Preliminary Construction Environmental Management Plan

Ardee 2040 Regeneration

Project no: 603902 R1 (04)

JUNE 2023

RSK GENERAL NOTES

Project No.: 603902 R1 (04)

Title: Preliminary Construction Environmental Management Plan: Ardee 2040 Regeneration

Client: Louth County Council

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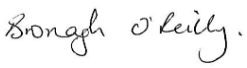
Signatures:		Signature:	
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Revision control sheet		
Revision ref.	**Date**	**Reason for revision**
(00)	11/04/2022	-
(01)	7/04/2023	EIR chapter information
(02)	12/04/2023	Site location, character description and plan updates
(03)	06/06/2023	Section 2.35
(04)	11/12/2023	Updated red line map, section 2.1

CONTENTS

1 INTRODUCTION

Introduction

1.1 RSK Ireland Ltd has been commissioned by Turley, on behalf of Louth County Council to prepare a preliminary construction environmental management plan (PCEMP) as part of a planning application for a proposed regeneration project of Ardee town centre, Co. Louth.

1.2 The PCEMP is intended to form the basis for management of the main environmental aspects of the construction of the proposal in order to protect the River Dee and associated woodland habitat and any residential and commercial neighbours in close proximity to each area of the proposed scheme.

1.3 The project is currently at planning stage and as such input from the contractor has not been incorporated into the document. Upon appointment of the contractor, this preliminary document will be issued for further development as a final PCEMP for the project. It will contain the site-specific control measures that will be applied by the Contractor and where relevant their sub-contractors during the construction stages of each element of the proposal.

1.4 All works must be carried out in accordance with the mitigation measures as outlined in the individual chapters of the Environmental Impact Assessment Report (EIAR), for which constraints and appropriate protection measures detailed in this PCEMP have been taken from.

1.5 A copy of the final PCEMP will be provided to each Contractor working on behalf of Louth County Council and a copy maintained on site for reference by the entire workforce. It must be accessible to all site personnel, subcontractors and representatives of the relevant enforcement authority.

Scope

1.6 It is intended that the PCEMP will be expanded and updated by the appointed Contractor prior to construction works commencing. The aims of the PCEMP will be to;

- Ensure construction works and activities are completed in accordance with mitigation and best practice approach presented in the EIAR and any associated planning documentation;
- Ensure construction works and activities are completed in accordance with all planning conditions for the development and that the PCEMP is updated as required;
- Ensure construction works and activities have minimal impact/disturbance to local landowners and the local community;
- Ensure construction works and activities have no adverse effect on the integrity of any European Site;

- Ensure that construction traffic to and from the site is strictly managed to avoid unnecessary traffic movements;
- Identify a dedicated person on site to liaise with the Public regarding any concerns that they may have in relation to the site operation;
- Adopt a sustainable approach to construction; and,
- Provide adequate environmental training and awareness for all project personnel.

Document Structure

1.7 This PCEMP is structured as follows:

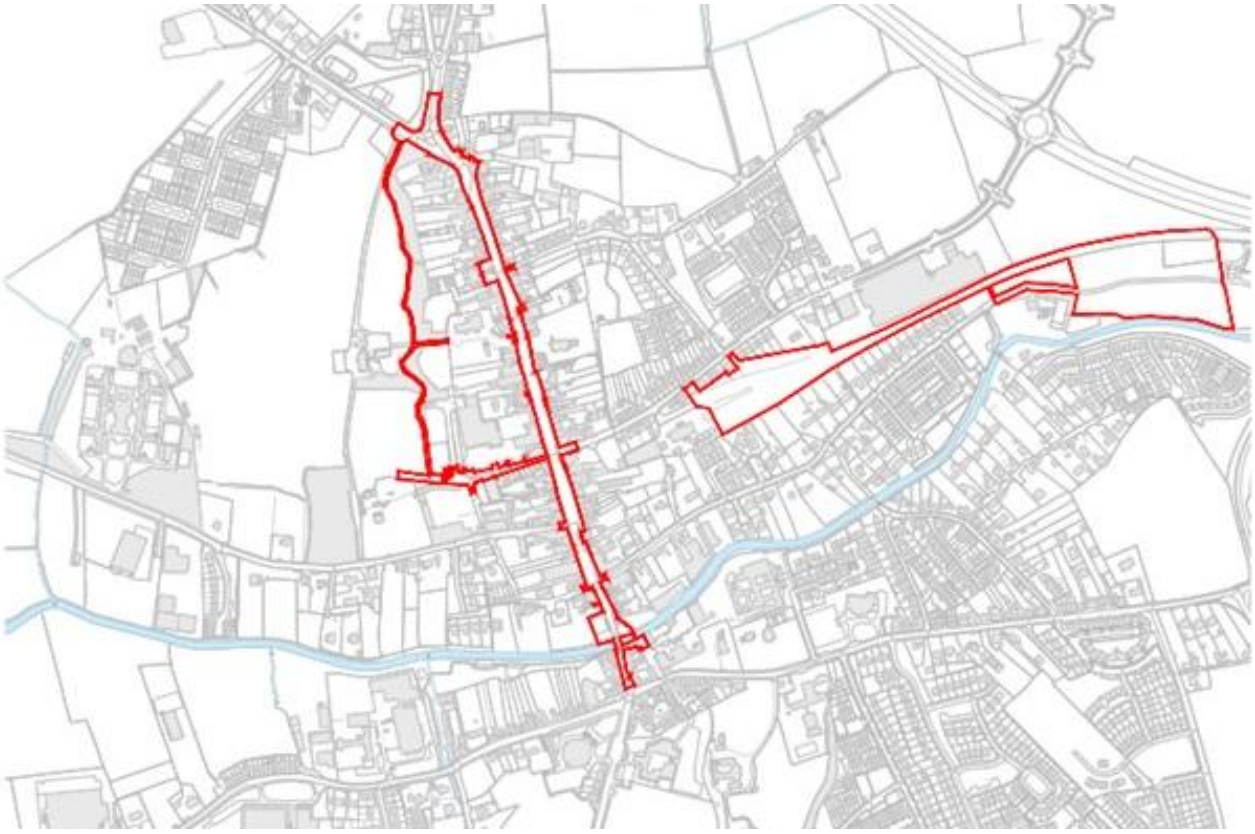
- Section 1 provides an introduction, with scope of the PCEMP;
- Section 2 describes the project and overview of construction activities;
- Section 3 references contractual and legal requirements;
- Section 4 details key roles and responsibilities;
- Section 5 details the environmental mitigation measures to be employed during the construction phase;
- Section 6 details the methods of communication;
- Section 7 details the details the approach to environmental training, logs and site awareness;
- Section 8 details the emergency response and preparedness procedures in the event of an incident; and
- Section 9 details the approach to monitoring and audit procedures.

2 THE PROJECT

Site Description

2.1 The application site extends throughout several various sites/land uses in Ardee. The red line boundary of the site is detailed on Figure 1 below.

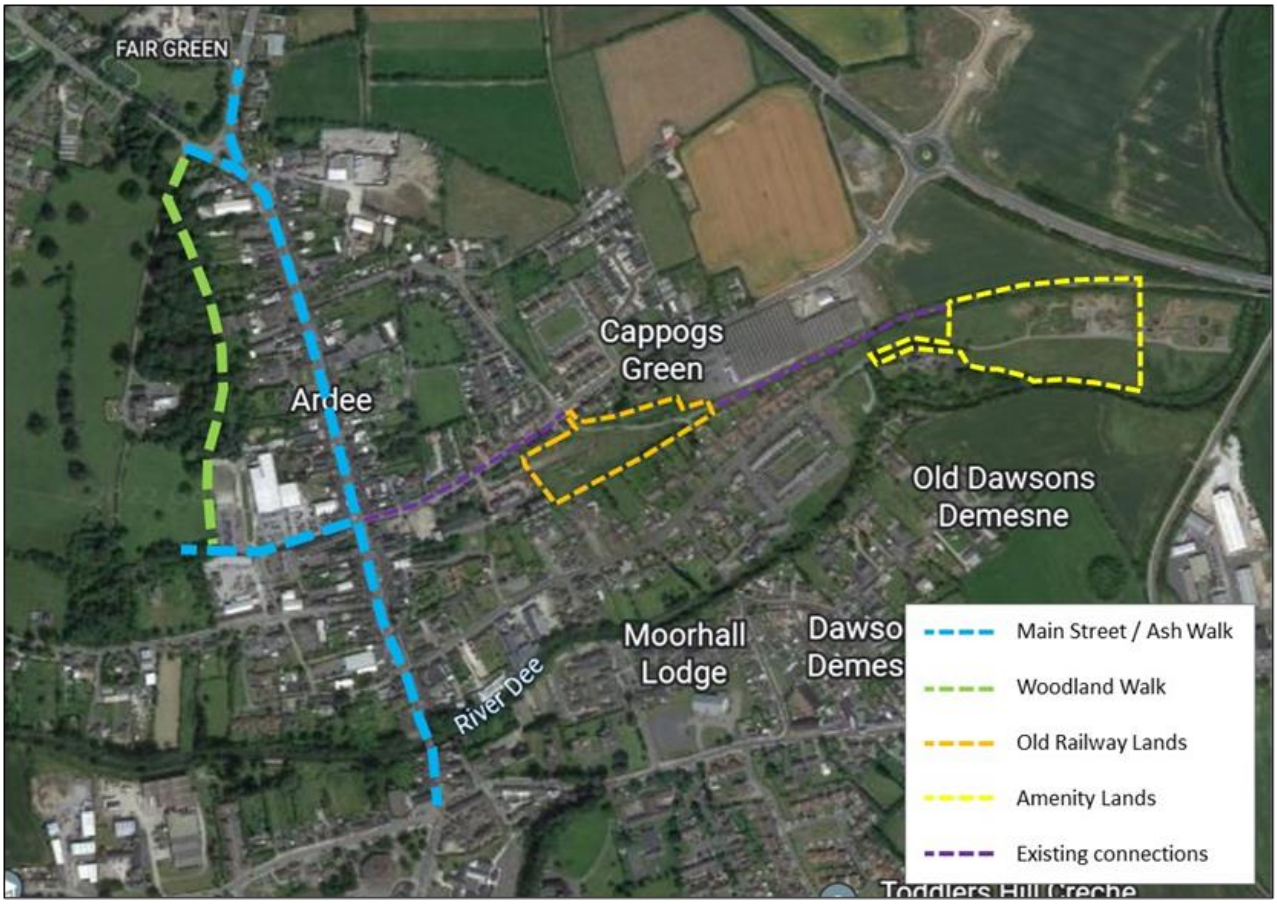
Figure 1: Site boundary



2.2 To assist in the description of the existing site context/uses and the proposed development we have split the overall development into the following main Character Areas (see **Figure 2** below):

- Character Area 1 – Main Street (including Ash Walk);
- Character Area 2 – Old Railway Lands;
- Character Area 3 – Amenity Lands; and
- Character Area 4 –Woodland Walk.

