion put in place;
- Refuelling of plant and machinery onsite will take place in accordance with the with the refuelling procedures outlined in Section 6.4.1.
- Portaloos and/or containerised toilets and welfare units will be used to provide facilities for site personnel. All associated waste will be removed from site by a licenced waste disposal contractor and records will be maintained; and
- In the unlikely event that material becomes contaminated for example by a fuel spill onsite or a burst / leaking hydraulic hose, a documented procedure for contaminated material will be prepared and adopted by the appointed Contractor prior to works commencing on site. This document will detail how contaminated material will be appropriately handled during the excavation phase;

The proposed construction method for the installation of PV solar panels will ensure the existing ground cover under the panels will be maintained and remain grassed during the Construction Phase. However, if required, ground protection mats will be utilised to ensure there is no damage to the underlying ground surface.

6.4.3 Biodiversity

6.4.3.1 Protection of Fox

Although Foxes are not afforded legal protection in Ireland, care should be taken when disturbing the den and the area around it. Foxes are protected from a variety of hunting/extermination techniques as per the Wildlife Acts 1976 to 2012; and from acts of cruelty as per the Animal Health and Welfare Act 2013.

The dens should not be disturbed during the breeding/rearing season, which typically lasts from March to June. If destroying the den at other times, care should be taken to allow the occupant to escape.

6.4.3.2 Protection of Hedgehog and Pygmy Shrew

As noted in the British Hedgehog Preservation Society's publication *Hedgehogs and development*, during the Construction Phase of the Proposed Development Hedgehogs have the potential to be impacted through the loss of suitable hibernation and nest sites in the form of piles of dead wood, vegetation and leaves. This can be mitigated through the careful removal of dead wood/ leaves to another part of the Site where they will not be affected. Woody debris from the proposed clearance of vegetative areas on site can also be left in this out-of-the way location as compensatory Hedgehog habitat during the Construction Phase.

Vegetation will be removed in sections working in a consistent direction to prevent entrapment of protected fauna potentially present (e.g., Hedgehog).

Hedgehogs also frequent long grass for foraging and daytime nesting sites so caution when strimming/ mowing these areas of the Site is advised.

As best-practice, all construction-related rubbish on site e.g., plastic sheeting, netting etc. should be kept in a designated area on site and kept off ground level so as to protect Hedgehogs from entrapment and death. The above measures will also act to mitigate potential negative impacts on other small mammal species potentially found on site e.g., Pygmy Shrew.

Work likely to cause disturbance during hibernation – for example removal of hibernation habitats such as log piles and dense scrub – **should not take place during November to March**.

6.4.3.3 Protection of Bats

Ash Ecology and Environmental Ltd (AEE) was commissioned to carry out a bat and nesting bird survey on behalf of Dublin City Council (DCC) during September 2021 as part of the proposed redevelopment of Dalymount Park. The out-buildings/sheds and terraces/stands on the site were deemed Low suitability for roosting gats and nesting birds. There was higher bat activity to the southwest of site in the vicinity of buildings 4. This is most likely due to the position of a static detector however it is recommended the interior check of the buildings in this area are checked prior to demolition i.e., January 2022 if works proceed at this time. In total just 2 species of bat were detected (8 species are currently documented for this O13 10km2 Grid square). A 'Low' rate of bat activity was recorded which was expected with the low bat landscape suitability score assigned and urbanised area. The most frequent bat species heard was Common Pipistrelle.

Works will cease if bats are uncovered at any stage during works and a Derogation Licence acquired from the NPWS.

To protect bats from lighting associated with the Construction Phase of the Proposed Development, the following have been considered when choosing luminaires and are incorporated into the lighting design where appropriate. This is taken from the most recent BCT Lighting Guidelines (BCT, 2018):

- All luminaires used will lack UV/IR elements to reduce impact.
- LED luminaires will be used due to the fact that they are highly directional, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (<2700 Kelvins will be used to reduce the blue light component of the LED spectrum).
- Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- Column heights should be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.
- Only luminaires with an upward light ratio of 0% and with good optical control will be used.

- Luminaires will be mounted on the horizontal, i.e., no upward tilt.
- Any external security lighting will be set on motion-sensors and short (1min) timers.
- Accessories such as baffles, hoods or louvres will be used to reduce light spill and direct it only to where it is needed.
- All luminaires shall have a Luminous Intensity Classification of between G4 and G6 to IS EN 13201- 2:2003(E)/BS 5489-1:2013 and recommendations of Institution of Lighting Professionals and Bat Conservation Trust 'Bats and Lighting in the UK' documentation and Bat Conservation Ireland Guidance Notes for Planners, Engineers, Architects and Developers December 2010.

Any Construction Phase external lighting should strictly follow the above guidelines.

For the felling of the Sycamore tree on the site, the following protocol should be followed:

- Tree-felling should be undertaken in the period 1st September to late October/early November. During this period bats are capable of flight and this may avoid risks associated with tree-felling. This is also outside the bird nesting season (1st March to 31st August of a given year).

- Tree-felling should be undertaken using heavy plant and chainsaw. The affected tree should then be pushed to the ground slowly and should remain in place for a period of at least 48 hours to allow bats/other wildlife to escape. Trees felled should NEVER be sawn up or mulched immediately in case protected wildlife is present.

6.4.3.4 Protection of Birds

Ash Ecology and Environmental Ltd (AEE) was commissioned to carry out a bat and nesting bird survey on behalf of Dublin City Council (DCC) during September 2021 as part of the proposed redevelopment of Dalymount Park.

