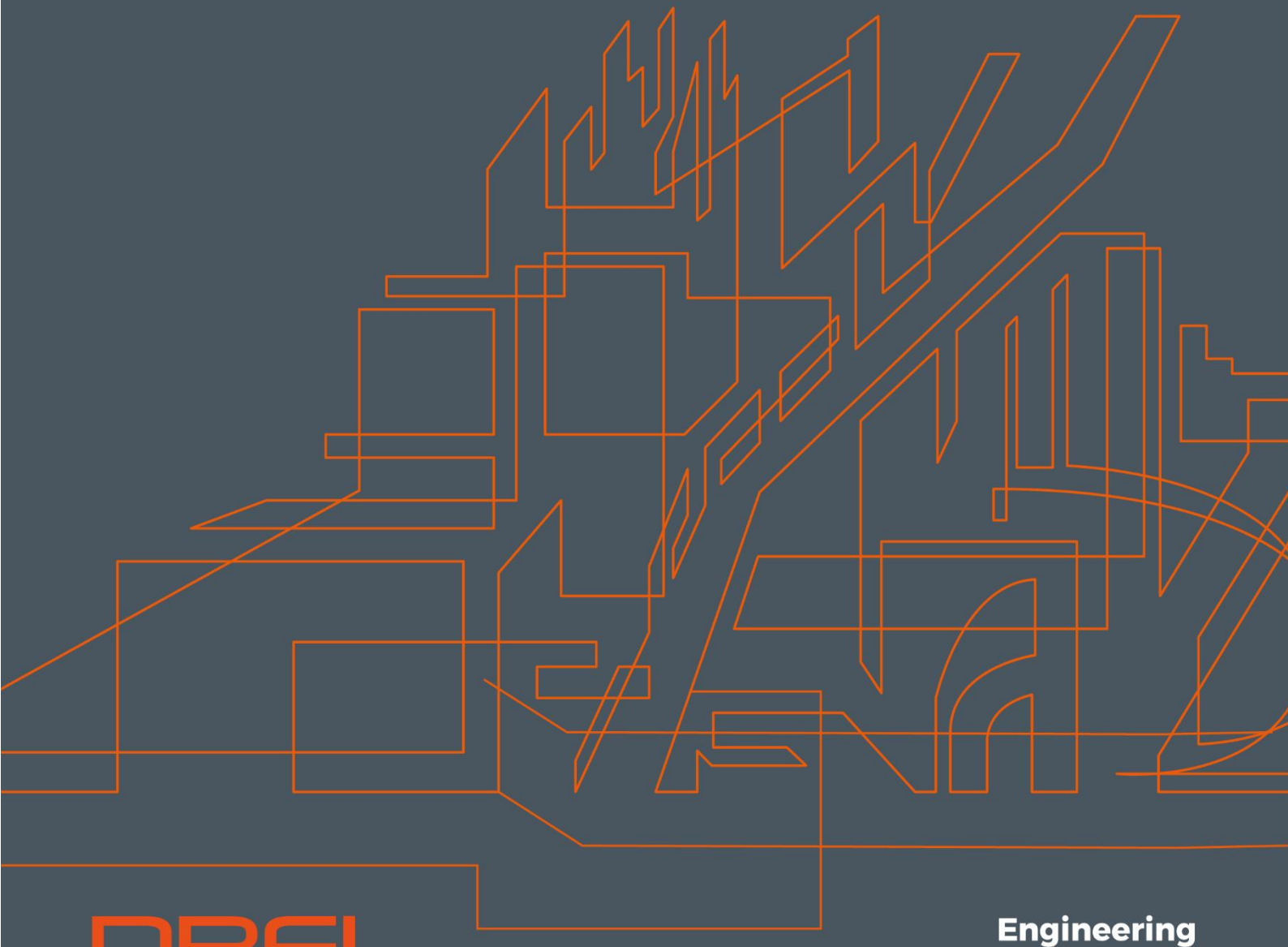
Kinsale Active Travel Scheme

Preliminary Construction Environmental Management Plan

220094-X-X-X-XXX-RP-DBFL-CE-0003

November 2024



DBFL CONSULTING ENGINEERS

Engineering Sustainable Futures

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Document Title:	**Preliminary Construction Environmental Management Plan**		
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Status	Rev.	Date	Description	Prepared	Reviewed	Approved
P1	0	11/03/24	Draft Issue	JFC / JE	KB	RK
P1	1	10/06/24	Revised Issue following Client & Ecologist Review	MMC	JE	
P1	2	28/06/24	Final Draft	JE	KB	KB
P3	3	29/11/24	Final Issue	JE	KB	KB

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Figures

1 Introduction

1.1 Project Background

DBFL Consulting Engineers (DBFL) have been commissioned by Cork County Council to assess the feasibility and design of the Kinsale Active Travel Scheme. The Scheme seeks to provide high-quality pedestrian and cycle facilities between the proposed Kinsale GAA Grounds and the R606, via:

- Bandon Road (L-3234-0).
- Abbey View Road (Compass Quay – Abbey View: L7249-0 and L-3235-0).
- Cappagh (L-7249-0).
- Roseabbey Park (Scoil Naomh Eltin).

The Kinsale Active Travel Scheme is currently at Phase 4: Statutory Processes of the NTA's Project Appraisal Guidelines (PAG) and going through a Part VIII process.

1.2 Purpose of this Document

This document is an initial Preliminary Construction Environmental Management Plan (pCEMP) for the proposed works to provide pedestrian and cycle facilities between the future Kinsale GAA Grounds and the R606 as part of the Kinsale Active Travel Scheme. This document includes an outline description of the proposed works, and how these works will be managed for their duration should the Project be approved by Cork County Council.

The Scheme is currently at planning stage, and as such input from the Contractor has not yet been incorporated into the pCEMP. On appointment of a Contractor, this preliminary document will be issued to them to be further developed into what will become the final CEMP.

The pCEMP seeks to demonstrate how works can be delivered in a logical, sensible and safe sequence, with the incorporation of specific measures to mitigate any potential impact on people, and on the surrounding environment.

As it is at an early stage, nothing stated in this document shall supersede or be taken to replace the terms of the Contract, or the detailed design description issued with the Contract tender, or the conditions of planning permission. Similarly, the issues covered within this document may be amended or added to by the Main Contractors, or in accordance with their specific works proposals, sequencing and procedures.