Figure 2: Character Areas of the Proposed Development



Character Area 1 – Main Street (including Ash Walk)

2.3 The site extends from the N2 / N52 roundabout in the north of Ardee and extends south along Main Street as far as the junction of the N2 and R170 roads. The site includes a portion of Gold Links Road of approximately 100 metres in length to the north west of Main Street. The site also includes the public road/existing footpath and public realm areas within Ash Walk and extends west beyond the public road by approximately 100 metres along the southern portion of the existing Supervalu car park and an existing agricultural field, which forms part of the wider HSE lands.

2.4 The entire public area within Main Street, including the public road and existing footpath/areas of public realm, are included within the site boundary. These areas are currently finished in either paving or tarmac.

2.5 The Main Street area includes a significant portion of on-street car parking, which is provided in parking bays parallel to the road and at an angle to the road (the N2). The road and car parking areas are finished in tarmac. There are 2 no. signalised crossing points and 1 no. zebra crossing along Main Street within the site boundary.

2.6 There are limited areas of soft landscaping along Main Street however there are a number of mature trees positioned along the public footpath. No buildings along Main Street are

located within the site boundary. The site boundary extends as far as Bridge Street to the south.

Character Area 2 – Old Railway Lands

2.7 This portion of the site is located on lands to the south of 4 no. dwellings on Sean O'Carroll Street (Eircode's1 A92 W684, A92 ND36, A92 V260 & A92 A6P2) and No's 1 – 5 Cappocks Green, east of Mid-Louth Garage (the Old Railway Station) and north of No's 1 – 5 The Avenue and dwellings located on Tierney Street, Ardee.

2.8 The boundaries of the site are currently identified by existing fences and walls. The site is currently unmaintained grassland with semi-mature trees located sporadically throughout the space. The remains of the former railway platform are visible in the west portion of the site.

2.9 A pedestrian walkway traverses the site from Sean O'Carroll Street in the north before exiting the site via the route of the old railway line to the east of the site. A second pedestrian access is located to the south east linking the site to Tierney Street.

An informal gravel roadway runs in a west to east direction linking the vehicular access at Mid-Louth Garage in the west to the existing pedestrian walkway in the east of the site. Vehicular access to the site is available from the existing access to the north of the site.

Character Area 3 – Amenity Lands

2.10 This portion of the site is located to the east of Greenvale House, Old Dawsons Demesne (Eircode A92 RH76), to the west of Ardee Wastewater Treatment Works and north of the River Dee.

2.11 The west boundary of the site is marked by a post and wire fence and existing hedge / mature trees. The southern boundary of the site follows the alignment of the River Dee. The south east boundary of the site is currently not identified by an existing physical boundary whilst the north east boundary is marked by the security fencing of the Ardee Wastewater Treatment Works. The northern boundary is marked by a row of existing mature trees.

2.12 The majority of the site is unmaintained grassland. The north eastern corner of the site is currently used for the storage of building materials by Louth County Council. The boundary of this storage area is marked by a fence. A roadway traverses the centre of the site in a west to east direction linking Tierney Street to Ardee Wastewater Treatment Plant.

Character Area 4 - Woodland Walk

2.13 The Woodland Walk travels in a north to south direction in the west of the town linking Ash Walk to Golf Links Road. The route begins directly to the west of the existing Supervalu overflow car park and travels north through agricultural land towards the wooded area surrounding St. Josephs Hospital. The route follows the alignment of an

[1] Eircode Finder website (https://finder.eircode.ie)

established path through the wooded area and connects to Golf Link Road in the north. This portion of the route is currently used as agricultural land and an existing path through the wooded area.

2.14 Works will involve a range of staggard, small-scale works to improve access and amenity in the area with a vision of making Ardee a pedestrian friendly townscape.

Flood Risk and Drainage setting

2.15 The closest major waterbody to the site is the River Dee which flows east and meets the coast of the Irish Sea at Annagasan, approx. 17km downstream. A tributary (the Townparks Stream) also flows to the north of the town, passing the northern extent of the N2 main street. All surface waters and groundwaters associated with the Site are considered sensitive and important attributes in their own right and must be protected as per the WFD.

2.16 The River Dee is adjacent to the southern boundary of the Site. Consultation with OPW (2022) CFRAM River Flood Extent Maps indicate that the River Dee falls under Flood Zones A, Flood Zone B and Flood Zone C. Historic flood events presented by the OPW (2022) Flood Hazard Maps, recorded a reoccurring flood event along the River Dee, just 20 m east of the N2, near the southern-most boundary of the Site.

2.17 The site specific Flood Risk Assessment prepared for the site by NOD concluded that the proposed Development meets an acceptable level of flood risk mitigation management measures and a Justification Test through topographical surveys and levels information. Inundation from floodwaters will be mitigated through retained and replaced drainage infrastructure as well as SuDS design of soft landscaping.

2.1 During desktop assessment 18 no. existing watercourse crossings were identified within or in the vicinity of the Site (17 no. existing bridges and 1 no. existing culvert). The existing site has a surface water drainage system to ensure no localised surface water flooding events occur within the site.

2.2 The site will be served by existing foul and storm water drainage systems.

Ecology / Biodiversity setting

2.3 Habitats within the proposed development site include built land, the River Dee, riparian woodland, mixed broadleaved woodland, hedgerow, dry meadows and amenity grassland. The River Dee and riparian woodland are considered to be of County importance, and the mixed broadleaved woodland and hedgerow to be of Local importance.

2.4 The site is not within or adjacent to any Natura 2000 sites, these being Special Areas for Conservation (SAC) or Special Protection Areas (SPA). No potential complete pollutant pathways were identified to any of the identified designated sites within a 10km zone of influence as per the **EIAR, Chapter 8, Tables 8.3 & 8.4**

2.5 No species listed on Schedule 3 of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) were recorded in the vicinity of the Site.

2.6 No evidence of commuting or foraging badgers or setts were identified during the walkover survey and there are no records of setts from the site in the NBDC sett database. Accordingly, this species is scoped out and will not be considered further.

2.7 No evidence was recorded for European Otter however a dedicated survey was not carried out. Records exist of otters within the site boundary and in the immediate vicinity of the site with the last recorded in 2015.

Project Programme

2.8 A procurement process will commence upon full planning approval to appoint a competent and experienced Contractor for the proposed works at the Site. The construction phase is currently estimated to be five years.

2.9 The Contractor, once appointed, will develop a detailed construction work programme including plans to minimise risks to construction workers and local residents from dust, noise and vibration and to watercourses from pollution. They will also address any restrictions with regards to undertaking certain tasks within sensitive bird breeding seasons etc. to minimise the impact of the construction of the identified species which use the site and its environs.

Construction Management

2.10 The appointed Contractor for the works will be required to comply with this PCEMP and any revisions made to the document. A broad overview of the proposed construction methodologies is provided below.

Site Set Up and Compound

2.11 A compound where practicable will be set up as part of the initial preparation works in each work area.

2.12 The Contractor will ensure that the following information is displayed in the compound as a minimum:

- Traffic Management and Site Information/Services Plan;
- Silt Run-off Prevention and Protection Poster;
- Noise and dust abatement measures and,
- Nominated Community Liaison Officer.

2.13 The compound will provide a site office, canteen, first aid room and welfare facilities as well as foul drainage and potable water supply and a designated storage area for materials and wastes.

2.14 Access to the compound will be security controlled and all site visitors will be required to sign in on arrival and sign out on departure.

2.15 All construction materials, debris, temporary hardstands etc. in the vicinity of the site compound will be removed off-site on completion of the works.

Site Access

2.16 A set down area for deliveries and temporary storage of construction materials may need to be established at each work area. Site access arrangements for each Character area will be detailed in the Final CEMP.

2.17 The area will be clearly demarcated and managed to ensure it is well ordered and tidy in line with good site management practice.

Parking

2.18 Construction personnel will use the nearest available public carpark when working in each main character area of the development. The contractor will ensure that construction machinery and plant is sited on a permeable hardstand area only.

2.19 No parking shall be permitted by any site personnel outside the red boundary line of the working character area.

Hoarding and Fencing

2.20 Fencing demarcating the boundary of the work sites will be a combination of double clipped traditional secure heras panels (with feet and rakers) and 2.4m timber hoarding either secured to a foundation or ballast block.

2.21 The purpose of the 2.4m hoarding will be to buffer any noise or dust emissions and to minimise any visual impacts by screening the workings areas, plant and equipment.

2.22 Appropriate sight lines / visibility splays will be maintained around the site to ensure safety of both vehicles and pedestrians.

2.23 Signs will be erected on the boundary hoarding that describes the site as being a construction site, accessible to worker and authorized personnel only, i.e., “Construction Site – Do Not Enter – Authorised Personnel Only”.

2.24 Display information boards will also be erected detailing out of hours contact details, telephone helpline number (for comments / complaints) and information on the works.

Security

2.25 The Contractor will provide site security that is sufficient and adequate to ensure that the work area is secure and protected from unauthorised access and casual trespass for the duration of the works.

2.26 The following security measures will be provided:

- Site and compound boundaries i.e., fencing, gates, locks etc;
- Deterrence of stockpiling materials (restricted to <8m in height) close to site / compound boundaries, so they cannot be used for unwanted access;

- Polluting materials to be well secured;
- Procedure to inform Garda Síochána about the site and taking their advice on security; and,
- Procedure for dealing with vandalism, graffiti etc.

Site Lighting

2.27 Entry and egress routes to the site will be illuminated via approved street lighting arrangements. Lighting will be positioned so as not to cause a distraction to passing motorists.

2.28 Site task lighting will all be low lux level and maintained at a low trajectory only so as to prevent over spill to surrounding properties, ecological receptors or structures used by protected species (Low-UV LEDs or low / high pressure sodium lamps would be the preferred bulb type, as they have least effect on bats. Mercury or metal halide bulbs should not be used. Lights should have a 'warm' tone, with minimal blue / UV content).

2.29 All external lights will be fitted with directional hoods to direct the light downwards onto targeted areas and to prevent unnecessary light-spill.

2.30 No lights will be directed towards freshwater habitats (i.e. the River Dee), woodland or trees. This particularly applies to floodlighting for the sports facilities in the east of the Site near Tierney Street.