Given the time of year for the bird survey, no nesting birds were using the site. There was netting across the RSJ/Girders of the Jodi Stand which prevented roosting pigeons, gulls and Barn Swallow for example. Likewise no old nests were evident in the 1 no. affected Sycamore tree on the site. Gulls (Larus sp.) were observed passing over the site intermittently. Birds recorded on site (flying over/stopping briefly to land on the flood lights included:

- Robin (Erithacus rubecula) – Landed on the stand seating of the Jodi Stand
- Common Starling (Sturnus vulgaris) – A small flock landed on the Floodlight to the southwest on evening of September 15th, 2021.
- Gull species (Larus spp.) – Frequently passed over site and landed on the Floodlight to the southwest and northeast on the dawn survey (September 14th)
- Feral Pigeon (*Columba livia domestica*) – Occasionally passed over.

Any clearance of vegetation will be carried out outside the main breeding season, i.e. 1st March to 31st August, in compliance with the Wildlife Act 2000. Should any vegetation removal be required during this period, the NPWS will be consulted, and instruction taken from them.

If the buildings on Site are to be demolished during the breeding bird season, the buildings

will be inspected for breeding birds (e.g. Herring Gull, Swallows) prior to demolition. Should nesting birds be discovered, the nest will be protected until any nesting birds have fledged and departed the site.

6.4.3.5 Protection of Fish and Marine Mammals

The mitigation measures outlined in section 6.4.2 will serve to protect fish and marine mammals.

6.4.3.6 Timing of vegetation clearance

Table 6-1 provides guidance for when vegetation clearance and instream works are permissible. Information sources include the British Hedgehog Preservation Society's *Hedgehogs and Development* and *The Wildlife (Amendment) Act, 2000*.

Table 6-1: Seasonal restrictions on vegetation removal. Red boxes indicate periods when clearance/works are not permissible.

<table>
<tr><th>Ecological Feature</th><th>January</th><th>February</th><th>March</th><th>April</th><th>May</th><th>June</th><th>July</th><th>August</th><th>Septem-ber</th><th>October</th><th>November</th><th>December</th></tr>
<tr><td>Breeding Birds</td><td colspan="2">Vegetation clearance permissi-ble</td><td colspan="6">Nesting bird season
No clearance of vegetation or works to rel-evant structures permitted unless con-firmed to be devoid of nesting birds by an ecologist.</td><td colspan="4">Vegetation clearance permissible</td></tr>
<tr><td>Hibernating mammals (namely Hedgehog, excluding bats)</td><td colspan="3">Mammal hiber-nation season
No clearance of vegetation or works to relevant structures per-mitted unless confirmed to be devoid of hiber-nating mammals by an ecologist.</td><td colspan="6">Vegetation clearance permissible</td><td colspan="3">Mammal hiber-nation season
No clearance of vegetation or works to rele-vant structures permitted un-less confirmed to be devoid of hibernating mammals by an ecologist.</td></tr>
<tr><td>Bats</td><td colspan="8">Tree felling to be avoided</td><td colspan="2">Preferred pe-riod for tree-felling</td><td colspan="2">Tree felling to be avoided</td></tr>
</table>

Common Lizard	Vegetation clearance permissible, avoiding potential Common Lizard hibernacula sites (dry sites which provide frost-free conditions e.g., underground small mammal burrows, piles of dead wood or rubble)	Removal of potential hibernacula sites identified by the surveyor under the supervision of an ecologist. Ideally no vegetation clearance to take place. Where this is not possible, vegetation will be cut first to approximately 15cm, and then to the ground, under supervision of an ecologist. This will allow the opportunity for lizards to be displaced by the disturbance and leave the affected area.	Vegetation clearance permissible, avoiding potential Common Lizard hibernacula sites (dry sites which provide frost-free conditions e.g., underground small mammal burrows, piles of dead wood or rubble)

The preferred period for vegetation clearance is within the month of October. Vegetation should be removed in sections working in a consistent direction to prevent entrapment of protected fauna potentially present (e.g., Hedgehog). Vegetation clearance should take place under the supervision of an ecologist to avoid any potential impact on bats, breeding birds, common lizards or mammals.

6.4.3.7 Biosecurity

SAP Landscapes Ltd were requested to provide a site survey report for Dublin City Council pertaining to the historical presence of a high risk, high impact, scheduled invasive alien plant species (*IAPS*) namely Japanese Knotweed (*Fallopia japonica*) present in identified locations within the boundaries of Dalymount Park, Dublin 7.

Japanese Knotweed (*Fallopia japonica*) is recorded and documented as being historically present in various locations onsite with the most prevalent areas recorded along the boundary wall of the car park area. These areas previously received treatment carried out by MCD Landscapes. During a recent site inspection carried out by SAP Landscapes Ltd no new species re-emergence was found to be present in these areas with visible crowns of the plant all remaining in a “Controlled” state. One new area of species emergence was found to be present and recorded as Area 5 in the Japanese Knotweed Survey Report (SAP Landscapes Ltd). Area 5 received treatment on the 23/05/2023 via foliar application of Round Up Bi-Active, a Glyphosate based, translocated, systemic herbicide proven to be successful in the control of invasive plant species such as Japanese Knotweed.

Monitoring onsite should continue to assess for any new areas of species re-emergence and if found treated by an approved Certified Surveyor of Japanese Knotweed/invasive weed specialist. Some form of exclusion zone with advisory signage should be put in place in Area 5 due to its proximity to the pedestrian access/egress path to minimise the risk of further species spread and ensure biosecurity of the area.

It is important to note that herbicide treatments only serve to “Control” Japanese Knotweed and do not eradicate it. Japanese Knotweed rhizome can remain in the ground/soil in a dormant but viable state for many years even after the successful completion of an herbicide control programme. The ground containing the plants rhizome/propagules will always be classed as containing “*Non-*

Hazardous/Controlled Waste" and should never leave site without the relevant Reg 49 licence being in place from the National Parks and Wildlife Services (*NPWS*) under the current legislative directives. If any ground works are to take place within a 5m radius of the recorded areas, then such works should be overseen by a specialist to ensure all measures and protocols are in place regarding the movement of a scheduled plant species.

In addition, the following will be adhered to, to avoid the introduction of invasive species to the Proposed Development Site during both the Construction and Operational Phases.