As such this CEMP is a preliminary and "live" document which will be updated over the course of the project as required. When read by the Contractor, this document should be read carefully in conjunction with all drawings, specifications and survey information provided, including the Ecological Impact Assessment. Any consequences that result through failure to implement measures in this construction plan, or inadequate development of this plan by the Contractor, are the responsibility of the Contractor and not DBFL.

2 Site Description & Existing Conditions

2.1 Introduction

The proposed scheme is situated on the western side of Kinsale, County Cork, and its full extent covers approximately 2.55km of existing roadway between the proposed future Kinsale GAA Grounds and the R606 via the Bandon Road (L-3234-0) and Abbey View Road (L-3235-0), also incorporating Cappagh and Roseabbey Park, which connect to Gaelscoil Chionn tSáile and Scoil Naomh Eltin respectively. The extent of works is outlined in red in Figure 2-1 below.

Figure 2-1: Map showing the extent of works involved in the Kinsale Active Travel Scheme.

2.2 Proposed Scheme

The proposed scheme that Cork County Council is currently seeking planning permission by way of Part 8 of the Planning and Development Regulations is set out below. These details are subject to change through the Statutory Process and Detailed Design stages.

Section 1: Abbey View Road ***(spans from R606 Junction to mini-roundabout at Abbey View)***

- Junction tightening at R606 / Abbey View Road junction to reduce turning speeds.
- Provision of segregated cycle tracks commencing just north of the bridge, with space reallocated from the carriageway and verges, between Cammogue Marsh and the mini-roundabout on Abbey View.
- From Abbey View Road / Roseabbey Park junction, the eastern segregated cycle track transitions to a shared pedestrian and cycle path to connect to shared path on Roseabbey Park.
- Provision of two raised toucan crossings; one just north of the bridge on Abbey View Road, and one outside the Kinsale Community School by the junction with Ballinacubby.
- Improvements to local junctions in line with DMURS, including at-grade pedestrian priority crossings over entrances, and junction tightening.
- Raised table junction at Roseabbey Park / Abbey View Road to slow down vehicular traffic.
- Incorporate grasscrete, tree planting, and landscaping as per accompanying Drawings.

Section 2: Abbeylands & Quietway Route (***between mini-roundabout and Bandon Road***)

- Retrofit existing mini-roundabout to a compact design including crossings on all arms of the roundabout to improve safety, accessibility and comfort for all users.
- Introduction of a 30kph speed limit zone between the new crossing at Kinsale Community School and the junction with Abbey View Road / Bandon, extending to Roseabbey Park and Abbey View residential streets.
- Upgrade and extension of existing path to form a a Quietway via residential streets, Abbey Court and Abbey View. The existing path will be formalised including

widening the path, wayfinding signage, and removing kissing gate and fencing between Abbey Court and Abbey View. Supplementary lighting may be required to improve the safety and accessibility.

- Access control to the Quietway on Bandon Road to ensure safety for all road users.
- Incorporate landscaping as per accompanying Drawings.

Section 3: South Bandon Road *(continues westward along Bandon Road up to the junction with Cappagh)*

- Provision of a shared pedestrian and cycle path on the northern side of Bandon Road.
- Provision of a new footpath between the junction with Abbey View Road and entrance to the Quietway on the southern side of Bandon Road. Continuing north from the Quietway, a protected cycle lane, flush with the carriageway, is proposed.
- Provision of three new raised crossings; one directly east of the Bandon Road / Abbeylands junction, one at the entrance to the Quietway, and another just south of the Bandon Road / Cappagh junction.
- Improvements to all local junctions in line with DMURS including junction tightening and pedestrian priority crossings.
- Incorporate landscaping as per accompanying Drawings.

Section 4: North Bandon Road *(continues westward along Bandon Road as far as the entrance to the proposed new Kinsale GAA Grounds)*

- Continuation of the shared pedestrian and cycle path on the northern side of Bandon Road, varying between 3m-4m with a 0.5m grass verge buffer.
- Improvements to local junctions in line with DMURS, including at-grade pedestrian priority crossings over entrances to development, and reduced corner radii.
- Gateway Treatment from the existing GAA Grounds to calm vehicular traffic and indicate to motorists they are approaching the edge of Kinsale Town, including an extension of the 50kph limit.
- Incorporate landscaping as per accompanying Drawings.

Section 5: Cappagh

- Provision of a shared pedestrian and cycle path on the southern side of the road, between the junction with Bandon Road, as far as the Gaelscoil.
- Incorporate landscaping as per accompanying Drawings.

Section 6: Roseabbey Park

- Raised table junction at Roseabbey Park / Abbey View Road to slow down vehicular traffic around the school environment.
- Rellocation of space for a shared pedestrian and cycle path on the southern side of Roseabbey Park, between the junction with Abbey View Road and entrance to Scoil Naomh Eltin.
- Extension of footpath and additional pedestrian crossing at eastern end of Roseabbey Park.

3 Documents to be Prepared by The Contractor

The following section outlines key documents to be prepared by the Contractor post planning and key items to be addressed within the documents.

The documents shall incorporate all requirements set out in this pCEMP as well as the Ecological Impact Assessment (EcIA), Environmental Impact Assessment (EIA) and Appropriate Assessment (AA) Screening Reports.

3.1 Construction Stage Construction & Environmental Management Plan (CEMP)

The scheme is currently at planning stage, and so is subject to statutory approval and further detailed design. Pending approval, and on appointment of a Contractor, this pCEMP document will be issued to them to be further developed into their final CEMP for the scheme. The final CEMP would be submitted by the Contractor to be approved by Cork County Council prior to commencement of works.

In addition to the measures outlined within this pCEMP, it should detail at a minimum:

- A construction schedule, including working hours and days.
- Site Compound locations and layouts.
- Site Security Plan.
- Health and Safety procedures.
- Erosion and Sediment Control measures for surface water runoff.
- Bes practice construction measures, which are in accordance with Construction Industry Research and Information Association (CIRIA) guidance – *Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (Masters – Williams et al, 2001)* will be implemented during construction of the proposed development
- Pollution prevention measures in order to protect watercourses.
- Details of chemical/fuel storages areas (including location and bunding to contain runoff of spillages and leakages).
- Details of construction plant storage, chemical and fuel storage, temporary toilet facilities.
- Earthworks plans including intended stockpile location.
- Dust management measures to prevent nuisance.
- Noise and vibration management to prevent nuisance.
- Measures for Landscape Management.
- Temporary hoarding and lighting plans.