2.31 Where feasible, all external lighting at access points to buildings will be fitted with motion sensors and timers in order to provide light only when required. Constant, overnight lights should not be permitted.

Working hours

2.32 The normal hours of working on any part of the development during the construction period will be:

- 07:00 hours to 19.00 hours Mondays to Fridays; and,
- 07:00 hours to 13:00 hours on Saturdays.

2.33 Subject to planning conditions, the following controls are also recommended for the works:

- No construction work or operational machinery will be permitted between the hours of 23:00 to 07:00hrs or on Sundays and on public holidays without prior approval; and,
- There will be no stacking of lorries on the site boundary outside of the working hours.

2.34 Any works outside these normal hours will be subject to the requirement to obtain consent from Louth County Council. The agreement should include working hours and methods to ensure that the 'best practicable' means to control potential nuisance are included.

Construction Activities

2.35 Construction activity will involve all the necessary operations to construct the development as described. A high-level overview of the construction activities involved is provided below. This list is not exhaustive and is provided to give an overview of the likely type of activities. Note also that the precise order in which these activities will take place is not known at this stage.

- Temporary Site Offices / Staff Welfare Units and Storage Compound;
- Site Clearance – isolate and remove existing utilities, vegetation removal, topsoil stripping, storage of topsoil for future reuse, breakout of hardstanding, storage removal of excess spoil;
- Temporary Café, Storage unit and Pavilion Building - foundation trenching, establishment of foundations, installation of utilities, importation of building materials by HGV, storage of building materials, erection of unit, erection of scaffolding, roofing, fit out of unit and painting;
- Improvement works associated with riverbank; construction of new culverts; construction of additional public footpaths to increase access to River Dee from main character areas;
- Construction of additional public car parking within main character area 3 – Amenity Lands - - site levelling, earthworks, soil compaction, installation of road base, kerbing, road drainage, tarmacking and paving surface
- Construction / realignment of access routes, paving areas and junctions - site levelling, earthworks, soil compaction, installation of road base, kerbing, road drainage, tarmacking and paving surface;
- Tree planting and Landscaping;
- Upgraded street lighting and furniture; and
- Signage.

Typical Equipment

2.36 A list of typical equipment to be used on site during the construction period is summarised below;

- Hand Tools including Hammers, Crow Bars, Shovels, Wheelbarrows;
- Power Tools including Stihl Saws, Battery Drills, Angle Grinders;
- Machinery/Plant including 20t excavators, 1200 rollers, Generators, Hiab Lorry, mobile Crane, Lorries, Forklift, Scaffold including Hop Ups and Aluminium Towers;
- Pumps to enable excavation and service trenches to remain dry;
- Delivery vehicles articulated and non-articulated; and,
- Fuel tank delivery vehicles.

Site Clearance and Earthworks

2.37 No demolition works is proposed as part of the redevelopment at the site.

2.38 Minor site clearance, earthworks and ground preparation will be required as part of the redevelopment at the main character areas of Main Street, Old Railway Lands and Amenity Lands and for the re-profiling of roadways, footpaths and cycle paths along with seating areas. No deep excavations (+3m depth) or infilling works will be required.

2.39 Total site area where earthworks may occur is 10,000 to 25,000m^2 which is anticipated to be clay expected in the recreation and amenity sites. Some residual railroad ballast in the amenity gardens (former railway station). Recreation area with road repositioning is likely to include broken asphalt and road base materials.

2.40 The number of heavy earth moving vehicles active at any one time will be <5.

2.41 Stripping of topsoil will be coordinated with the proposed staging for the development. The extent of topsoil strip (and consequent exposure of subsoil) will be limited to the immediate vicinity of active work area(s).

2.42 Disturbed subsoil layers will be stabilised as soon as practicable (e.g., backfill of service trenches, construction of road capping layers, construction of pavilion building foundations, construction of hardstanding and completion of landscaping).

2.43 Efforts will be made to ensure that any soil from site clearance and excavation works is re-used on site. Any other waste that cannot be immediately recovered will be tested prior to disposal at the appropriately licensed facility.

Preservation of Designated and Protected Areas

2.44 Buildings, such as Ardee Castle, St Mary's Church, St John's Castle and Hatch castle, adjacent to N2 Castle Street, are determined to be of significant heritage value. Additional built heritage sites include the remnants of the medieval Town Wall, located at the northern bank of the River Dee. Whilst no significant earthworks or excavation works are proposed on any designated sites or protected areas within the development area, the Contractor will implement the appropriate mitigation measures when working in close proximity to these areas to ensure that they are kept/preserved.

3 ENVIRONMENTAL POLICIES AND LEGAL REQUIREMENTS

3.1 All site works shall be undertaken in compliance with the PCEMP and with all applicable legal and regulatory requirements.

Environmental Policies

3.2 As part of the appointment, the Contractor will provide a copy of their Safety and Environmental Policy. They will ensure that a copy of their Health, Safety and Environmental Policy is clearly displayed on site notice boards during the construction period. All employees are expected to comply with the requirements of the Environmental Policy.

3.3 The Contractor will ensure their employees and support staff (contractors, sub-contractors, suppliers etc.) actively promote and administer a strong environmental culture. To achieve this, a number of initiatives will be in operation during the life of the project. This will include the use of poster campaigns to raise awareness of topical subjects, and toolbox talks involving all members of the project team and site workforce.

Health and Safety Management

3.4 The Contractor shall be responsible for ensuring that the construction works Health and Safety Plan is implemented and followed on site. The works will be carried out in accordance with all relevant health and safety legislation and Codes of Practice and site rules relating to the works will be observed.

Legislation and other legal requirements

3.5 The Contractor shall comply as necessary with all relevant Statutory requirements such as the 2005 Safety Health and Welfare at Work Act, The Construction Regulations (SI 291 of 2013), the General Application Regulations (SI 299 of 2007), etc. (and any amendments thereof).

3.6 In addition, the Contractor shall comply with all the reasonable safety requirements of the Client, the Project Supervisor for the Design Process and the Project Supervisor for the Construction Stage.

3.7 A legislation register shall be held by the Contractor and reviewed periodically and updated as necessary. Any legislative changes shall be disseminated to project management immediately, after which the method statements of any affected operations shall be changed accordingly.

3.8 A consents and licenses register shall also be held by the Contractor which will contain a schedule of all consent submissions and a tracker to confirm they are in place for the start of works. This will be tracked and managed by the Site Manager and confirmation

and approved documentation will be sent to the HSEQ manager before works begin, when new consents are obtained, or when consent is withdrawn, or terminated.

4 ENVIRONMENTAL MANAGEMENT IMPLEMENTATION

Roles and Responsibilities

4.1 The appointed Contractor and all sub-contractors will be responsible for ensuring that the potential risks to the environment and local community are adequately avoided or controlled by the application of measures documented within this PCEMP. These will be further developed in their final PCEMP and shall be complied with throughout the construction phase. The main organisations and persons involved in the construction stage works are set out below.

The Client

4.2 Louth County Council shall be responsible for:

- Securing the land including access required for all works;
- Appointment of the Contractor;
- Setting and communicating appropriate standards for environmental management and ensuring that their environmental policy is delivered; and,
- Review and approval of the PCEMP.

Appointed Contractor

4.3 The Contractor shall be responsible for:

- Appointing a Site Manager / Site Supervisor.
- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.

Site Manager / Site Supervisor

4.4 The Site Manager shall be responsible for:

- Undertaking weekly Site Compound Checks, and appointing persons to supervise refuelling of tanks and bowsers;
- Ensuring the required consents are in place before work starts;
- Ensuring environmental and waste requirements are included on requisitions and in subcontracts and orders;
- Ensuring oil, including diesel is stored in properly bunded tanks / drip trays;
- Ensuring Waste Transfer Notes / Waste Consignment Notes are checked against invoices before payment;

- Liaising with statutory authorities as required and ensuring records of communication (including verbal communication) are kept. Statutory authorities should always be accompanied on site visits;
- Ensuring employees, contractors and subcontractors implement the controls set out in the PCEMP;
- Ensuring employees, contractors and subcontractors receive Induction Training (including project environmental issues) and Toolbox Talks, as appropriate;
- Ensuring personnel needed for audits are available when required;
- Verifying actions resulting from Corrective Action Requests and Observations raised during audits are completed by the deadlines;
- Ensuring environmental training is provided;
- Reporting incidents to the immediately, and to statutory authorities where required;
- Logging and monitoring incidents and non-conformances;
- Disseminating information, including changes to legislation, and relay to relevant contractor's employees;
- Identifying employees who require environmental training and maintain training records in line with the contract for the works;
- Providing advice and dealing with queries and correspondence on environmental issues;
- Identifying significant environmental impacts for the project and assist in setting up contracts to include the necessary controls;
- Monitoring the progress in closing out Corrective Action Requests and Observations raised during audits;
- Ensuring all records are retained and readily available; and,
- Carrying out monthly site audits.
- Appointing any third-party specialists as required

All Staff

4.5 All staff have responsibility for the environment, responsibilities include but are not limited to:

- In the case of an incident, stopping work, implementing control procedures and reporting it to the Site Manager;
- Contacting the Waste Representative when waste needs collecting;
- Passing any queries or correspondence on public health or environmental issues to the Site Manager; and,
- Working in accordance with environmental procedures, the PCEMP and Method Statements.

The Community Liaison Officer / LCC Engagement Officer

4.6 The Community Liaison Officer shall be responsible for:

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site and developed with the contractor
- Responding to telephone and email queries within 48 hours of receipt;
- Sharing key contact information associated with site development with key stakeholders and update these details as required;
- As a general courtesy, alerting the community to any disruptive works one week in advance of commencement, where reasonably practicable;
- Minimising the impact of site traffic and associated parking on the local road network;
- Arranging any necessary meetings that may be requested by community representatives regarding any on-site issues; and,
- Circulating updates as required on the projects progress to include information of relevance and interest to the local community.

5 ENVIRONMENTAL MANAGEMENT OF SITE ACTIVITIES

5.1 The following outlines how potential impacts from the construction phase of the project will be mitigated.

Ecology / Biodiversity

5.2 The dense foliage of the trees and scrub may provide nesting opportunities for birds. Impacts on nesting birds should be avoided by scheduling site clearance works for the non-breeding season (October – February, inclusive).

5.3 Any proposals for tree felling, vegetation clearance or landscaping in the vicinity of the river should be reviewed by the ecologist to avoid or minimise any potential impacts on the river or associated biodiversity.