- The contractor will be aware of biosecurity issues and will inform sub-contractors through the induction process. Any vehicles which have been used in the management of invasive species are required to be cleaned before leaving the Site of contamination, thereby not introducing the risk of cross contamination to other sites.

- Any material required on the Site will be sourced from a stock that has been screened for the presence of any invasive species by a suitably qualified ecologist and where it is confirmed that none are present.

- Personnel working on contaminated sites will be made aware of their responsibilities in cleaning equipment and PPE before visiting Site.

6.4.4 Land, Soil and Geology

6.4.4.1 Control of Excavated Soil and Contaminated Soil

A Construction & Demolition Waste Management Plan (C&DWMP) has been prepared for the Proposed Development (Ashview Consultants, May 2023) which details the control of excavated soil and subsoil. It is anticipated that 200 tonnes of soil will be excavated during the project. Excess excavated soil that is not required for use as a fill on site will be recovered off site. Clean material may be used as fill material in other construction projects or engineering fill for waste licensed sites. Beneficial reuse of surplus excavation material as engineering fill may be subject to further testing to determine if materials meet the specific engineering standards for their proposed end-use.

Any nearby sites requiring clean fill/capping material will be contacted to investigate reuse opportunities for clean and inert material. If any of the material is to be reused on another site as a by-product (and not as a waste), this will be done in accordance with Article 27 of the European Communities (Waste Directive) Regulations 2011.

If the material is deemed to be a waste, then removal and reuse/ recycling/ recovery/ disposal of the material will be carried out in accordance with the Waste Management Acts 1996 – 2011 as amended, the Waste Management (Collection Permit) Regulations 2007 as amended and the Waste Management (Facility Permit & Registration) Regulations 2007 as amended. The volume of waste removed will dictate whether a COR, permit or licence is required by the receiving facility. Once all available beneficial reuse options have been exhausted, the options of recycling and recovery at waste permitted and licensed sites will be considered.

If contaminated soil, classified as hazardous is encountered, this soil will be stored separately from any non-hazardous materials. It will require off site treatment at a suitable facility.

The provision of wheel wash facilities at the construction entrance to the development will minimise the amount of soil deposited on the surrounding road network. The adjoining road network will be cleaned on a regular basis, as required, to prevent the build-up of soils from the development site on the existing public roads. Dampening down measures with water sprays will be implemented during periods of dry weather to reduce dust levels arising from the development works.

Measures will be implemented throughout the Construction Phase to prevent contamination of the soil and adjacent watercourses from oil and petrol leakages. Suitable bunded areas will be installed for oil and petrol storage tanks. Designated fuel filling points will be put in place with appropriate oil and petrol interceptors to provide protection from accidental spills. Refuelling will be restricted to these allocated re-fuelling areas. This area is to be an impermeable bunded area designed to contain 110% of the volume of fuel stored.

During excavation works, temporary sumps will be used to collect any surface water run-off thereby avoiding standing water within the excavations. If groundwater is encountered during excavations, mechanical pumps will be required to remove the groundwater from sumps. Sumps should be carefully located and constructed to ensure that groundwater is efficiently removed from excavations and trenches.

Silt traps, and silt fences will need to be provided by the Main Contractor where necessary to prevent silts and soils being washed away by heavy rains during the course of the Construction Phase. Surface water runoff and water pumped from the excavation works will be discharged via a silt trap / settlement pond to the existing foul drainage network. Straw bales can be used at the outfall to filter surface water to remove contaminants.

After implementation of the above measures, there will be no significant long term adverse effects arising from the Proposed Development. Moderate negative effects during the Construction Phase will be temporary in duration.

A Construction Management Plan, Construction Traffic Management Plan and Waste Management Plan will be implemented by the contractor during the Construction Phase to control the above remedial measures.

6.4.5 Hydrology and Hydrogeology

6.4.5.1 Control of Fuel and Chemical Storage

Appropriate storage facilities will be provided on site. Areas of high risk include:

- Fuel and chemical storage.
- Refuelling Areas.
- Site Compound; and
- Waste storage areas.

Fuel, oils and chemicals will be stored on an impervious base within a bund remote from any surface water drains or water courses.

All tank, container and drum storage areas will be rendered impervious to the materials stored therein. Bunds and storage areas will be designed having regard to Enterprise Ireland BPGCS005, Oil Storage Guidelines which is in line with the requirements of EPA IPC Guidance Note 'Guidance Note on Storage and Transfer of Materials for Scheduled Activities' (EPA, 2004). All tank and drum storage areas will, as a minimum, be bunded to a volume not less than the greater of the following:

- 110% of the capacity of the largest tank or drum within the bunded area; or
- 25% of the total volume of substance that could be stored within the bunded area.

Concrete mixer trucks will not be permitted to wash out on Site with the exception of cleaning the chute into a container which will be removed off Site to an authorised facility.

6.4.5.2 Control of Emissions to Surface Water and Drainage

All works carried out as part of the Proposed Development will comply with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990.

Personnel working on the Site will be trained in the implementation of environmental control and emergency procedures. The CEMP and the relevant documents produced will be formulated in consideration of standard best international practice including but not limited to:

- CIRIA, (2001), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors;
- Construction Industry Research and Information Association (CIRIA) Environmental Good Practice on Site (C650), 2005;
- BPGCS005, Oil Storage Guidelines;
- CIRIA 697, The SUDS Manual, 2007;
- UK Pollution Prevention Guidelines (PPG) UK Environment Agency, 2004;
- Construction Industry Research and Information Association CIRIA C648: Control of water pollution from linear construction projects: Technical guidance (Murnane et al. 2006);
- CIRIA C648: Control of water pollution from linear construction projects: Site guide (Murnane et al. 2006); and
- Inland Fisheries Ireland (2016). Guidelines on Protection of Fisheries during Construction Works in and Adjacent to Waters.