- Method Statements for diversion of services.
- Method Statements for storage, treatment and transport of soils.

3.2 Environmental Operating Plan (EOP)

The appointed Contractor will be required to develop and implement an Environmental Management System (EMS) that follows the principles of ISO14001. The Contractor will be responsible for the production, implementation and maintenance of an Environmental Operating Plan (EOP). TII have published 'Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan' which should be used as a basis for the creation of the EOP. The EOP shall:

- Comprehensively incorporate all Environmental Commitments set out in the Contract documents, Planning Documents (including EIAR), any conditions and/or modifications imposed by An Bord Pleanála or Cork County Council.
- Provide a method of documenting compliance with these Environmental Commitments and conditions / modifications.
- Itemise relevant environmental legislative requirements and best practice guidance. The EOP should also provide a method of documenting compliance with these requirement.
- Outline methods by which construction work will be managed to prevent, reduce or compensate for potential adverse impacts on the environment.
- Incorporate procedures for communicating with the public, landowners, statutory consultees, local authority and relevant site-personnel.
- Incorporate procedures for Environmental Awareness Training for the main contractor's staff.
- Incorporate monitoring procedures and responses to monitoring results, where contractually required.
- Provide for a system of audit with regard to the effectiveness of the EOP during the construction life cycle of the project.
- A Corrective Actions Report shall be prepared on foot of any non-conformances identified during environmental monitoring, inspections and / or audits on site. The Corrective Actions Report will describe in detail the cause and effect of a non-conformance on site and describe the recommended corrective action that is required to remedy it.

- Include an Emergency Response Plan (ERP) detailing the procedures to be undertaken in the event of a spillage of chemical, fuel or hazardous wastes, fires, flood events or any other possible emergency situation that could occur.

3.3 Traffic Management Plan (TMP)

The successful Contractor will develop a Construction Stage Temporary Traffic Management Plan (TMP) in consultation with Cork County Council's transportation department.

The TMP will be in full accordance with Chapter 8 of the Traffic Signs Manual and the requirements set out in this pCEMP and the EcIA. The Contractors TMP shall include:

- Development of safe traffic management proposals in accordance with the principles of prevention and by following the hierarchy of risk prevention and protection.
- Optimisation of road space and the provision of an adequate safety zone and work space at work locations.
- Consideration for the needs of vulnerable road users, ensuring that any diversions or hoardings do not impede movement or create impassable obstacles for people walking or wheeling.
- Minimisation of potential conflict between road users.
- Details of routing of network traffic.
- Temporary road closures.
- Temporary signal strategy.
- Routing of construction traffic.
- Temporary signal strategy.
- Programme of vehicular arrivals.
- On-site parking locations for visitors and workers.
- Road cleaning management plan.
- Provision of appropriate speed limits and restrictions.
- Provision of clear directions relation to decisions/actions required from road users.
- Management of pedestrians and cyclists.
- Other traffic management requirements to comply with the principles described above and the contract requirements.

4 Project Construction Compound

4.1 Overview

The scheme area has direct vehicular access from both the R605 (northern end) and R606 (southern end) Regional roads. It is envisaged that the Contractor may use these routes as the primary access points for construction traffic and deliveries etc. in order to minimise impact on local residential streets where practicable, as many of these are narrow and constrained.

4.2 Construction Compound

This pCEMP considered 3 no. location options for the Construction Compound to serve as a base for the works on the Kinsale Active Travel Scheme, as shown in Figure 4-1 below:

1. Adjacent to the R606 on greenfield land near the Kinsale Equestrian Centre.
2. North of the scheme, off of the R605 Bandon Road.
3. Adjacent to Kinsale's Waste Water Treatment Plant, accessed from Abbey View Road.

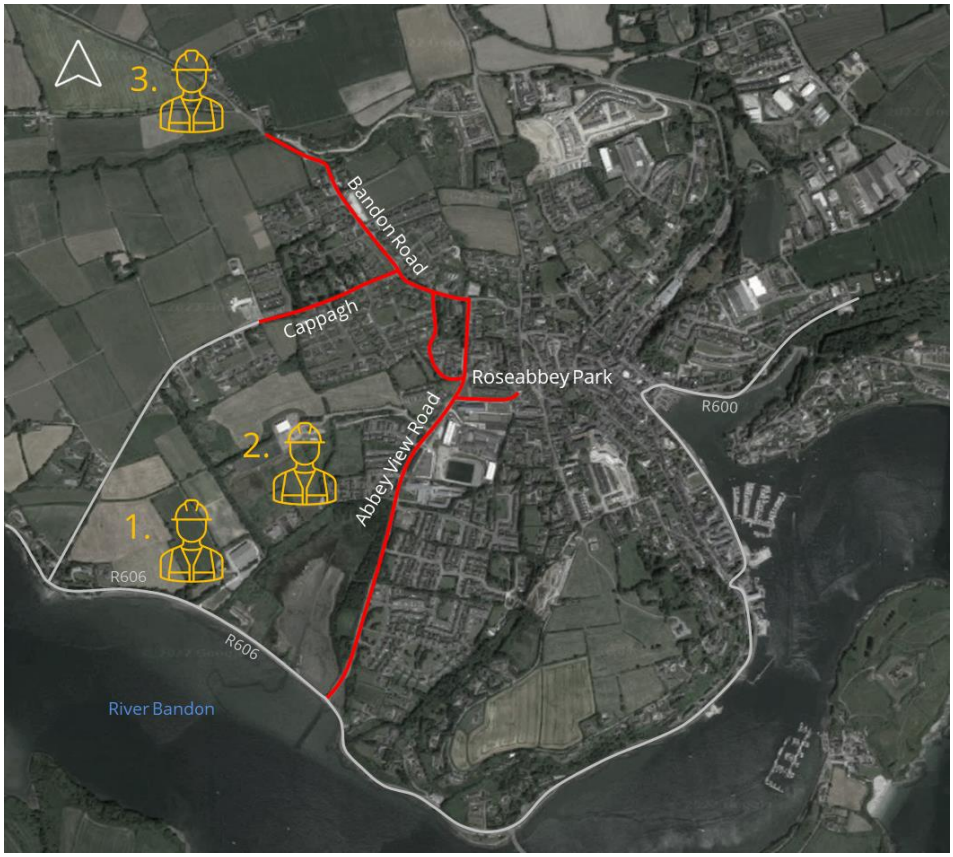

Figure 4-1: Indication Locations for a Construction Compound Considered.