5.4 All vegetation clearance and building demolition works are carried out between September and February (inclusive), i.e. outside the nesting season. If this is not possible, an ecologist should survey the affected areas in advance to determine whether any nesting birds or protected mammals are present. If any are encountered, vegetation clearance / demolition works would need to be delayed until the breeding attempt has been completed, i.e. after chicks have fledged.

Archaeology / Urban Heritage

5.5 There is potential for archaeological features to be present beneath the site. Grounds works associated with the development will therefore have the potential to impact on these features in the absence of measures to protect such features. Above-ground examples of significant heritage include Ardee Castle and St Mary's Church.

5.6 A programme of archaeological testing will be carried out prior to construction by an archaeologist under licence to the National Monuments Service as recommended in the Archaeological, Architectural and Cultural Heritage Chapter of the EIAR.

5.7 The Contractor will undertake all ground disturbance works in accordance with the advice provided by the appointed archaeologist. In the event that any archaeological features are identified these will either be integrated into the development plans and preserved in situ or recorded and excavated under archaeological conditions.

5.8 In the event that further mitigation measures are required, the Contractor will ensure that no works proceed without prior approval from the National Monuments Service of the Department of Housing, Local Government and Heritage (DoHLGH).

Air Quality - Dust

5.9 During Construction, dust emissions from a site can cause a nuisance for neighbours and contribute to air pollution. The principal activities that have the potential to result in fugitive

emissions of dust from site construction works are considered to be construction activity, earthworks and the movement of site traffic on paved and unpaved roadways. Dust can be spread onto the public highway and along public access paths by vehicles entering and exiting the site.

5.10 There are human receptors within 350m of the boundary of the site and within 50m of the track out route; therefore, construction dust may have the potential to cause an adverse effect in the local area.

5.11 There are no designated ecological receptors within 50m of the site boundary or 50m of the track out route; therefore, construction dust impact on ecological receptors has been scoped out from this assessment.

5.12 A qualitative construction impact assessment has been conducted as part of the EIAR for the proposal to assess the risk of dust impacts during construction. The assessment was undertaken in accordance with the Institute of Air Quality Management (IAQM) construction dust guidance (IAQM, 2016). The risk of dust impacts from construction activities is identified as ranging between low and medium risk.

5.13 The estimated number of employee trips and construction vehicle movements generated by the proposed development is low compared to vehicular trips generated by the proposed development during the operational phase.

5.14 The number of HDV movements associated with the application site has been estimated to be <10 movements per day during the busiest phase of the construction period. Therefore, the short-term increase in HDVs and employee trips moving to and from site is considered not significant.

5.15 The traffic effects during the construction phase will be limited to a relatively short period and will be along traffic routes employed by haulage/construction vehicles and workers. Any effects on air quality will be temporary i.e. during the construction period only and can be suitably controlled by the employment of mitigation measures (described below) and appropriate to the development project, including a construction logistics plan, and are therefore unlikely to materially impact on local air quality.

5.16 The Contractor will develop a Dust Management Plan for the site to detail the controls to be applied throughout the construction phase to ensure that emissions are mitigated.

5.17 The DMP will include details of any monitoring scheme, if appropriate. The elements of the DMP are provided in Table 1 below.

Table 1: Fugitive Dust Measures

Issue	Control Measure
Site planning	• Erect solid barriers as appropriate to site boundary to screen any proposed stockpiles on site. • Display the name and contact details of the person(s) accountable for air quality and dust issues on the site boundary, • All site personnel to be fully trained. • Trained and responsible manager on site during working times to maintain logbook and carry out site inspections. • Plan site layout - machinery and dust causing activities should be located away from sensitive receptors. • Access gates to be located at least 10 m from receptors where possible.
Site Operations	• Maintain a complaint logbook for all dust and air quality complaints which includes source(s)/cause(s) and migration measures / controls taken to reduce emissions. • Store the complaints logbook on the site and make available to local authority on request. • Conduct regular dust inspections to monitor compliance with dust management plan, record the findings of the inspection within inspection logbook. Increase the frequency of the inspections during prolonged dry and windy conditions or when any activities with higher potential to produce dust are being conducted on site • If required, operations will be fully enclosed where there is a high potential for dust production, or the activities will take an extensive period to undertake. • Dust suppression techniques should be employed for cutting, grinding, or sawing activities. • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate. • Earthworks and stockpiles will be sited and managed to avoid adverse effects from dust and to prevent damage to underlying soil. • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. • Cover, seed or fence stockpiles to prevent wind 'whipping', where practicable for any long-term storage of materials. • Use enclosed chutes and conveyors and covered skips. • Minimise dropping material from heights from conveyors, loading shovels or handling equipment and use fine water sprays on equipment where appropriate. • All vehicles to switch off engines when not in use - 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 25km/h on surfaced and 16km/h on unsurfaced haul roads and work areas. • Site construction vehicles will be retained on site during the construction period. To minimise noise and emissions, all construction machinery will be switched off when not in use and speed limits imposed on internal roads and across the site

Issue	Control Measure
	• If possible, remove materials that have a potential to produce dust from the site as soon as possible. • Deliveries to and removal of plant, equipment, machinery and waste from the site to take place within permitted hours. • Materials deliveries report to site office and unload within materials storage area • Ensure equipment is readily available on site to clean any dry spillages • Use mobile bowsers and water cannons for dust suppressant where applicable. Move around the site as required. • Water should be administered as required (weather and site conditions dependant) • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless required • 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). • • No bonfires or burning of waste material. • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable. • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate to cover with topsoil, as soon as practicable. • Only remove the cover in small areas during work and not all at once.
Track out	• Avoid scabbling (roughening of concrete surfaces) if possible. • Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. • Avoid dry sweeping of large areas. • Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable. • Ensure vehicles entering and leaving sites are securely covered to prevent escape of materials during transport. • Record any inspections of haul routes and any subsequent action in the site logbook. • Install hard surfaced haul route, which are regularly cleaned and damped down with fixed or mobile sprinkler systems, or mobile water bowsers. • 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.

5.18 Regular dust monitoring as part of site inspections will be undertaken to monitor compliance with the DMP and particularly during critical construction periods at nearby sensitive locations and/or development site boundaries. Monitoring will include dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of the site boundary.

5.19 Static Monitoring Stations (if required) will be installed in key locations providing weekly reports to the Contactor before, during and following construction works.

5.20 Dust deposition, dust flux, or real-time PM10 continuous monitoring locations and duration (including baseline monitoring) will be agreed with the local authority as required.

5.21 No additional monitoring is proposed for the operational phase of the proposed development.

Noise and Vibration

5.22 During the construction phase, the range of activities with potential to generate noise and vibration emissions to off-site sensitive receptors will include site clearance, ground excavation works, construction of the proposed development, landscaping and erection of any temporary buildings/compounds that may be required.

5.23 The nearest sensitive locations (NSL's) with regards to noise to the proposed development are a number of residential dwellings which surround the site at various points. The distance between the construction site and nearby NSL's varies, the closest distance between the site and neighbouring dwelling will be approximately 10 metres but generally construction works will occur between 15 and 100 metres from existing dwellings, depending on the location where specific works are occurring.

5.24 A baseline noise survey has been undertaken as part of the planning application prepared for the proposed development in general accordance with ISO 1996-2:2017 Acoustics -- Description, measurement and assessment of environmental noise -- Part 2: Determination of sound pressure levels. Specific details are set out in the following sections. The implementation of the below suitable control measures will ensure that the impact is minimised.

5.25 Works associated with the site preparation and landscaping are likely to be the most significant construction noise sources, due to the proximity of these works to site perimeters. Other general construction works occurring close to the site boundary adjoining neighbouring dwellings also have the potential to generate significant short term noise impacts. Noise mitigation measures will therefore be necessary in order to reduce impacts as far as is reasonably practicable.

5.26 The Contractor shall at all times apply the principles of Best Practicable Means and carry out all construction work in such a manner as to reduce any disturbance from noise and vibration to a minimum.

5.27 No construction work will be permitted, nor plant or machinery operated between the hours of 23.00 to 07.00 hrs on any given day.

5.28 The appointed Contractor will monitor levels of noise and vibration during critical construction periods at nearby sensitive locations and/or development site boundaries (location north of the proposed railway lands site).

5.29 Site hoarding, minimum 2.4m height will be appropriately positioned around the perimeter of the construction site for the duration of works where the distance of works is 30m or

less to nearby noise sensitive locations to buffer any noise transmitted from plant, equipment and vehicles entering or existing the site.

5.30 Any potential noise and vibration impact to site workers and adjacent residents during the drilling works will be minimised by the implementation of standard health and safety procedures and completed in accordance with BS5228:2009 +A1:2014: Code of practice for noise and vibration control on construction and open sites.

General Construction Noise

5.31 The Contractor shall ensure to comply with BS 5228-1:2009+A1:2014 *and* BS 5228-2:2009+A1:2014 *Parts 1 and 2 "Code of practice for noise and vibration control on construction and open sites*" and Safety, Health and Welfare at Work (General Application) Regulations 2007, Part 5 Noise and Vibration and the *Safety, Health and Welfare at Work (General Application) Regulations 2007* (Statutory Instrument No. 299 of 2007) provides guidance in terms of allowable workplace noise exposure levels for employees.

5.32 In exceptional circumstances, and subject to agreement with the Local Authority, extended hours of operation may be applied for. In such instances an assessment of potential noise impacts shall be carried out in advance of works taking place, and submitted to the Local Authority, as part of the extended hours request.

5.33 Monitoring of construction noise and vibration levels will be undertaken at the closest noise sensitive location of the residential dwellings in close proximity to the Railway Lands, as this is where the main construction activities are to occur.

5.34 Site access roads will be kept maintained so as to mitigate the potential for vibration from lorries.

5.35 The Contractor will ensure that a site representative is appointed to be responsible for all matters relating to noise and vibration.

5.36 Generators and other potentially noisy plant will be located away as far from sensitive receptors as is practical and vibration isolated support structures will be used where necessary.

5.37 All appropriate equipment will be fitted with silencers, mufflers or acoustic covers where possible.

5.38 Any plant or machinery that will be used intermittently will be shut down when not in use or throttled back to a minimum.

5.39 All plant and equipment will be maintained by trained personal to ensure noise emissions are reduced, this may include but not be limited to the proper use any maintenance of tools and equipment, the positing of machinery on site to reduce the emission of noise, the avoidance of unnecessary noise, the protection of persons against noise and the operation of sound measuring equipment.