Silt traps, and silt fences will be provided by the contractor where necessary to prevent silts and soils being washed away by heavy rains during the course of the Construction Phase. Surface water runoff and water pumped from the excavation works will be discharged via a silt trap / settlement pond to the existing foul drainage network. Straw bales will be used at the outfall to filter surface water to remove contaminants.

Trenched double silt fencing will be installed along the site boundary on the inside of the hoarding where required. The silt fencing will act as a temporary sediment control device to

protect the SAC from sediment and potential surface water run-off from the Site. The fencing will be inspected twice daily based on Site and weather conditions for any signs of contamination or excessive silt deposits and records of these checks will be maintained. Ponded water will be pumped from the trench into a sediment tank and discharged based on site authorisations or disposed of via a permitted wastewater contractor. Under no circumstances will any wastewater generated onsite be released into nearby drains or roads.

In addition, the following general measures will be undertaken:

- Designated impermeable cement washout areas will be provided.
- Run-off from the working site or any areas of exposed soil will be channelled and intercepted at regular intervals for discharge to silt-traps or lagoons with over-flows directed to land rather than to a drain.
- Silty water generated on site will be treated using silt traps/settlement ponds and temporary interceptors and traps will be installed until such time as permanent facilities are constructed.
- Storm drain inlets which could receive stormwater from the project will be protected throughout the Construction Phase. Inlet protection will be installed before soil disturbing activities begin.
- A regular review of weather forecasts of heavy rainfall will be conducted, and a contingency plan will be prepared for before and after such events to minimise any potential nuisances. As the risk of the break-out of silt laden run-off is higher during these weather conditions, no work will be carried out during such periods where possible.
- Any imported materials will, as much as possible, be placed on Site in their proposed location and double handling will be avoided. Where this is not possible designated temporary material storage areas will be used.
- These temporary storage areas will be surrounded with silt fencing to filter out any suspended solids from surface water arising from these materials.
- Temporary hydrocarbon interceptor facilities will be installed and maintained where Site Works involve the discharge of drainage waters to nearby drains.
- All containment and treatment facilities will be regularly inspected and maintained.
- Refuelling of plant during the Construction Phase will only be carried out at designated refuelling station locations on site. Each station will be fully equipped for spill response and a specially trained and dedicated Environmental and Emergency Spill Response team will be appointed before the commencement of works on site.
- Only emergency breakdown maintenance will be carried out on site. Drip trays and spill kits will be available on site to ensure that any spills from vehicles are contained and removed off site.
- All personnel working on site will be trained in pollution incident control response.
- Any other diesel, fuel or hydraulic oils stored on site will be stored in bunded storage tanks- the bunded area will have a volume of at least 110% of the volume of the stored materials as per best practice guidelines (Enterprise Ireland, BPGCS005).
- If portaloos and/ or containerised toilets and welfare units will be used to provide facilities for site personnel, all associated waste will be removed from site by a licensed waste disposal contractor.
- Under no circumstances will any untreated wastewater generated onsite (from

equipment washing, road sweeping etc.) be released into nearby drains.

6.4.5.3 Control of Emissions to Soil and Groundwater

Measures set out in Section 6.4.2 will also serve to protect soil and groundwater. In addition,

- No direct untreated point discharge of construction runoff to groundwater will be permitted.
- Where a pollution incident is detected, construction works will be stopped until the source of the construction pollution has been identified and remedied.
- Groundwater may be encountered during the construction works. Where water must be pumped from the excavations, water will be managed in accordance with best practice standards (i.e., CIRIA – C750) and regulatory consents.
- Excavations and potentially contaminated stockpiled soils will be constructed/ located/ sheeted in a manner that ensures water is contained within the site boundary.

6.4.5.4 Foul Water Drainage

In order to reduce the risk of defective or leaking foul sewers, the following remedial measures will be implemented: -

- All new foul sewers will be tested by means of an approved air test during the Construction Phase in accordance with Irish Waters Code of Practice and Standard Details.
- All private drainage will be inspected and signed off by the design Engineer in accordance with the Building Regulations Part H and BCAR requirements.
- Foul sewers will be surveyed by CCTV to identify possible physical defects.
- The connection of the new foul sewers to the public sewer will be carried out under the supervision of Irish Water and will be checked prior to commissioning.
- Prior to commencement of excavations in public areas, all utilities and public services will be identified and checked, to ensure that adequate protection measures are implemented during the Construction Phase.

6.4.6 Air Quality and Climate

In order to sufficiently mitigate any likely air quality impact, a schedule of air control measures has been formulated for the Construction Phase associated with the Proposed Development set out in the following sections.

6.4.6.1 Dust Control Measures – General

The objective of dust control at the site is to ensure that no significant nuisance occurs from the Permitted Development. To develop a workable and transparent dust control strategy, the following Dust Management Plan (DMP) has been formulated by drawing on best practice guidance from Ireland, the UK (BRE 2003), (The Scottish Office 1996) (UK Office of Deputy Prime Minister 2002) and the USA (USEPA 1997), (USEPA 1986).

The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good design and effective control strategies. The dust minimisation measures shall be reviewed at regular intervals during the construction phase to ensure the

effectiveness of the procedures in place and to maintain the goal of minimisation of dust through the use of best practise and procedures. In the event of dust nuisance occurring outside the site boundary, site activities will be reviewed, and satisfactory procedures implemented to rectify the problem. Specific dust control measures to be employed are highlighted below:

6.4.6.1.1 General Monitoring

- Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This will include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary.
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked. Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
- Agree dust deposition, dust flux, or real-time PM10 continuous monitoring locations with the Local Authority. Baseline monitoring will commence at least three months before work commences on site or before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.

6.4.6.1.2 Communications

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person accountable for air quality and dust issues on the site boundary.
- Display the head or regional office contact information.
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site. The DMP may include monitoring of dust deposition, dust flux, real-time PM_{10} continuous monitoring and/or visual inspections.