These locations are located in close proximity to the location of works, i.e. the proposed active travel route, are accessible from the Regional road network, and have large areas of greenfield

land available. However, locations 2 and 3 are not recommended to be brought forward due to the proximity to Alien Invasive Plant Species including Japanese Knotweed, and the potential for runoff and dust impacts to sensitive environmental receptors including Cammogue Marsh and Knocknabohilly Stream. Therefore, location 1, adjacent to the R606 / Kinsale Equestrian Centre, appears to be the most suitable area for a Construction Compound subject to further assessment.

4.3 Details of Activities in Construction Site Compounds

Access to the Construction Compounds will be restricted to site personnel and authorized visitors only. The Compounds will be fenced off, lit during working hours and provided with the appropriate services including water, wastewater, power (including the use of generators if required) and communications connections. Site hoarding will include supports and appropriate anchoring (designed by a Temporary Works Engineer) and include Health and Safety warnings at appropriate intervals.

The Construction Compound will contain the following:

- A site office.
- Temporary welfare facilities for contractor personnel, for example, portable toilets. Wastewater from temporary welfare facilities will be collected and disposed of to a suitably licensed facility. Car parking for contractor personnel will be limited within the Construction Compounds to minimise vehicle movements and to promote carpooling to the site.
- Site security will be provided by way of a monitored infrastructure systems such as site lighting and CCTV cameras, where and when deemed necessary. These will be arranged and implemented by the appointed Contractor.
- Certain materials will be reused where practicable, primarily excavated material. Materials such as topsoil, subsoil, concrete, rock etc., will be stored safely and appropriately at the Construction Compounds for reuse, as necessary. Items of plant and equipment will also be stored within the Construction Compound. All necessary authorisations, under the Waste Management Act, as amended, will be obtained prior to undertaking temporary storage within the Construction Compound. Following completion of the construction works, the construction compound area will be cleared and reinstated to original conditions.

5 General Construction Methodology

5.1 Overview

The Kinsale Active Travel Project is currently at planning stage and subject to statutory approval and further detailed design.

Pending its approval, the next stage for the project is Detailed Design, following which the works would be tendered before construction would commence and a detailed programme of works would be set out.

At this early stage of the project, the primary works elements during the construction period are anticipated to include:

- Site Setup.
- Site Clearance and Demolition.
- Earthworks.
- Installation of Drainage.
- Installation of New Footpaths, Cycle Tracks, and Crossings.
- Re-surfacing of Roadways.
- Landscaping.
- Linemarking and Signage.
- Demobilisation.

5.2 Working Hours

Working hours will be strictly in accordance with the granted planning conditions subject to Cork County Council approval, with no works on Sundays or Bank Holidays. If work is required outside of these hours, written approval will be sought by the Contractor from Cork County Council.

It is anticipated that normal working hours shall be 8am to 7pm Monday to Friday, and 8am to 5pm on a Saturday, in order to limit impact on residential amenity. Work occurring outside of these hours will be subject to agreement with Cork County Council.

Deliveries of material to site will be planned in advance to avoid high-traffic volumes, though there may be occasions where it is necessary to have deliveries within these times. The Contractor will develop, agree and submit a detailed Traffic Management Plan for the project prior to commencement.

5.3 Construction Traffic & Sequencing of Construction Work

The Proposed Scheme will generally be constructed in a manner which will minimise, as much as practicable, any disturbance to residents, schools, businesses, and road users. Upgrade works will be completed in a staged manner, whereby traffic of all modes will be managed to ensure construction can continue while ensuring safety of all road users, and personnel, and maintaining flow of all traffic modes where possible.

The Construction Methodology broadly comprises the following activities:

- **Parking and Access:** There will be some temporary disruption to access to properties and on-street parking as works progress along the scheme. Localised access provisions will be discussed with affected property owners in advance of construction works starting in the area. The duration of construction works and disruption will vary from property to property, but access will be maintained at all times where practicable. Access will be maintained for emergency vehicles along the proposed scheme throughout the construction phase.
- **Installation of Construction Traffic Management Measures:** Any temporary lane closures and stop / go systems to be implemented.
- **Site Clearance and Excavation:** Topsoil and subsoil will be excavated as part of the Proposed Scheme and may be temporarily stored at the Construction Compounds for reuse where appropriate. The amount of new material brought onto the Proposed Scheme will be minimised in so far as practicable. The acceptability of earthworks material for reuse will be determined, by testing and analysis, to determine if materials meet the specific engineering standards for their proposed end-use.
- **Drainage:** Modifications and/or upgrades to the existing drainage system including the introduction of SUDs based drainage features will be required as part of the Proposed Scheme.
- **Utility Works:** Utilities and services located immediately on the scheme will need to be realigned, upgraded or replaced to accommodate the Proposed Scheme. Prior to any excavation works commencing, the area will be traced for live services using established scanning techniques. Where necessary, trenches excavated for utility diversions will be supported to ensure that the sides of the excavation are secure. Each of the different

utilities will be re-laid at a location, depth and spacing in agreement with the appropriate standards, and agreed with relevant utility provider and the trench then backfilled.