5.40 In terms of the noise exposure of construction workers, the *Safety, Health and Welfare at Work (General Application) Regulations 2007* (Statutory Instrument No. 299 of 2007)

provides guidance in terms of allowable workplace noise exposure levels for employees. The Regulations specify two noise Action Levels at which the employer is legally obliged to reduce the risk of exposure to noise. The appointed contractor will be required to comply with the Regulations and provide appropriate noise exposure mitigation measures where necessary.

5.41 The noise exposure level to off-site receptors during the construction phase will be below the lower Action Level and therefore the risk of noise exposure resulting in hearing damage to off-site receptors is not significant.

5.42 In terms of construction noise emissions to nearby off-site receptors, provided that noise emissions are controlled to comply with the recommended significance thresholds, as outlined in previous sections, and considering the short-term nature of the works, the potential health impacts associated with construction noise is not significant.

Vehicle Noise

5.43 Vehicles and plant used during construction will be maintained in good and efficient working order. When not in use machinery is to be switched off and not left running. Site vehicles will not be over-revved.

5.44 All machinery will be properly maintained and silenced according to manufacturer's instructions.

5.45 Acoustic covers will be fitted to appropriate machinery.

5.46 All vehicles to observe set speed limits on site and local roads.

5.47 Toolbox talks will be communicated to site staff and contractors so that they are fully informed of noise and vibration control.

Drainage Strategy

5.48 A vast portion of the regeneration works are proposed within existing hardstanding areas where minimum re-profiling of levels will take place. It is proposed the current drainage regime will be followed for the development of these hardstanding areas. A reduction in surface water runoff can be expected with the adoption of some new green spaces in existing hardstanding areas and the adoption of SuDS techniques as part of the surface water management design.

5.49 Before works commence a detailed survey of surface water/storm water drainage system will be undertaken and any recommended mitigation will be included in the Final CEMP prepared for the site.

5.50 The existing drainage infrastructure will be maintained given the superficial nature of the regeneration project. New watercourse crossings potentially required as part of the proposed development are presented in **EIAR Volume 3: Appendix 10.8 and Figure 10.4.**

5.51 SuDS will be employed in the proposed existing green spaces as needed to ensure no discharge to the existing surface water drains increases runoff.

5.52 Site welfare facilities where required during construction works will connect to the existing foul sewer system (in consultation with and authorised by Irish Water) or bunded portaloos will be utilised.

5.53 Surface water samples from the River Dee were collected at two locations; upstream and downstream of the Site to understand baseline water quality conditions of the river. Routine monitoring will be undertaken throughout the construction period including visual inspections which will be maintained in an inspection log. given the close proximity of works to the River Dee.

5.54 Sampling will also be undertaken following an event such as heavy rainfall or an accidental spillage (Monitoring requirements are detailed in Section9 of the PCEMP).

Pollution Control

General

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

- The Good Practice Guidance notes proposed by EA/SEPA/EHS:
- PPG 1: Understanding your environmental responsibilities - good environmental practices
- GPP 2: Above ground oil storage tanks
- PPG 3: Use and design of oil separators in surface water drainage systems
- GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer
- GPP 5: Works and maintenance in or near water
- PPG 6: Working at construction and demolition sites
- PPG 7: Safe storage - The safe operation of refuelling facilities
- GPP 8: Safe storage and disposal of used oils
- GPP 8: Safe storage and disposal of used oils
- GPP 8: Safe storage and disposal of used oils
- GPP 19: Vehicles: Service and Repair
- GPP 21: Pollution incident response planning
- GPP 22: Dealing with spills
- GPP 26 Safe storage - drums and intermediate bulk containers
- PPG 27: Installation, decommissioning and removal of underground storage tanks
- CIRIA Environmental Good Practice on Site.
- CIRIA Control of Water Pollution from Construction Sites. Technical Guidance C648.

- CIRIA SuDS Manual Technical Guidance C697.
- Development on Unstable Land. Department of Environment (DOE), UK.

5.56 Where possible, hard surfaces that are positively drained will be laid at an early stage in the construction to allow permanent facilities to be used to collect silt and hydrocarbons.

5.57 The extent of exposed ground will be minimised at all times during construction and any stockpiles of mud, sand or other fine sediments will be stored at least 50m from the River Dee. Stockpiles will be levelled and compacted and will be covered with thick plastic membranes in order to prevent the creation of contaminated run off.

5.58 Foundations will be constructed in a way that will minimise the risk of contamination of the groundwater caused by pollutants spreading from wet concrete; silt runoff from any deep strip activities and excessive noise generation.

5.59 Standard dust suppression measures will be implemented during periods of dry weather. This will avoid any impacts arising from the spread of dust particles during the construction phase

Surface Water Run-off and Silt Mitigation

5.60 No pollutants, including sediments will be allowed to enter any surface watercourse or to the River Dee during construction operations. The Contractor will follow the principles of the PCEMP in order to prevent sediment or other contaminates entering any adjacent watercourse. All watercourses drain and potential conduits for silt laden runoff will be identified and where necessary, measures shall be taken to minimise direct sediment run-off from the working site into watercourses. Pollution prevention will be achieved with both physical and procedural measures such as sediment traps and drainage ditches 'in the dry', where required.

5.61 It is proposed to maintain existing on-site levels as far as is practical, which will reduce the volumes of soils being disturbed and soils being stockpiled which will reduce the potential for sediment run-off and sediment loading of surface waters.

5.62 All watercourse drains and potential conduits for silt laden runoff will be identified and where necessary, measures shall be taken to minimise direct sediment run-off from the working site into watercourses.

5.63 No permanent, or semi-permanent stockpile will remain on the site during the construction phase of the Development.

5.64 Suitable locations for temporary stockpiles will be identified on a case-by-case basis. The suitability of any particular location will consider characteristics of the proposed site including; slope incline and topography, drainage networks in the vicinity and proximity to same, other relevant characteristics which are likely to facilitate, increase, or compound the potential for entrainment by surface water runoff.

5.65 Temporary stockpiles will be covered with plastic sheeting during all relatively heavy rainfall events and during periods where works have temporarily ceased before completion at a particular area (e.g. weekends).

5.66 Earthworks will be limited to seasonally dry periods and will be suspended if high intensity local rainfall events are forecast (e.g. >10 mm/hr, >25 mm in a 24 hour period, or high winds).

5.67 The Contractor will maintain Buffer zones to minimise or avoid the risk to surface water features by restricting construction disturbance to outside these zones; in turn protecting riparian vegetation and providing potential for filtering of runoff from the proposed site, and maintaining the baseline hydrological and drainage regime at the site. Recommended surface water buffer widths will range from 5m to 50m depending on site specific and activity specific characteristics.

5.68 Silt fencing will be installed around the perimeter of the site at any locations where surface water is likely to run off, directly into the River Dee. This could include the river bank, land drains, natural depressions in the soil surface, or any other geomorphological feature which might accommodate surface water run-off.

5.69 The location of the silt fencing will be finalised by the Contractor in accordance with their programme of works and detailed within the final PCEMP prepared for the site. The purpose of the silt fencing will be to prevent silt leaving the site in run-off water and entering adjacent land with the potential to impact nearby watercourses.

5.70 Silt fences will consist of a geotextile membrane fixed to wooden stakes approximately 600 mm high. The membrane will be anchored into the ground to form a continuous barrier with the soil surface. Silt fences will be monitored and maintained when necessary, during the construction period. Maintenance will include the replacement of the geotextile when damaged and the removal of any silt build-up on the upslope side of the silt fence. Silt fences will be temporary features but will remain in place for a period following the completion of the Construction Phase.

5.71 Emergency contact numbers for the Local Authority Environmental Section, Inland Fisheries Ireland, the Environmental Protection Agency and the National Parks and Wildlife Service will be displayed in a prominent position within the site compound. These agencies will be notified immediately in the event of a pollution incident. See list of emergency contact numbers in Table 3, Section 8.

5.72 Road sweepers will be employed to clean the site access route as required. For example, any hard surface site roads will be swept to remove mud and aggregate materials from their surface.

5.73 The Contractor shall provide dedicated persons to ensure that the required mitigation is installed and maintained to an appropriate standard and site personnel will be trained in the importance of preventing pollution and the mitigation measures described here to ensure same.

5.74 Terram will be placed under new drain covers and in road gullies, where appropriate, in order to intercept silt-laden surface run-off and prevent it from entering the surface water

drainage network. This mitigation will be assessed on a regular basis (especially after heavy rain) and maintained if required.

5.75 Areas should only be stripped of cover as short a time as possible in order to limit the amount of time that the soil is exposed. The disturbed area should be re-seeded as appropriate as soon as possible after construction.

Water Pumping

5.76 If pumping of water is required onsite, this will be done by pumping water, through terram and/or through installed silt fencing or into a settlement tank / pond using Green Rhino Sediment Filters. These methods will slow the water flow and filter any potential silt from the water. The suspended solids will be left to settle, and then discharged via a buffered outflow to a soakaway that is at least 50m from the River Dee.

5.77 The requirement for water pumping will be planned in advance (as far as is practicable).

5.78 The Contractor will ensure that all necessary discharge consents are in place before commencing any dewatering activities.

Storage of fuels and hazardous materials

5.79 Any temporary storage areas for chemicals or fuels will be contained within impermeable bunds constructed in line with current best practice. Pollution Prevention Plans will be prepared, and site staff trained to implement them.

5.80 Chemical, fuel and oil stores will be sited on impervious bases and within a secured bund of 110% of the storage capacity, within the lay down area. The integrity and water tightness of all the bunding structures and their resistance to penetration by water or other materials stored therein shall also be tested and demonstrated.

5.81 Consideration will be given to the phasing of construction to reduce the time when temporary facilities for storage of chemicals refuelling, and vehicle maintenance are used to a minimum.

5.82 Diesel shall be stored in integral bunded fuel bowers. All connections shall be situated within the bund. Fuel shall be stored at least 50m away from the River Dee, where practicable.

5.83 Oils and lubricants used on the site shall be stored in temporary vessels designed to hold 110% of the containers. No oil or lubricants shall be stored within 50m of the River Dee, where practicable.

5.84 Refuelling will only take place in designated areas away from surface water drainage systems, on hardstanding, by appropriately trained personnel. The funnels/nozzles used will be appropriate to the equipment being used.

5.85 Refuelling on the site shall be undertaken at least 50m from any given watercourses (where practicable); mobile plant shall be pulled back from watercourses for refuelling as far as possible and in line with best practice to ensure protection of the water environment Tanks will be locked when not in use.

5.86 All plant shall be checked for leaks of fuel and lubricants before being allowed onto the site.

5.87 Pumps and generators used on the site will have integral drip trays where possible. All items of plant without an integral drip tray shall be stored over a portable drip tray. Drip trays shall be inspected and kept free of accumulated rainwater as necessary. Any oily water shall be disposed of at an appropriate licensed facility.