6.4.6.1.3 Site Management

- Regular inspections of the Site and boundary will be carried out to monitor dust, records and notes on these inspections should be logged.
- Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Make the complaints log available to the local authority when asked.
- Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook.
- Hold regular liaison meetings with other high risk construction sites within 500 m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter

emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.

6.4.6.1.4 Preparing and Maintaining the Site

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on Site.
- Fully enclose specific operations where there is a high potential for dust production and the Site is active for an extensive period.
- Avoid Site runoff of water or mud.
- Keep Site fencing, barriers and scaffolding clean using wet methods.
- Remove materials that have a potential to produce dust from Site as soon as possible, unless being re-used on Site. If they are being re-used on-site cover as described below.
- Cover stockpiles to prevent wind whipping.

6.4.6.1.5 Operating Vehicles / Machinery and Sustainable Travel

- Ensure all vehicles switch off engines when stationary - no idling vehicles.
- Avoid the use of diesel- or petrol-powered generators and use mains electricity or battery powered equipment where practicable.
- Impose and signpost a maximum-speed-limit of 20 kph haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.
- Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).

6.4.6.1.6 Operations

- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g., suitable local exhaust ventilation systems.
- Ensure an adequate water supply on the site for effective dust/ particulate matter suppression/ mitigation, using non-potable water where possible and appropriate.
- Use enclosed chutes and conveyors and covered skips.
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
- Ensure equipment is readily available on site to clean any dry spillages and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

6.4.6.1.7 Measures Specific to Demolition

- Soft strip inside buildings before demolition (retaining walls and windows in the rest of

the building where possible, to provide a screen against dust).

- Ensure effective water suppression is used during demolition operations. Handheld sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- Avoid explosive blasting, using appropriate manual or mechanical alternatives.
- Bag and remove any biological debris or damp down such material before demolition.

6.4.6.1.8 Measures Specific to Earthworks

- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Use Hessian or mulches where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
- Only remove the cover in small areas during work and not all at once.
- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust.

6.4.6.1.9 Measures Specific to Construction

- Avoid scabbling (roughening of concrete surfaces) if possible.
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

6.4.6.1.10 Measures Specific to Trackout

Site roads (particularly unpaved) can be a significant source of fugitive dust from construction sites if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions. Studies show that these measures can have a control efficiency ranging from 25 to 80%.

- A speed restriction of 15 km/hr will be applied as an effective control measure for dust for on-site vehicles.
- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site logbook.

- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10 m from receptors where possible.

6.4.6.1.11 Dust Control – Public Roads

Spillage and blow-off of debris, aggregates and fine material onto public roads should be reduced to a minimum by employing the following measures.

- Vehicles delivering material with potential for dust emissions to an off-site location shall be enclosed or covered with tarpaulin always to restrict the escape of dust.
- Public roads outside the Site shall be regularly inspected for cleanliness, as a minimum daily, and cleaned as necessary. A road sweeper will be made available to ensure that public roads are kept free of debris.
- If practicable, a wheel wash facility will be employed at the exit of the Site so that traffic leaving the Site compound will not generate dust or cause the build-up of aggregates and fine material in the public domain.

6.4.7 Noise and Vibration

Potential noise sources during the Construction Stage of any development have been identified as:

- Demolition of existing structures.
- Site clearance and excavation;
- Construction related traffic;
- Construction vibration.

In order to control likely noise impacts caused by the Permitted Development, best available technology will be employed by the appointed Main Contractor to minimise noise from the construction operations and all comply with Safety, Health and Welfare at work (construction) Regulations 2006 to 2013, Safety, Health and Welfare at Work Act 2005, BS 6187:2011 - Code of Practice for full and partial demolition, BS 5228:2009: A1:2014 *Parts 1 & 2 - Code of Practice for noise and vibration control on construction and open sites*, Environmental Protection Agency Act 1992 Sections 106-108, including all Local Authority specific requirements for this specific site.

BS 5228-1: A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise, suggests an absolute construction noise limit depending on the receiving environment. The document states:

"*Noise from construction and demolition sites should not exceed the level at which conversations in the nearest building would be difficult with windows shut…. Noise levels between 07:00 and 19:00 hrs, outside the nearest window of the occupied room closest to the site boundary should not exceed:*

- *70dB in rural, suburban and urban areas away from main road traffic and industrial noise;*
- *75dB in urban areas near main roads in heavy industrial areas*."

The Proposed Development is located in a suburban context, hence a limit value of 70dB LAeq,T for the Construction Phase is considered to be reasonable.

This limit value is also in agreement with those set by Transport Infrastructure Ireland (TII) for construction projects. The 2004 TII document "Guidelines for the Treatment of Noise and Vibration in National Road Schemes" outlines the construction noise limit values.

In accordance with DCC requirements, on sites where noise generated by construction would seriously affect residential amenity, the site and building works must be carried out between 0700 and 1800 hours Monday to Friday only, and between 0800 and 1400 hours on Saturdays only. No works shall be carried out on Sundays or bank holidays.

Therefore, the following noise limits shall be adhered to during construction:

Table 6-2: Construction Noise Limits (Source: TII, 2004 and DCC Development Standards)

Days and Times*	LAeq	LAsmax
Monday to Friday (07:00 to 18:00 hours)	70 dB	80 dB
Saturdays (08:00 to 14:00 hours)	65 dB	75 dB
Sundays & Bank Holidays	No works shall be carried out on Sundays or bank holidays.	

Note * Construction activity outside of these times, other than that required for emergency works, will require the explicit permission of the local authority.

A programme of monitoring will be put in place to monitor site activity and noise levels generated to ensure impacts to nearby residential noise sensitive locations are not significant.

6.4.7.1 Noise Sensitive Locations

The site is bounded by a number of residential dwellings to the north, west, and south and by commercial premises to the east. St Peters National School is also located to the west of the Proposed Development site.