- **Pavement and Carriageway Works:** There will be number of different pavement construction / reconstruction scenarios required as part of the construction works, these will include the following:
    - Where the existing road surfacing shows signs of deterioration, the existing pavement will be replaced (i.e. road pavement and surfacing will be removed and replaced to similar levels as existing).
    - Where the quality of the existing road pavement is poor or where the existing road will be widened, full depth road foundation and pavement reconstruction will be carried out.
    - In some instances, road overlay (i.e. the addition of new pavement / road surfacing material), with no excavation, will be provided e.g. on proposed cycle street sections.
    - Existing asphalt / bituminous layers will be removed using road planers. Where possible planings will be recycled, as is common practice. Following this, existing lower courses of road make-up or ground will be excavated in layers using mechanical excavators in order to segregate materials for reuse, recycling or disposal, as appropriate, with materials being transported using lorries. The new or rehabilitated pavement will then be constructed from formation level, in coordination with the installation of street furniture assets. Plant used in construction of the new road make-up will be excavators, rollers, dumpers, and lorries. Road markings and reflective road studs will also be installed.
    - The choice of materials will include unbound or hydraulically bound granular materials for the foundation, hydraulically bound materials, hot or cold bituminous mixtures for base and binder layers and natural stone or concrete paving units, bituminous mixtures or concrete materials for the surface. Specialist products such as high friction surfacing treatments will also be applied to the surface of the pavement where appropriate.
- **Line marking and Signage:** Details of line marking and signage will be provided in accordance with Traffic Signs Manual.

- **Traffic Signal Junctions:** It is proposed to provide a number of signalised toucan crossings along the Proposed Scheme to incorporate enhanced pedestrians and segregated cycling facilities. Additional traffic monitoring equipment including CCTV cameras and other detectors will also be provided.
- **Public Lighting:** Existing public lighting will mostly service the proposed route. These lighting columns will be maintained, but will need to be relocated to the back of the newly realigned footpaths at the same locations. It is anticipated that limited supplementary lighting will be required primarily at two locations to ensure the safety of all road users, including: 1) Along the proposed Quietway route between Abbey Court and Bandon Road may require limited additional lighting to ensure the health and safety, personal security, and accessibility of the route, and 2) Bandon Road, between north of the current Kinsale GAA Club and to the northern extent of the Scheme. In order to further reduce the ecological disturbance of light spillage, the light sources used for external lighting (including subsequent replacements) will be designed with cognisance of the Institute of Lighting Professionals (2023). Downward facing lighting will be used and will be specified as follows: LEDs will be used, as these emit minimal ultra-violet light; white and blue wavelengths will be avoided; wavelength will be <2,700 Kelvin; lights will peak higher than 550nm; and only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, have been specified. Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt. Any lighting will be provided in line with best practice standards to be energy efficient and to the appropriate Lux levels.
- **Ancillary Road Furnishings:** Street furniture including bins, signage, public benches, bollards, and cycle parking will be installed as per Detailed Design specifications.
- **Landscaping:** Some trees and natural vegetation will be potentially relocated or removed to accommodate the proposed route. Where vegetation and grassed areas are disturbed adjacent to the existing carriageway during construction works, these will be reinstated. New areas of landscaping and planting will be implemented along the scheme including new trees. Please refer to both the Part 8 Planning Report as well as the Ecological Impact Assessment (EcIA) for preliminary planting specifications, noting that this will be further established during a more detailed landscaping plan during the Detailed Design stage.

6 Construction Traffic and Transport

6.1 General Site Access / Egress

As part of the Construction Stage Safety Plan for the works a Construction Traffic Management Plan (CTMP) will be prepared in accordance with the principles outlined below and held on site, the details of which will be agreed in full with Cork County Council prior to the commencement of construction activities on site.

The principal objective of the CTMP is to ensure that the impacts of all activities generated during the construction of the proposed development upon both the public (off-site) and internal (on-site) workers environments, are fully considered and proactively managed / programmed respecting key stakeholders thereby ensuring that both the public's and construction workers safety is maintained at all time, disruptions minimised and undertaken within a controlled hazard free / minimised environment.

It shall comply at all times with the requirements of:

- Chapter 8 of the Department of the Environment *Traffic Signs Manual*, current edition, published by The Stationery Office, and available from the Government Publications Office, Sun Alliance House, Molesworth Street, Dublin 2.
- *Guidance for the Control and Management of Traffic at Road Works (June 2010)* prepared by the Local Government Management Services Board.
- Any additional requirements detailed in the *Design Manual for Urban Roads & Streets*.

The TMP shall take account of local usage patterns of existing residential and commercial developments in the area. Construction Traffic will consist of the following categories:

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

An appropriate control and routing strategy for HGVs shall be implemented for the duration of site works as part of the CTMP. It is not proposed to utilise any roads with weight/height restrictions as part of the routing of HGVs during the construction phase. HGVs will be routed to use the Regional road network and avoid local streets, as far as reasonably practicable.

6.2 Staff Parking

On-site employees will generally arrive before 08:00, thus avoiding the morning peak hour traffic. Construction employees will generally depart after 17:00.

Where practicable, Contractor's staff will commute by shared vehicle, public transport or other modes.

Kinsale is directly accessible by public transport from Cork City via two distinct hourly services provided by both Bus Éireann and Kinsale Connect, resulting in bus availability on average every half hour. The eastern extent of the development area *(Roseabbey Park)* is easily accessible via a 9-minute walk from the bus-stop at Kinsale Town Car Park on the Long Quay.

The Local Link 254 also directly serves the local area, stopping at the Kinsale College of FET on Bandon Road, and the Havey Bay Care Centre on Abbey View Road from Monday to Sunday, and serves surrounding towns including Bandon, Innishannon, Dunderrow, Ballinspittle, and Kilbrittain.

The Contractor may provide off-site car parking at a suitable location where travelling by public transport is not practicable for workers. Construction vehicles will not be permitted to park on the public roads unless designated or permitted to do so.

6.3 Other Parking and Set-Down Facilities

In addition to dedicated staff and visitor car parking, facilities will be provided by the Contractor on-site as follows:

- Adequate materials drop-off and storage area.
- Set down areas for trucks.

6.4 Construction Activities

During excavations there will be additional HGV movements to and from the site. All suitable material will be used for construction and fill activities where possible and appropriate. All spoil material will be removed to a registered landfill site.

In addition to the traffic generated by the movement of subsoil to and from the site, there will also be traffic generated from deliveries of construction materials and equipment. It should be pointed out that construction traffic generated during the development works tends to be during off-peak hours. Such trips would generally be spread out over the full working day and are unlikely to be higher than the peak hour predicted for the operational stage.

Construction traffic will consist of the following categories:

- Private vehicles owned and driven by site construction and supervisory staff.
- Excavation plant and dumper trucks removing excavations / waste material from site.
- Materials delivery vehicles involved in development works.

Deliveries would arrive at a steady rate during the course of the day. It is estimated that peak delivery rates would be in the region of 4-5 deliveries per hour throughout the day.