5.88 Any cleaning/arisings from drip trays etc. to be disposed of as hazardous waste in accordance with applicable guidance and legislation. All oil, fuel etc. storage areas will be decommissioned upon completion of the construction phase.

Cement and Concrete

5.89 Wet concrete operations will be carried out in dry conditions. Operations will be suspended if high-intensity local rainfall events are forecast (e.g. >10 mm/hr, >25 mm in a 24 hour period or high winds).

5.90 All concrete pours will be carefully planned, and special procedures adopted as required.

5.91 Any in-situ concrete work to be lined and areas bunded (where possible) to stop any accidental spillage.

5.92 Smaller individual amounts for grouting and patching may need to be mixed on site, as well as larger amounts for general block and brick laying. All washout material and spillage will be contained to prevent cement material from entering the watercourse.

5.93 The wash-out will comprise either a lined skip or a pit lined with heavy-gauge polythene and will be located >50m from the River Dee.

5.94 No wash down or washout of concrete trucks will be undertaken on site. The wash down or washout of trucks will take place off site in an appropriate facility.

5.95 All vehicles used to transport the cement around the site will be suitable for the amount to be carried. Extra care is to be taken when using public roads and these will be assessed for suitability in transporting large loads.

5.96 All staff should be informed of washing procedures.

5.97 Concrete batching will take place off site or in a designed area with an impermeable surface.

5.98 Excess concrete remaining after a pour will be returned to the batch plant.

5.99 At completion of each work section, solidified concrete will be broken out and disposed of in accordance with the Waste Management Plan.

5.100 If any cement-based products are be stored on-site, they will be kept in a sheltered area at least 50m from the River Dee, and covered (e.g. with a thick plastic membrane) to prevent spread by wind.

Traffic Management

5.101 Construction traffic will consist of the following –

- Private vehicles owned and driven by site staff and management;
- Construction vehicles e.g., excavation plant, dump trucks; and
- Materials delivery vehicles involved in site development works.

5.102 The Contractor shall prepare and implement a Traffic Management Plan (TMP) outlining procedures to follow and prescribed routes when working on the site. It is assumed that majority of construction traffic will occur primarily along the N2, which runs north-south through the site. Vehicular access to the old railway lands is achieved directly form Sean O'Carroll Street while the Amenity Lands are accessed via Tierney Street.

5.103 The TMP shall incorporate any restrictions imposed by the planning consents, National Roads Authority and/or the Garda Síochána. The TMP will include specific routeing for construction traffic to the site via Mill Road and restrictions on construction hours.

5.104 The TMP shall be circulated to all parties who are employed or have a legitimate interest in the works.

5.105 The Contractor shall ensure that Construction Traffic Routeing Signs are erected prior to works commencing, and that these are maintained in good and clean condition throughout the duration of the works.

5.106 Management of Construction Traffic shall include the following measures:

- Construction Staff shall be encouraged to arrive before 8:00am and after 18:00pm to avoid the peak hour periods, where feasible;
- Managed parking shall be provided on site with staff encouraged to travel by sustainable means;
- Dedicated parking provisions shall be provided to prevent overspill onto surrounding network;
- Appointment of Construction Manager/Community Liaison Officer;
- Agreed haulage routes along designated HGV routes;
- Provision of wheel wash facilities;
- Road cleaning and sweeping along section of Mill Road adjacent to the site;
- Construction signage at all entrances and exits;
- HGVs inspected for dirt and mud before exiting onto public road network;
- Control and timing of deliveries where possible;
- Entrances and exits manned by flag men during deliveries.

Waste

5.107 The construction of the development will lead to the generation of waste. The key to minimising the production of waste is to implement the waste hierarchy of Prevent, Reuse, Recycle, Recover and Dispose. The Contractor will apply the principles in "Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Waste Projects" to reduce the amount of materials used thereby minimising use of natural resources and reducing costs.

5.108 There are no demolition works proposed on the site. There is a minimal amount of waste expected to be generated on the site with the removal of some assumed hardstanding surfacing in areas.

5.109 The main non-hazardous and hazardous waste streams that are likely to be generated by the removal of existing hardstanding on site, site preparation and construction activities at site are shown in Table 2 below.

Table 2 Typical C&D non-hazardous and hazardous waste streams

Waste Material	EWC Code
Concrete, bricks, tiles, ceramic	17 01 01-03 & 06-07
Wood, glass and plastic	17 02 01-04
Bituminous mixtures, coal tar and tarred products	17 03 01-03
Metals (including their alloys)	17 04 01-07 & 09-10
Soil and stones	17 05 03-04
Gypsum-based construction material	17 08 02
Mixed C&D waste	17 09 04
Electrical and electronic components	20 01 35-36
Batteries and accumulators	20 01 33-34
Liquid fuels	13 07 01-03
Paints	08 01 12
Chemicals (solvents, pesticides, paints, adhesives, detergents etc.)	20 01 13, 19, 27-30
Insulation materials	17 06 04

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

5.111 The Waste Strategy will set out the requirements of the project including how the project will:

- Clearly identify all wastes that are likely to be produced during construction and classify them as 'controlled' ('general') or hazardous wastes;
- Minimise/prevent the waste generated;
- Reuse or recycle wherever possible;
- Identify other recovery options (including energy recovery);

- Collect, separate, store and contain securely and label all wastes;
- Allocate responsibility for waste management on site;
- Employ suitable licensed waste contractor(s) and audit their licence(s); and,
- Monitor and periodically audit the waste management scheme and activities.

5.112 The Waste Strategy will ensure the site meets and maintains the legal waste requirements for the site and will be regularly updated by the Contractor throughout the duration of the development.

5.113 All waste generated during construction will be calculated, recorded and compared to the targets outlined.

5.114 The opportunities for waste materials to be reused off-site will provide positive impacts in the resourcing of materials for other developments and reduce the requirement for raw material extraction.

5.115 A competent and trained waste manager/site representative will be appointed to monitor and track the waste volumes being generated. It will be their responsibility to ensure that all contractors and sub-contractors are segregating waste as required.

5.116 All waste will be classified in line with current waste legislation and guidance (including, soils though WM3 and WAC assessment). The waste will be removed from site by an appropriately licensed contractor; and disposed of at an appropriately licenced landfill or soil recovery facility.

5.117 A waste register will be maintained to collate all waste management Duty of Care documentation such as waste transfer notes and consignment notes and waste classification documentation, where applicable.

Contaminated Land

5.118 Consultation with available soil maps Corine (2018), EPA (2022) and Teagasc (2022) indicates that soil types across the site include ‘Artificial Surfaces’ of ‘Discontinuous Urban Fabric’ of ‘Made ground’. Available subsoil maps (GSI, 2022) indicate that subsoil types across the site are of limestone till, with alluvium along the river corridor, and made ground in urban areas. Soils are deep and well-drained in most areas of the site.

5.119 No intrusive ground works data in the form of Site Investigation Reports were available to inform this report.

5.120 It is understood that a portion of the Old Railway/Amenity lands to the east of the Town as envisioned to be a community garden / allotments. Before work commences on this area intrusive ground investigations are recommended due to the sensitivity of receptors (human consumption) from the potentially polluted topsoil and subsoils (i.e., hydrocarbons) which may have been buried from previous infrastructure.

5.121 The presence of any significant unsuspected contamination which becomes evident during the development of the site shall be brought to the immediate attention of Louth County Council and where necessary the appropriate statutory authority and works in

connection with the unsuspected contamination shall cease until such time as a remediation scheme has been submitted to and approved in writing by the Planning Service. The agreed remediation measures shall then be implemented in their entirety and appropriately verified in accordance with the planning consent for the site.

5.122 Excavation works will be required to be carefully monitored by a suitably qualified person to ensure contaminated soil is identified and segregated from any potentially uncontaminated soil, where encountered. Additional soil testing may be required in order to reclassify soil and the material will be required to be classified as hazardous or non-hazardous using the HazWasteOnline application (or other similar application) and then classified as inert, non-hazardous or hazardous in accordance with the EC Council Decision 2003/33/EC for acceptance of waste at landfills.

Energy Strategy & Sustainability

5.123 The Contractor will be pro-active to implement measures to address the procurement of materials, the environmental impact of materials and the sourcing of materials.

5.124 The Contractor will adhere to the Eastern Midlands Region Waste Management Plan 2015 – 2021 which includes a mandatory target of recycling and reuse of 70% of C&D waste (excluding soil and stone) by 2020.

6 COMMUNICATION

Internal Communication

6.1 Environmental mitigation measures shall be incorporated into the Risk Assessments and Method Statements (RAMS) prepared by all contractors. All RAMS shall be communicated to the workforce by the Site Manager.

6.2 Weekly construction meetings shall be held during the construction phase. These meetings shall include health, safety and environmental matters such as

- Works activities underway and planned;
- Mitigation measures required to be implemented;
- Results of weekly inspections and any audit results/ feedback;
- Any corrective and preventive actions required to be implemented;
- Identification of areas for continual improvement;
- Status of staff competence and training needs; and,
- Status of the PCEMP and of any required consents and approvals and the need for review and updating.

6.3 Any issues resulting from daily or weekly audits shall be discussed with appropriate corrective actions agreed. A 'weekly look ahead' shall be provided at the construction meeting where any environmental constraints or special requirements can be discussed and agreed in advance, where required.

6.4 The Site Manager shall conduct daily construction briefings, as required, to ensure site personnel are advised of any specific environmental requirements and constraints.

6.5 Toolbox talks will be scheduled as and when necessary, over the duration of the project.

6.6 The Contractor will directly and promptly communicate any environmental issues with the relevant body/department via phone or email.

6.7 Site notice boards will display the Environmental Policy of the Client, emergency contacts list, relevant statutory and non-statutory advice and guidance; and any other relevant information. These environmental notice boards will be situated in prominent positions including the main reception area of the site office / compound.

External Communication

6.8 Prior to works commencing on site adjacent residents/commercial users and/or their representatives will be informed on each phase of the development with particular emphasis on safety, traffic management and the control of noise and dust throughout the construction period. The Contractor will promote and maintain excellent relationships with adjacent local residents, businesses, occupiers and the general public through regular communication and updates on construction activities that may affect them.

6.9 All communications received by the Contractor that are relevant to the works in site, including enquiries and complaints, shall be passed to the Site Manager.

6.10 If required by the Client any relevant contractors shall attend community engagement events, meetings, etc details of which shall be communicated to stakeholders in advance.