Steps will be taken to ensure that any noise arising will be adequately mitigated. It should be noted that as part of the scheme design due consideration has been given to the issue of

noise and physical and operational measures have been proposed in order to mitigate potential noise impacts associated with the site.

The applicant or developer shall also endeavour to engage in local consultation in respect of any noise sensitive location within 30 metres of the development as approved prior to construction activity commencing on site. Such noise sensitive locations will be provided with the following:

- Schedule of works to include approximate timeframes
- Name and contact details of contractor responsible for managing noise complaints
- Hours of operation- including any scheduled times for the use of equipment likely to be the source of significant noise.

6.4.7.2 Assessment of Noise Effects

Consideration will also be given to advice in relation to establishing significant construction noise effects as set out in BS5228. During the construction and demolition phases, the development shall comply with British Standard 5228 '*Noise Control on Construction and open sites Part 1. Code of practice for basic information and procedures for noise control.*

6.4.7.3 Best Practice Guidelines for the Control of Construction Noise

Best practice control measures from construction sites within BS 5228 (2009 +A1 2014) *Code of Practice for Noise and Vibration Control on Construction and Open Sites Parts 1 and 2* will be used to control noise and vibration impacts. These will be incorporated into this CEMP as follows:

BS 5228 include guidance on the various aspects of construction site noise mitigation, including, but not limited to:

Selection of Quiet Plant

This practice is recommended in relation to static plant such as compressors and generators. It is recommended that these units be supplied with manufacturers' proprietary acoustic enclosures. The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. The least noisy item will be selected wherever possible. Should a particular item of plant already on the site be found to generate high noise levels, the first action will be to identify whether or not said item can be replaced with a quieter alternative.

Noise Control at Source

If replacing a noisy item of plant is not a viable or practical option, consideration will be given to noise control "at source". This refers to the modification of an item of plant or the application of improved sound reduction methods in consultation with the supplier. For example, resonance effects in panel work or cover plates can be reduced through stiffening or

application of damping compounds; rattling and grinding noises can often be controlled by fixing resilient materials in between the surfaces in contact.

The following work methods will be implemented to ensure minimal noise and vibration are generated at sources during the construction phases:

- All plant and equipment liable to create noise whilst in operation will, as far as reasonably practicable, be located away from sensitive receptors and neighbouring occupied buildings.
- For mobile plant items such as cranes, dump trucks, excavators and loaders, maintaining enclosure panels closed during operation can reduce noise levels over normal operation. Mobile plant will be switched off when not in use and not left idling.
- For steady continuous noise, such as that generated by diesel engines, it may be possible to reduce the noise emitted by fitting a more effective exhaust silencer system.
- For percussive tools such as concrete breakers, a number of noise control measures include fitting muffler or sound reducing equipment to the breaker 'tool' and ensure any leaks in the air lines are sealed. Erect localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries.
- For concrete mixers, control measures will be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.
- For all materials handling ensure that materials are not dropped from excessive heights, lining drops chutes and dump trucks with resilient materials.
- For compressors, generators and pumps, these can be surrounded by acoustic lagging or enclosed within acoustic enclosures providing air ventilation.
- All items of plant will be subject to regular maintenance. Such maintenance can prevent unnecessary increases in plant noise and can serve to prolong the effectiveness of noise control measures.
- Any plant, equipment or items fitted with noise control equipment found to be defective will not be operated until repaired.
- Site deliveries will be confined to working hours and allocated offloading location will be utilized for all deliveries.
- Working hours will be confined to those stipulated in the grant of planning permission.

Screening

Screening is an effective method of reducing the noise level at a receiver location and can be used successfully as an additional measure to all other forms of noise control. Standard construction site hoarding with a mass per unit of surface area greater than 7 kg/m^2 can

provide adequate sound insulation. Construction site hoarding will be required around the site boundary during demolition and excavation phases along the west, northern and southern site boundaries.

Liaison with the Public

A designated noise liaison officer (who may be the Environmental Officer referred to above) will be appointed to oversee site during construction works. Any noise complaints will be logged and followed up in a prompt fashion by the liaison officer. In addition, prior to particularly noisy construction activity, e.g., demolition, breaking, piling, etc., the liaison officer will inform the nearest noise sensitive locations of the time and expected duration of the noisy works.

Project Programme

The construction programme will be arranged to control the amount of disturbance in noise and vibration sensitive areas at times that are considered of greatest sensitivity. If piling or breaking works are in progress on a site at the same time as other works of construction or demolition that themselves may generate significant noise and vibration, the working programme will be phased so as to ensure noise limits are not exceeded due to cumulative activities.

6.4.7.4 The Introduction of New Noise Sources onto the Permitted Development Lands

The potential of any item of plant to generate noise will be assessed prior to the item being brought onto the site with regard to the following:

- Consideration of Alternatives;
- Information to be submitted by the contractor; and
- In-situ Noise Measurement.

6.4.7.5 Vibration

Ground vibration may also potentially occur during the construction phase. Vibration can be measured in terms of Peak Particle Velocity (PPV), this is expressed in millimetres per second (mm/s). Vibration standards can be considered in two varieties: those dealing with human comfort and those dealing with cosmetic or structural damage to buildings. For example, vibration is perceptible at around 0.5mm/s in the case of road traffic, however at higher magnitudes, this vibration may become an annoyance.

Rock breaking and piling are considered the primary sources of vibration during the construction phase of a project. These would occur at higher levels of vibrations (up to 12mm/s and 6mm/s respectively), and this can be tolerated for events of a short duration.