In the absence of a final construction programme it is difficult to assess the exact impact during the construction period. Nevertheless, the following estimates have been made in respect of the construction period impacts:

- Appropriate on-site parking and compounding will be provided to prevent overflow onto the local network. Parking in nearby residential estates shall be strictly prohibited.
- It is likely that some numbers of the construction team will be brought to/from the site in vans/minibuses, which will serve to reduce the trip generation potential.
- During the period of excavation and disposal off site, it is likely that up to 2-3 no. truck trips per hour (on average) will be generated by vehicles removing unsuitable spoil from the site to allow for the construction of the development and for the removal of demolition waste.
- The site offices and compound will be located within the site boundary.

6.5 Minimisation of Movement and Impact

Construction vehicle movements and their impact will be minimised through:

- During the pre-construction phase, work areas will be securely fenced off from adjacent properties, public footpaths and roads.
- The surrounding road network will be signed to define the access and egress routes for the development.
- All road works will be adequately signposted and enclosed to ensure the safety of all road users and construction personnel.
- Consolidation of delivery loads to / from the site and management of large deliveries on site will occur outside of peak periods.
- Use of precast / prefabricated materials where possible.

- "Cut" materials generated by the construction works to be re-used onsite where possible, through various works.
- Adequate storage space on site to be provided.
- The design of the works has involved an element of minimising the quantity of material to be removed from site by way of cut and fill balance.
- A programme of street cleaning on the Bandon Road, Abbey View Road, Cappagh and Roseabbey Park will be implemented and adhered to.
- Scheduling of movements to outside peak traffic times and school pick-up / drop-off times.

6.6 Public Roads

The following measures will be taken to ensure that the site and surroundings are kept clean:

- A regular programme of site tidying to be established to ensure a safe and orderly site.
- Mud spillages on roads and footpaths outside the site to be cleaned regularly and will not be allowed to accumulate.
- Wheel-wash facilities or similar will be provided for vehicles exiting the site if deemed appropriate or when significant vehicle movements are planned (e.g. disposal of topsoil from site).
- A dedicated road sweeper will be put in place if site conditions require.

7 Sediment and Water Pollution Control Plan

All works carried out as part of these infrastructure works will comply with all Statutory Legislation including the *Local Government (Water Pollution) Acts 1977 and 1990*, and the contractor will co-operate fully with the Environmental Department of Cork County Council.

As part of the overall construction methodology, sediment and water pollution have been identified as being of particular risk and/or concern. Standard construction and operational controls will be incorporated into the proposed development project to minimise the potential negative impacts on the ecology within the Zone of Influence of the Study Area, including the Bandon Estuary, Knocknabohilly Stream and Cammogue Marsh.

The following mitigation measures shall be implemented during construction:

- A Project Ecologist will be appointed and be consulted in relation to all on-site drainage during construction works. Annex I habitats listed under the EU Habitats Directive are located immediately adjacent to the southern extent of the proposed development, namely Atlantic Salt Meadows [1330], Coastal Lagoons [1150], and Estuaries [1130]. Species belonging to the Flora (Protection) Order 2022 have historically been recorded within Cammouge Marsh, namely Borrer's Saltmarsh-grass (Puccinellia fasciculata). The Project Ecologist will carry out on-site inspections to ensure all measures to mitigate negative impact on Knocknabohilly Stream, Cammogue Marsh, and the Lower Bandon Estuary are implemented.
- Staging of project will be carried out to reduce risks to watercourses from contamination.
- Local watercourses will be protected from dust, silt and surface water throughout the works.
- Local silt traps will be established throughout the site, including a double silt fence between the site and the drainage network.
- Mitigation measures on-site include dust control (see Chapter 8 – Dust & Dirt Generation).
- Stockpiles and run-off areas following clearance will have suitable barriers in place to prevent run-off of fines into the drainage system and surrounding watercourses.
- Fuel, oil and chemical storage will be sited within a bunded area protected from flood damage and inundation. The bund will be situated at least 50m away from drains, ditches or the watercourse, excavations, and other locations where it may cause pollution.

- Bunds will be kept clean and spills within the bund area will be cleaned immediately to prevent groundwater contamination. In addition, a designated bunded refuelling area on an impermeable surface will be provided at the construction compounds.
- Any water-filled excavations that require pumping, including any attenuation tanks during construction, will not directly discharge into waterways. Prior to discharge of water from excavations, adequate filtration will be provided to ensure no deterioration of water quality.
- Appropriate monitoring of groundwater levels during site works will be undertaken.
- Maintenance of any drainage structures (e.g. de-silting operations) must not result in the release of contaminated water into the surface water network.
- There will be no pumping from or to adjacent watercourses.
- No entry of solids into the associated drainage network during the connection of pipework to the public water system will occur.
- Sufficient on-site cleaning of vehicles will be undertaken prior to leaving the site at the Construction Compound, particularly during groundworks, and wheel-wash facilities implemented and utilised. The appropriate mitigation measures to intercept contaminated runoff will be identified and implemented by the Contractor.
- All machinery will be regularly inspected and maintained, and all vehicles will carry mobile spill kits. Staff will be instructed in the proper use and disposal of spill kits.
- Soil will be stored away from any open surface water drains.
- Waste fuels and materials will be stored in designated areas and skips will be covered.
- Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite.
- Rainwater and surface water runoff from hardstanding areas will be discharged to proposed Sustainable Urban Drainage Solutions (SuDS) with silt traps and a Class1 petrol interceptor where required.
- Through all stages of the construction phase the contractor will ensure that good housekeeping is maintained at all times and that all site personnel are made aware of the importance of the nearby aquatic environments and the requirement to avoid pollution of all types.

- Generators, diesel pumps and similar equipment will be placed in drip trays to collect minor spillages. These will be checked regularly, and accumulated oil removed.
- Leaking oil drums will be removed from site immediately and disposed of via a licensed waste disposal contractor.
- Any tanks or drums will be stored in a secure container or compound which is to be kept locked when not in use. The contents of the tanks will be clearly marked on the tank, and a notice displayed requiring that valve and hoses to be locked when not in us.
- The Site Manager will be responsible for the Pollution Prevention Programme, and will ensure that at minimum daily checks are carried out to ensure compliance. A record of these checks will be maintained and made available for inspection by Cork County Council staff.
- The Contractor will be required to consult with the Project Ecologist prior to the beginning of works to identify any additional measures that may be appropriate and / or required.