6.11 The Site Manager shall serve as the point of contact for the regulatory authorities for their specific activities. Communications from the regulatory authorities received at the site by the Site Manager shall be immediately reported to the Client.

6.12 A record of all communications shall be maintained by the Contractor.

6.13 Through the induction all members of the workforce shall be made aware that any direct approaches from members of the public should be directed to their Site Manager. The Site Manager shall record all approaches made by members of the public and shall advise the Client's Project Team of all comments received at the worksite from members of the public.

Public Liaison

6.14 The Contractor will establish early community relations with any adjacent residents and local community. All businesses and where relevant local residents shall be notified in advance of works commencing on site.

6.15 A Community Liaison Officer / LCC Engagement Officer will be appointed for the duration of the project and will be responsible for complaint management, public consultation and liaison with the public.

6.16 The Community Liaison Officer / LCC Engagement Officer will manage any complaints from the community in a fair and efficient manner and share key information associated with site development such as potential disruptive works as and when necessary.

Complaints Procedure

6.17 The Contractor shall put in place a system for recording, and responding to, all complaints received from third parties. The system shall include the timely reporting of all such complaints.

6.18 As a minimum the activity leading to the complaint should be stopped immediately; or where not possible to entirely stop the activity reduce it to the lowest possible level e.g., shut off all non-essential plant.

6.19 All complaints will be acknowledged by the Contractor or Louth County Council on receipt and assessed to determine what information is required from all parties in order to formulate a response. The complainant will be called on the same day if a phone number is provided. Where a phone number is not provided an email response shall be given within three days. All complaints shall be recorded and investigated.

Documentation

6.20 The Site Manager shall be responsible for documenting and retaining safe all suitable records relating to environmental issues at the site and/or arising from site operations. Documents shall be stored in a suitable manner and backups created to safeguard the records. This PCEMP shall be a controlled document and authorised latest version shall be signed and dated by the responsible person[s]. Other site data records and environmental management documentation would include, but not necessarily be limited to the following:

- Copies of relevant consents, permissions, or other approvals/ authorisations;
- Environmental data records including waste transfer notes/ records of waste collection and treatment/disposal;
- Records of any environmental incidents including actions taken and resolution;
- Records of complaints including actions taken and resolution;
- Records of all plant / equipment entering / leaving site together with any relevant compliance documentation (for instance in respect of noise or air pollutant emissions class);
- Copies of any enforcement notices or instructions issued by the local authority or any statutory regulatory body;
- Record of any prosecutions pending or resolved, and any penalties enforced;
- Records of daily site inspections;
- Records of weekly/monthly audits and minutes of environmental team briefings; and,
- Records of staff training including site inductions and toolbox talks.

7 ENVIRONMENTAL TRAINING AND AWARENESS

Inductions

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

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

- Water resources;
- Pollution prevention;
- Emergency response procedures;
- Waste management and housekeeping;
- Management structure;
- Duties and responsibilities;
- Relevant procedures;
- Ecologically sensitive areas;
- Incident reporting;
- Consents and licenses;
- Legislation; and,
- Environmental best practice.

Toolbox Talks

7.3 Regular 'Tool-Box Talks' on specialised topics shall supplement the induction course. Toolbox talks shall be used to highlight issues of concern and to disseminate new information not previously provided. They will also offer site personnel with the opportunity to provide feedback.

7.4 Tool-Box Talks shall include, but will not be limited to, instances where:

- There is a change to existing legislation, which requires an operational change;
- Site inspections or audits have identified corrective actions which require rolling out;
- Work is being undertaken in environmentally sensitive areas;
- There are significant changes in environmental conditions, i.e., heavy rainfall.

7.5 The frequency and topics of the Toolbox Talks shall depend upon the area in which works are taking place. They shall be provided as often as necessary to address site-specific environmental requirements.

7.6 Toolbox talk topics for environmental management shall include, but will not be limited to:

- Control of noise and dust emissions.
- Environmental incident and reporting.
- Silt and water management.
- Waste management and segregation.

7.7 Records of all 'Tool-Box Talks' and attendance shall be kept in the site offices.

Specialist training

7.8 Specialist training for specific members of the construction crews will be provided as required. This may include, but will not be limited to:

- Emergency environmental crews.
- Environmental Monitoring.
- Waste representatives.
- Fuel tanker drivers.

8 EMERGENCY PREPAREDNESS AND RESPONSE

Emergency Response Plan

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

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

Roles and Responsibilities

8.3 The Site Manager will be responsible for activating and coordinating the emergency response procedure. In a situation where the Site Manager is unavailable or incapable of coordinating the emergency response, the responsibility will be transferred to the next person in the chain of command.

Spill Kits

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

8.5 The spill kit contents shall include absorbent pads, absorbent booms, absorbent granules and hazardous waste disposal sacks as a minimum. Regular checks of the spill kits shall be completed to ensure they remain adequately stocked to deal with environmental incidents.

8.6 Spill drills shall be performed periodically to confirm that the workforce can effectively contain and clear up potentially polluting spillages. All drills will be documented, and details kept on record for the duration of the works.

Fire Prevention

8.7 Means to raise the alarm in the event of a fire such as a siren or foghorn shall be available at the points of work. An assembly point marked with a sign shall be designated a safe distance from the active works locations and will be communicated to all members of the workforce before works commence.

8.8 The workforce shall assemble at the point for a rollcall to be carried out by the Site Security Officer. The Site Manager will decide the appropriate course of and will advise all personnel accordingly.

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

Extreme Weather

8.10 The Site Manager shall register to receive Met Eireann weather warnings. All warnings issued by Met Eireann with the potential to impact upon the works shall be communicated by the Site Manager to the workforce in a timely manner so that measures can be implemented where necessary.

8.11 The Contractor shall maintain provisions to deal with extreme hot weather events. Measures shall include provision of safe drinking water and adequate shade.

8.12 Seasonable variations will be monitored to take account of potential wet weather when planning stripping of topsoil and excavations to minimise soil erosion and run off.

Incident Reporting and Investigation

8.13 All incidents, including near misses, shall be classified according to the categories outlined below. All categories of environmental incident shall be reported by the Contractor to Louth CC as detailed in Table 3 below.

Table 3: Incident Reporting and Investigation

Incident Classification	Definition
Near Miss	An event, controlled through implementation of an effective incident control measure (e.g., drip tray used, effective use of noise barrier).
Minor Environmental Incident	Incidents that have caused minor harm or damage to the environment e.g. • a minor fuel spill below 20 litres onto ground which is immediately cleared; • a minor spill of a chemical not classified as presenting an ecotoxic risk; • exceeding noise levels; • silt runoff from site which does not enter into a surface water feature; or • excess dust emissions.
Major Environmental Incident	Incidents that have caused or may cause significant harm or damage to the environment e.g. • a minor fuel spill which impacts a sensitive land feature, a water body, or drains; • a major fuel spillage over 20 litres; • any spillage of a chemical which is classified as presenting an ecotoxic risk; • silt runoff from site which enters a water feature; or • receipt of a nuisance complaint.

The Contractor shall report all environmental incidents that are required to be reported to the relevant statutory or regulatory bodies.

8.14 The Contractor shall prepare an investigation report for all environmental incidents. The report is to include:

- Summary of the environmental incident, describing the:
  - nature of the incident;
  - details of any pollutant released including the type and quantity of pollutant released; and,
  - location for the incident (e.g., grid reference);
- Receptors that were or could have been impacted;
- An analysis of what led to the incident occurring;
- Summary of immediate actions taken to mitigate the incident;
- Summary of any remedial action required; and,
- Lessons learned and future measures or actions to be implemented.

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

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

Emergency Contacts

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

8.18 A list of emergency contacts is presented in Table 4. A copy of these contacts will be included in the Site Safety Manual and in the site office.

Table 4: List of emergency contacts

Emergency Contacts	
Contact	Contact details
Project Supervisor Construction Stage (PSCS)	TBC prior to commencement
Project Supervisor Design Stage (PSDS)	TBC prior to commencement
EPA	053 916 0600
National Parks and Wildlife Service's regional office	(076) 100 2557
National Environmental Complaints Line (NECL)	1850 365 121
Health and Safety Authority	1890 289 389
Louth County Council – environmental incident report	042-9335457
Emergency Services – Ambulance, Fire, Gardai	999 / 112
Hospital – St Brigid's, Ardee	041 685 3264
Bord Gáis Emergency	1850 20 50 50
Drogheda Garda Station	041 685 3222

Incident Response

8.19 All pollution incidents should be managed through the STOP - CONTAIN - NOTIFY concept.

8.20 As soon as an incident is identified, the first action should be to **STOP** and prevent further discharge to drainage/river/ground.

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

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

Oil, fuel or chemical spill to ground

i. Wear protective clothing, prevent further release at source e.g., switch off tap/ valve, correct leaking drum and make safe the area.

ii. If the spill is migrating, create a temporary bund to prevent further spread by using spill kit materials / sandbags.

iii. If drains or field ditches are located nearby, install drain seals/ deploy additional spill kit materials to prevent the spill discharging to the drain or ditch.

iv. Apply absorbent granules or pads (available from spill kit) to the affected area.

v. Contractor will notify the local authority regarding the nature and scale of incident. The following information should be included in the notification:

- Time of discharge;
- Type/quantity of material discharged;
- Location of discharge; and
- Site contact details.

vi. Contractor will notify Louth CC of the incident and communicate the information provided to the local authority.

vii. Containment measures should remain in place until the nature and extent of the contamination can be assessed and a remediation strategy must be prepared.

All impacted materials shall be disposed of in accordance with relevant legislative and regulatory requirements and Duty of Care requirements.

Discovery of unexpected contamination

i. On the discovery of unexpected contamination, the Contractor will immediately halt works in the area.

ii. If impacted materials have already been removed, they shall be returned to the excavation or placed on to a membrane, e.g., terram, to prevent migration of the contaminant to another area.

iii. Contractor to report the situation to Louth CC.

iv. Arrangements will be made between the Contractor and Louth CC for samples of the contamination to be collected and tested on fast turnaround.

v. Contractor to only continue with works in the area once the test results have confirmed the contaminant and a safe means of working has been established.

The Contractor shall be free to continue works in areas unaffected by the contamination but will not speculatively continue to excavate material to find the extent of the contamination without supervision from a geo-environmental engineer.

All impacted materials will be disposed of in accordance with relevant legislative and regulatory requirements as well as relevant Duty of Care requirements.