Guidance relevant to the protection of building structures is contained in the following documents:

- British Standard BS 7385: 1993*: Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration,* and;

- British Standard BS 5228: 2009+A1 2014: *Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration.*

6.4.7.5.1 Vibration Mitigation Measures

The below measures will be taken to ensure that no significant vibration levels occur, and that all appropriate steps are taken to assist in effective vibration level management:

- Vehicle engines shall be switched off when not in use;

- Machines will be fitted with suitable silencers;

- If appropriate, acoustic screens will be deployed;

- Offsite fabrication;

- In method statement/risk assessment the contractor will highlight any activity that may cause significant vibration levels, and include measures in helping to mitigate these emission levels;

- Equipment is to be task-specific; and

- Best practice noise and vibration control measures will be employed by the contractor and screening provided to adjoining properties.

6.4.7.6 Monitoring of Noise and Vibration

The control measures outlined in Section 6.4.6 are to be implemented and furthermore, the Main Contractor will monitor the likelihood of prolonged exposure to excessive noise and commission a noise surveying/monitoring programme where necessary. Specific monitoring will be carried out at the nearest sensitive locations.

In the first instance, it is envisaged that such audits will take place on a monthly basis. This will be subject to review and the frequency of audits may be revised if deemed appropriate.

The purpose of the audits will be to ensure that all appropriate steps are being taken to control construction noise emissions. To this end, consideration will be given to issues such as the following:

- Hours of operation being correctly observed;

- Opportunities for noise control ‘at source’;

- Optimum siting of plant items;

- Plant items being left to run unnecessarily;
- Correct use of proprietary noise control measures;
- Materials handling;
- Poor maintenance; and
- Correct use of screening provided and opportunities for provision of additional screening.

Noise and vibration monitoring reports will be maintained and made available to the Local Authority and members of the public on request.

6.4.8 Archaeology and Cultural heritage

6.4.8.1 Control of Impacts on Archaeology and Heritage

The Archaeological Assessment conducted by the Archaeological Consultancy Services Unit (November 2021) concludes that the site contains no Recorded Monuments or Protected Structures. It is also a brownfield site with existing infrastructure in place. Therefore, the site's archaeological potential is considered low. However, previously unrecorded sub-surface features or deposits of an archaeological nature might still survive within undisturbed areas as the site was not developed prior to the construction of Dalymount Park.

Archaeological monitoring of all topsoil stripping and groundworks should take place prior to and during the construction phase. This should be carried out by a licence eligible archaeologist working under licence from the Department of Housing, Local Government and Heritage in consultation with the National Museum of Ireland. Should archaeological material be identified in the course of the monitoring, further mitigation, including preservation by record (excavation) or in situ, might be recommended following discussion with the National Monuments Service.

6.4.8.1.1 Monitoring

Archaeological monitoring of all topsoil stripping and groundworks should take place prior to and during the construction phase.

6.4.9 Material Assets: Waste, Utilities and Traffic

6.4.9.1 Control of Traffic

Further to the above, a full Construction Traffic Management Plan (CTMP) will be prepared by the Main Contractor, which will outline proposals in relation to construction traffic and associated construction activities that impact the surrounding roads network. The document will be prepared in coordination and agreed with the local authority.

Care will be taken to ensure existing pedestrian and cycling routes are suitably maintained or appropriately diverted as necessary during the construction period, and temporary car parking is provided within the site for contractor’s vehicles. It is likely that construction will have an imperceptible impact on pedestrian and cycle infrastructure.

Through the implementation of the CEMP and TMP, it is anticipated that the effect of traffic during the Construction Phase will have a slight effect on the surrounding road network for short-term period.

6.4.9.1.1 Monitoring

During the Construction Phase the following monitoring is advised. The specific compliance exercises to be undertaken in relation to the range of measures detailed in the final construction management plan will be agreed with the planning authority.

- Construction vehicles routes and parking
- Internal and external road conditions
- Construction activities hours of work

6.4.9.2 Control of Waste and Waste Management

A Construction & Demolition Waste Management Plan (C&DWMP) has been prepared (Ashview Consultants, May 2023) which provides information necessary to ensure that the waste produced by the site is managed in accordance with all current legal and industrial standards including;

- Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects;
- Waste Management Act 1996 and associated regulations;
- Litter Pollution Act 1997; and
- Planning and Development Act 2000 as amended

Proper guidance has also been provided within the C&DWMP to ensure the appropriate transportation method is used to prevent littering or other serious environmental pollution.

The primary priority of the C&DWMP shall be to promote recycling, reuse and recovery of waste and diversion from landfill wherever possible.

Table 6-3 outlines the potential waste types for the demolition phase and construction phase and the associated European four-digit waste codes (EWC), as detailed within the C&DWMP. Refer to the C&DWMP for details on quantities and waste controller information.

Table 6-3: Waste Types and EWC from the Demolition Phase and Construction Phase

Type	EW Code
Non-hazardous	
Concrete, bricks, tiles, ceramics	17 01
Wood, glass and plastic	17 02
Bituminous mixtures, coal tar and tarred products	17 03
Metals (including their alloys)	17 04

Soil, stones and dredged soil	17 05
Gypsum- based construction material	17 08
Hazardous	
Electrical and Electronic Components	16 02
Batteries	16 06
Wood Preservatives	03 02
Liquid Fuels	13 07
Soil and stones containing dangerous substances	17 05 03
Insulation materials containing asbestos	17 06 01
Other insulation materials containing of or containing dangerous substances	17 06 03
Construction materials containing asbestos	17 06 05
Construction and demolition waste containing mercury	17 09 01
Construction and demolition waste containing PCB's	17 09 02
Other Construction and demolition waste containing dangerous substances	17 09 03
Asbestos Containing Materials	17 06 01

The management of all surplus and waste materials including soil during the Construction Phase of the Proposed Development will be managed in accordance with the measures as outlined within the C&DWMP.

6.4.10 Monitoring

Daily on-site and off-site inspections will be undertaken where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars, and windowsills within 100m of site boundary, with cleaning to be provided if necessary.