8 Dust & Dirt Generation

8.1 Overview

It is probable that the construction activities on site will generate some dust emissions which would be in addition to any dust generated by the activities in the vicinity of the proposed development, including traffic flows. The extent of dust generation under construction activities being carried out is dependent on environmental factors such as rainfall, wind speed, and wind direction.

The objective is to ensure that dust does not impact significantly at nearby receptors, most significantly the Bandon Estuary and adjoining Cammogue Marsh and Bird Sanctuary.

The main activities that may give rise to dust emissions during construction include the following:

- Excavation of material.
- Handling and storage of materials.
- Movement of vehicles (particularly HGVs) and mobile plant.
- Contaminated surface run-off.

Considering the above, a Dust Management Plan (DMP) will be formulated for the site upon receipt of planning permission which will address the following:

- Establish specific site policy on dust.
- Identify site management of dust.
- Develop documented systems for managing site practices and implementing management controls.
- Outline how the DMP can be assessed.

Baseline dust readings will be taken before work commences. Thereafter, dust samples will be collected on at minimum a monthly basis. Sampling data, results and limits *(as outlined in the Environmental Protection Agency Guidelines, Environmental Management in Extractive Industry Non-Scheduled Minerals)* are to be outlined and supplied to Cork County Council in a tabular format.

8.2 Dust Control Measures

The following dust control measures will be implemented and adhered to for the duration of the Construction Phase:

- Consultation will be carried with the Project Ecologist throughout the Construction Phase and appropriate measures agreed upon.
- Trucks leaving the site with excavated material will be covered so as to avoid dust emissions along haulage routes.
- A speed limit of at least 15km/hr will be applied for vehicles on-site.
- The Bandon Estuary, the Cammogue Marsh, Knocknabohilly Stream, and any additional adjacent waterways are to be appropriately protected from dust produced on-site.
- Water bowsers will be provided during periods of high winds and dry weather to ensure that moisture content is high in order to increase the stability of the soil in the vicinity of the proposed works.
- Water bowsers will be provided during periods of dry weather to ensure that unpaved areas are kept moist. Exposed site haul roads will be sprayed during dry and/or windy weather where there is a risk of dust arising in the vicinity of the proposed works.
- Paved roads will be kept clean and free of mud and other materials. Hard surface roads will be swept, both inside and outside the site, to ensure that they are kept clear of debris, soil and other material.
- Unsurfaced roads will be restricted to essential site traffic.
- During the proposed infrastructure works the following mitigation measures shall be implemented to minimise dust emissions:
    - Construction techniques shall minimise dust release into the air.
    - Overburden material will be protected from exposure to wind by storing the material in sheltered regions of the site.
    - Stockpiles will be regularly watered during dry and windy periods where there is a risk of dust arising in the vicinity of the proposed works.
    - All stockpiles will be located away from sensitive receptors (i.e. receptors sensitive to dust release – Bandon Estuary, Cammogue Marsh, Knocknabohilly Stream, etc.)

    - Tarpaulins will be provided over all unacceptable excavated materials being carted off-site.

- The wheels of all vehicles leaving the construction site will be washed thoroughly to ensure that dirt and dust is not transferred onto public roadways.
- During dry spells and if deemed necessary by the project ecologies or Cork County Council staff, monitoring of dust levels shall be carried out using the Bergerhoff Method (i.e. analysis of dust-collecting jars left on-site) as per German Standard VDI 2119, 1972. Results will then be compared to the TA Luft 1972 guidelines. Should an exceedance of the TA Luft limit occurs, additional mitigation measures shall be implemented, for example more regular spraying of water.
- The excavating machines will be cleaned on a daily basis to ensure that no excess grease and dust is left on said machines. This will be carried out low to ground-level to prevent any airborne mud from coming into contact with the public.

8.3 Site Management

The siting of construction activities and storage piles will consider the location of sensitive receptors and prevailing wind conditions to minimise the potential dust nuisance. Site Management will include the ability to respond to adverse weather conditions by either restricting operations on-site, or using effective control measures in a timely manner before potential for nuisance occurs. In addition:

- Regular inspections of the site and boundary should be carried out to monitor dust. Records and notes on these inspections should be logged.
- All dust and air-quality complaints shall be recorded, with causes identified and appropriate measures taken to reduce emissions in a timely manner. Measures taken will also be recorded.
- The complaints log shall be made available to Cork County Council if and when requested.
- Any exceptional incidents that cause dust and/or air emissions, either on- or off-site, will be recorded in the log book, as well as the action taken to resolve the situation.

8.4 Monitoring

Daily on-site and off-site inspection should be undertaken, where receptors are nearby, to monitor dust, record inspection results, and make the log available to Cork County Council when asked.

This should include regular dust soiling checks of surfaces within 100m of the site boundary and integrity checks of silt control measures, with cleaning and / or repair to be provided if necessary.

8.5 Preparing and Maintaining the Site

The following site preparation and maintenance measures will be implemented and adhered to for the duration of the Construction Phase:

- The site layout shall be planned so that machinery and dust-causing activities are located as far away as possible from receptors.
- Specific operations where there is a high potential for dust production and the site is active for an extensive period will be fully enclosed.
- Site run-off of water, mud or other materials will be avoided.
- Site fencing, barriers and scaffolding will be kept clean using wet methods.
- Materials that have a potential to produce dust will be removed from site as soon as possible, unless being re-used on site. If they are being re-used on-site, they shall be covered appropriately, as described below.
- Stockpiles shall be covered, seeded or fenced to prevent wind-whipping.
- Hard surface roads shall be swept to remove mud and aggregate materials from their surface, while any un-surfaced roads will be restricted to essential site traffic.

8.6 Operations

The following operations measures will be implemented and adhered to for the duration of the Construction Phase:

- Only cutting, grinding or sawing equipment fitted – or used in conjunction with – suitable dust suppression techniques such as water sprays or local extraction will be used *(e.g. suitable local exhaust ventilation systems).*
- An adequate water supply will be maintained on-site for effective dust / particulate matter suppression / mitigation, using non-potable water where possible and appropriate.
- Enclosed chutes and conveyors and covered skips will be used.
- Drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment will be minimised, and fine water sprays used on such equipment wherever appropriate.