Oil, fuel or chemical spill to surface water feature

i. Wear protective clothing, prevent further release at source e.g., switch off tap/ valve, correct leaking drum and make safe the area.

ii. If source not readily identifiable, contain first (see below) then identify and prevent further release at source.

iii. Immediately deploy appropriately sized boom from nearest spill kit across affected surface water feature. Use stakes to attach it to the sides of the surface water feature. Tie booms together to increase length if required.

iv. Supplement with additional booms across the surface water feature, as required, to contain any migration of the spill not halted by the first installation.

v. Contractor shall notify the local authority regarding the nature and scale of incident. The following information should be included in the notification:

- Time of discharge;
- Type/quantity of material discharged to surface water feature;
- Location of discharge; and
- Site contact details.

vi. Contractor shall notify Louth CC of the incident and communicate the information provided to the local authority.

All impacted materials will be disposed of in accordance with relevant legislative and regulatory requirements and relevant Duty of Care requirements.

Oil, fuel or chemical spill to drainage system

i. Wear protective clothing, prevent further release at source e.g., switch off tap/ valve, correct leaking drum and make safe the area.

ii. If source is not readily identifiable, contain the visible pollutant first, then identify and prevent further release at source.

iii. Immediately deploy appropriate drain cover(s) to affected gullies.

iv. Supplement with booms around the gully to contain any migration of the spill.

v. The Contractor shall notify the local authority and the relevant water company regarding the nature and scale of incident. The following information should be included in the notification:

- Time of discharge;
- Type/quantity of material discharged to the drain;
- Location of discharge, specifically which drain; and
- Site contact details.

vi. The Contractor shall notify Louth CC of the incident and communicate the information provided to the local authority.

All impacted materials shall be disposed of in accordance with relevant legislative and regulatory requirements and relevant Duty of Care requirements.

Explosion / Fire Procedure

Explosion/fire incidents should also be dealt with through health and safety procedures. In the event that a fire is detected, or an explosion occurs:

i. Notify the emergency services and evacuate the area.

ii. Attempt to tackle the fire with site equipment only when it is safe to do so.

iii. Ensure that pollution of nearby water bodies including surface water drainage from fire control water or other substances is minimised. Where possible and safe to do so, any site drainage systems should be protected through the deployment

of drain seals/ spill kit materials to ensure any firefighting waters are captured and can be disposed of appropriately.

iv. At a time when it is acceptable to do so, the local authority shall be notified regarding the nature and scale of incident. The following information should be included in the notification:

- Nature of the incident;
- Time and date of the incident;
- Quantity of fire control water discharged to surface water feature/drainage, where relevant;
- Location of discharge; and
- Site contact details.

Discharge of Silt

In the event of an unexpected discharge of silty water, then:

i. Prevent further release at source e.g., cease dewatering the excavations.

ii. Contain silt and protect sensitive receptors from further discharge:

- If a drain is located nearby, install drain seals or deploy spill kit materials to prevent discharge.
- If silt flow is in the direction of surface water features deploy hay bales around surface the feature.
- If silt is being generated by runoff from stockpiles deploy spill kit materials, silt fencing or move soil to form a bund at the base to prevent further silt laden runoff from the stockpile.

iii. If silt is discharged without prior approval the Environment Protection Agency shall be notified. If the silt discharge enters the drainage system, the relevant water company shall also be notified regarding the nature and scale of incident. The following information should be included in all notifications:

- Time of discharge;
- Type/quantity of material discharged;
- Location of discharge, e.g., which drain or surface water feature; and
- Site contact details.

Contamination of or by waste materials

i. Assess whether the area needs to be evacuated, such as if fumes are being given off.

ii. Assess whether the damage can be undone through segregation.

iii. Complete a risk assessment for the task including consideration of any COSHH risks.

iv. If it is safe to do so segregate the waste. If it is not safe to do so, then the full waste quantity is to be consigned as hazardous waste.

v. Contractor to report the incident to the client.

vi. Waste to be collected from site in accordance with normal practice.

Discovery of archaeological artefact or heritage feature

i. Immediately stop works in the area of the artefact or feature.

ii. Ensure the area is isolated from interference by erecting fencing around the discovery. Prevent vehicles from navigating through this area.

iii. Provide a safe means for pedestrians; and if possible, vehicles, to move around the isolated area.

iv. Contractor shall report the find to the client.

v. Client to arrange for the find to be assessed by a qualified heritage or archaeological specialist. Contractor to prevent tampering with the find until it has been assessed.

vi. Works to proceed in accordance with the recommendations given by the heritage or archaeological specialist.

Ecological discovery or damage

i. Immediately stop works in the area.

ii. Contractor to immediately report the incident to the client.

iii. Client to arrange for a qualified ecologist to assess the discovery or damage caused.

iv. Works to proceed in accordance with the advice received from the ecologist.

Vandalism/theft procedure

Acts of theft and vandalism present the risk that damage may be caused to equipment containing hazardous substances that could cause pollution, or damage may be caused to measures which have been installed to prevent the release of pollution. On identifying an act of vandalism or theft:

i. The Contractor shall notify Garda Síochána of the incident.

ii. Inspect all fuel storage tanks/drums and equipment to ensure there has been no release of the fuel or other hazardous substances, e.g., hydraulic fluid.

iii. If a spill is identified follow the procedures for Oil, fuel or chemical spills.

iv. Inspect pollution protection measures, e.g., drainage or silt protection, to ensure it has not been interfered with. Where it is possible, correct any issues identified without causing further release.

v. Inspect site boundaries to identify the access point if not immediately clear and secure the site.

9 MONITORING AND AUDITING

Introduction

9.1 Appropriate monitoring of the environmental effects of construction enables the effectiveness of environmental mitigation to be evaluated. It also allows environmental problems to be identified and responded to at an early stage. Monitoring will also help the Contractor to identify and implement environmental improvements, which will contribute to the overall environmental performance of the project.

9.2 The Contractor will carry out appropriate environmental inspections and monitoring of environmental performance in the form of daily inspections, monthly audits and if required appropriate equipment.

9.3 Where problems are recognised, the corrective action will be identified by the inspector and subsequent corrective action undertaken within a defined time frame.

Daily Inspections

9.4 Daily inspections shall be undertaken and recorded as follows:

i. Visual inspection of the site perimeter to check for dust deposition (evident as soiling and marking) on vegetation, cars and other objects.

ii. Visual inspection of the access roads to check their condition to ensure there is no build-up of dust or earth deposits liable to cause dust emissions as vehicles pass.

iii. Vehicle, equipment and plant inspections shall be completed to check the absence of damage or maintenance issues and that it is correctly functioning.

iv. Visual inspection of all acoustic barriers / screening to check they are present and in good condition.

v. Visual inspection of waste containers and waste storage areas to verify wastes are being correctly segregated and to confirm the absence of mixing of hazardous and non-hazardous wastes.

vi. Visual inspection of all site areas to ensure there is no deposited or wind-blown litter.

vii. If a waste collection is made, a check shall be made of the Waste Transfer Note / Hazardous Waste Consignment Note provided for the collection.

9.5 On all days when potentially dust emitting activities are being conducted, the level of dust generation shall be kept under constant review. A record shall be added to the official site diary when such activities are conducted, the dust emission conditions observed and; when necessary, the mitigation measures taken.

9.6 Any elements of the site management found to be in an unsatisfactory condition during the site inspection shall be addressed on the day. In the event it is not possible to address

the matter on the day it is raised; a note of the reason why shall be made on the inspection record sheet.

Environmental Audits

9.7 Formal audits will be against an audit checklist, which will provide a mechanism to monitor and assess compliance against all project performance requirements and standards.

9.8 Only suitably trained and competent staff will be authorised to perform environmental audits at a suitable frequency to be determined by the nature / duration of the work.

9.9 All aspects of the environmental management at the site shall be assessed against this PCEMP.

9.10 The audit shall include checks of the site records including the daily inspection record sheets, vehicle arrival logs and waste disposal paperwork. All audits shall be documented; where audit actions are raised, close out of these actions shall be assessed at the following audit.

Environmental Monitoring

9.11 Environmental monitoring including water quality monitoring shall be carried out as necessary and requirements for environmental monitoring shall be reviewed as consents are received and consultations completed.

9.12 Key parameters that will require environmental monitoring include:

- Waste generation during construction; to be monitored as part of the Site Waste Management Plan to ensure the appropriate treatment, handling, management and disposal measures are applied. Records shall be kept of quantities and types of waste handled;
- Inspections of the surface water course;
- The site compound including fuel storage and spill control equipment;
- Construction Plant and Equipment; and,
- Dust and noise pollution arising from construction site activities.

9.13 In the unlikely event that noisy plant or machinery are to be operated that may have the potential to exceed the daily noise target (70 dB $L_{Aeq,1hr}$) or following a complaint, spot checks and/or continuous monitoring may be undertaken using a sound level meter to assess noise levels during such activities. This shall be kept under review and appropriate mitigation measures instigated if necessary.

9.14 Documentation from environmental monitoring shall be maintained and made available as appropriate.

9.15 The Contractor shall be responsible for monitoring all site works.

9.16 Surface water samples from the River Dee were collected at two locations; upstream and downstream of the Site to understand baseline water quality conditions of the river in March and April 2022. These indicated parts of the site have already experienced impacts from urban development and agricultural practices in the area.

9.17 Routine water monitoring will be undertaken throughout the construction period including visual inspections which will be maintained in an inspection log. given the close proximity of works to the River Dee. Sampling will also be undertaken following an event such as heavy rainfall or an accidental spillage.

9.18 Physio chemical water quality analysis of samples will include total suspended solids, pH and total petroleum hydrocarbons which allow for the detection of sediment loading, concrete pollution or spillages of hydrocarbons.

Environmental incident and corrective action reporting

9.19 All environmental incidents and near misses shall be reported and investigated by the Contractor. All environmental incidents shall be reported as soon as possible. Where relevant, the appropriate statutory authority (e.g., EPA) shall be informed immediately. Copies of incident investigation reports shall be supplied by the Contractor and action taken to prevent recurrence.

9.20 All corrective action, incident and near miss report forms shall be held in a register maintained at the construction site office.

Non-conformity and corrective action

9.21 Where the client has a concern or raises an issue for resolution, or where potential issues are raised from an inspection or audit of the site/ operations, or by a regulatory authority, the Contractor shall investigate the root cause and any implications arising from the issue and shall if necessary following discussion with the client implement measures to rectify the problem.

9.22 The Contractor shall monitor the effectiveness of the corrective action and report the outcome to the client and where relevant the regulatory authority. All documentation of the issue/ event and corrective action/ outcome shall be retained by the Contractor.

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

Review and updates to the PCEMP

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