Regular site inspections will be carried out to monitor compliance with the Dust Management Plan, inspection results will be recorded, and an inspection log will be made available to the local authority. Site inspections will be carried out more frequently when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

Dust deposition, dust flux, or real-time PM10 continuous monitoring locations will be agreed with the Local Authority. Where possible, baseline monitoring will commence at least three

months before work commences on-site or before work on a phase commences. Further guidance is provided in the UK guidance document 'Assessment of Dust from Demolition and Construction' (2014) published by the Institute of Air Quality Management on monitoring during demolition, earthworks and construction.

7 SITE TIDINESS & HOUSEKEEPING

Further to the measures described in the previous sections, the following measures will be implemented to maintain site tidiness.

- Construction works will be carried out according to a defined schedule agreed with CMT. Any delays or extensions required will be notified at the earliest opportunity to CMT.
- Contractors will ensure that road edges and footpaths are swept on a regular basis.
- All Contractors will be responsible for the clearance of their plant, equipment, and any temporary buildings upon completion of construction.

The Site will be left in a safe condition and site security will be managed in accordance with the details specified in the C&DWMP and the control measures outlined in Section 6.4 of this CEMP.

8 EMERGENCY PLANNING AND RESPONSE

The purpose of the CEMP is to address the potential emissions from the site, implementing any necessary mitigation measures as discussed in Section 6.3 and Section 6.4 to ensure that there will be no negative impact on the receiving environment. The Main Contractor will ensure that all works are carried out consistent with existing emergency response plans and procedures.

8.1 Environmental Emergency Preparedness and Response

The control measures identified in Section 6.4 of this CEMP, once correctly implemented, will reduce the likelihood of the occurrence of an environmental incident (emergency) as identified in Section 5.2 of this CEMP.

A procedure for Environmental Emergency Preparedness and Response will be developed prior to the commencement of the Construction Phase and will be implemented by the CMT. Environmental Emergency Preparedness and Response will ensure that all countermeasures proceed in a controlled manner so that greater damages are avoided and the possible effects upon persons, the environment and property are avoided or limited.

The general required emergency response actions will be posted at strategic locations, such as the site entrance, canteen and near the entrances to buildings.

As per Sections 5.2 and 6.3 of this CEMP, once an environmental incident has been responded to the processes identified in the incident investigation and non-conformity, corrective and preventative action procedures will be adhered to with all details pertaining to the incident recorded in the site environmental register.

As an example of emergency response actions required, in the event of a spillage, the following procedure shall be followed:

1. IF SAFE (USE PPE), stop the source of the spill and raise the alarm to alert people working in the vicinity of any potential dangers.
2. IF SAFE (USE PPE), contain the spill using the absorbent spills material provided. Do not spread or flush away the spill.
3. Cover or bund off any vulnerable areas where appropriate.
4. If possible, clean up as much as possible using the absorbent spills materials.
5. Do not hose the spillage down or use any detergents.
6. Contain any used absorbent material so that further contamination is limited.
7. Notify the Environmental Officer so that used absorbent material can be disposed of using a licensed waste contractor.
8. An accident investigation should be performed in accordance with procedures and the report sent to the Environmental Officer.

In the event of spillages or other incidents steps will be taken to prevent environmental pollution, for example through protection of drains by use of drain covers or booms, use of absorbent granules following an oil / chemical spill and turning off equipment or other sources of noise or dust.

Once the situation has been rectified, full details about the incident and remedial actions undertaken will be provided to the local authority and all other relevant authorities and

recorded in the site environmental register. This site environmental register will be a register of regulatory, legal and other requirements, and this will be developed to summarise the environmental legislation, (as well as other requirements) that the project must adhere to. This legislation will be available through the construction manager's office on site. This register will be a controlled document, and as such will be reviewed and updated on a minimum six-monthly basis.

9 ENVIRONMENTAL REGULATORY REQUIREMENTS

This site environmental legal register will record regulatory and legal requirements and summarise applicable environmental legislation, (as well as other requirements) that the project must adhere to. The legal register will be available through the construction manager's office on site. This register will be a controlled document, and as such will be reviewed and updated on a minimum six-monthly basis by the Environmental Officer.

A typical register of environmental legislation is divided into a number of categories, which include:

- General Environmental Legislation.
- Flora & Fauna.
- Emissions to Air.
- Emissions to Water & Groundwater.
- Waste Management; and
- Noise & Vibration.

For each piece of legislation, the following information is provided:

- Index Number.
- Title of Legislation.
- Summary of Legislation; and
- Relevance.

All legislation included in the Register can be readily accessed on http://www.irishstatutebook.ie or will be available through the construction manager's office.

The Register of Legislation will be reviewed and updated on a minimum six-monthly basis. This is a controlled document and as such will comply with all the requirements of the Contractor document control procedures.

10 REFERENCES

Construction Industry Research and Information Association (CIRIA), 2001. Control of Water Pollution from Construction Sites - Guidance for Consultants and Contractors.

Construction Industry Research and Information Association (CIRIA), 2005. Environmental Good Practice on Site (C650).

Construction Industry Research and Information Association (CIRIA), 2006. Control of water pollution from linear construction projects: Technical guidance (Murnane et al. 2006) (C648).

Construction Industry Research and Information Association (CIRIA), 2007. The SUDS Manual (C697).

Enterprise Ireland - Best Practice Guidelines (BPG CS005). Oil Storage Guidelines.

Environmental Protection Agency (2004) IPC Guidance Note - Guidance Note on Storage and Transfer of Materials for Scheduled Activities.

Environment Agency, 2004. UK Pollution Prevention Guidelines (PPG) UK.

Health and Safety Authority (2016) Code of Practice for Avoiding Danger from Underground Services
https://www.hsa.ie/eng/publications_and_forms/publications/construction/cop_avoiding_danger_from_underground_services_.pdf

National Roads Authority, 2004. Guidelines for the Treatment of Noise and Vibration in National Road Schemes.

Transport Infrastructure Ireland, 2020, The Management of Invasive Alien Plant Species on National Roads – Standard. GE-ENV-01104.

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