- Spill response kits will be made available and ready to use whenever necessary.

8.7 Measures Specific to Earthworks

The following measures specific to earthworks will be implemented and adhered to for the duration of the Construction Phase:

- Earthworks and exposed areas / soil stockpiles will be re-vegetated as soon as practicable to stabilise surfaces.
- Where it is not possible to re-vegetate or cover with topsoil, hessian, mulches and / or tackifiers will be utilised as soon as practicable. This should be used with cognisance to watercourse proximity.
- Only small areas of cover will be removed during work, and not all at once.
- During dry and windy periods, and when there is a likelihood of dust nuisance, a bowser will operate to ensure moisture content is high enough to increase the stability of the soil and thus suppress dust.
- The Contractor will be required to consult with the Project Ecologist prior to the beginning of works to identify any additional measures that may be appropriate and / or required.

9 Noise & Vibration

The construction of the Scheme will involve the use of noise-generating construction plant. There will also be an increase in noise relating to delivery of materials to site. It is intended that noise from the construction phase of the development will be kept to a minimum in accordance with:

- BS 5228: Code of Practice for Noise and Vibration Control on Construction and Open Sites (Parts 1 and 2).
- Guidelines for the Treatment of Noise and Vibration in National Road Schemes (NRA, 2014).
- Safety, Health and Welfare at Work (General Application) Regulations 2007, Part 5 - Noise and Vibration.

The proposed development shall comply with the above documents during all phases of construction. Unless absolutely necessary, construction work will be performed within the hours indicated in the relevant planning permission, and any works outside this time frame shall be agreed with Cork County Council in advance.

The noise limits to be applied for the duration of the infrastructure works are those specified in the B Category of *BS 5228*. *BS5228-1:2009+A1:2014* gives several examples of acceptable limits for construction or demolition noise, with the most simplistic based upon the exceedance of fixed noise limits.

The following noise limits, measured outside the nearest window of the occupied room closest to the site boundary, will be applied:

- **Daytime (08:00 – 19:00hrs):** 70dB(A) for nearby residential properties.
- **Evening (19:00 – 23:00hrs):** 60dB(A) for nearby residential properties.

It is proposed that communications be maintained between the Developer, Cork County Council and local residences throughout the Construction Phase of the works, in order to ensure that noise emissions and vibrations are kept to a low level, and that any possible complaints can be addressed quickly and efficiently.

All works on-site shall comply with *BS 5228-2009*, which gives detailed guidance on the control of noise and vibration from construction activities. In general, the contractor shall implement the following mitigation measures during the proposed infrastructure works:

- Unnecessary revving of engines shall be avoided, and equipment shall be switched off when not required for use.
- Internal haul roads shall be kept well-maintained, with steep gradients avoided.
- Drop height of materials will be minimised.
- Plant shall be started up sequentially rather than all together.

More specifically, the Contractor shall ensure that:

- Regular and effective maintenance by trained personnel is carried out to reduce noise and / or vibration from plant and machinery.
- Construction plant with low potential for generating noise is selected.
- Noisy construction plant is sited as far from neighbouring properties and sensitive environments as possible.
- Temporary barriers around items such as generators or compressors are erected if required.
- Any and all ancillary plant is positioned so as to cause minimal noise disturbance.
- Where construction activities are required in close proximity to neighbouring noise sensitive properties and natural environments and habitats (e.g., Cammogue Marsh), a solid acoustic blanket mounted on full-height fences of approximately 2.5m in height is erected to provide a degree of acoustic screening.
- An acoustically-screened area is provided on-site specifically for noisy operations.
- A site representative responsible for matters relating to noise and vibration is appointed prior to construction commencing on-site.
- The phasing programme is arranged so as to control the amount of disturbance in noise- and vibration-sensitive areas at times that are considered to be of greatest sensitivity.
- Where excavation or other high noise-generating works are being carried out on-site at the same time as other works of construction that themselves may generate significant

noise and vibration, the working programme will be phased so as to prevent unacceptable disturbance at any time.

A Site Representative responsible for matters relating to noise and vibration will be appointed prior to construction commencing on site. The Noise Liaison Officer should be appointed and charged with the responsibility of keeping people informed of progress and by setting down appropriate procedures for dealing with complaints.

A noise and vibration monitoring specialist will be appointed to periodically carry out independent monitoring of noise and vibration during random intervals and at sensitive locations for comparison with limits and baseline background levels. It is proposed that noise and vibration levels be maintained *below* those limits outlined above as part of these infrastructure works.

All vehicles and mechanical plant used for the purpose of the Works shall be fitted with effective exhaust silencers and shall be maintained in good and efficient working order. In addition, all diesel engine powered plant shall be fitted with effective air intake silencers. All compressors shall be *"sound reduced"* models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use. All ancillary pneumatic percussive tools shall be fitted with mufflers or silencers of the type recommended by the manufacturers, and where commercially available, dampened tools and accessories shall be used.

All ancillary plant, such as generators and pumps, shall be positioned so as to cause minimum noise disturbance. If operating outside the normal working week, acoustic enclosures shall be provided. Local screening should also be provided for stationary plant such as generators and compressors.

Notwithstanding the above, the Contractor shall comply with industry best practice and direction from Cork County Council on all aspects of the project and any requirements set out in the Codes of Practice from Cork County Council on drainage, roads and transportation, and noise and air pollution.

10 Biodiversity Protection Measures

10.1 Introduction

As part of the planning application for the Kinsale Active Travel Scheme, an Ecological Impact Assessment (EcIA), an Environmental Impact Assessment (EIA) Screening, and an Appropriate Assessment (AA) Screening were undertaken to ascertain the potential impact of the Scheme based on the Preliminary Design and propose mitigation measures. These reports should be reviewed in tandem with this document when updating the final CEMP following Detailed Design to ensure all necessary measures are taken to mitigate the impact of the construction of the Scheme's infrastructure on the surrounding environment.

In the first instance, any habitat loss should be avoided as much as practicable and all efforts should be made to minimise disturbance during construction. The preliminary design of the Kinsale Active Travel Scheme strived to utilise existing grey infrastructure as much as possible in order to mitigate-by-design the loss of vegetation features, following CDP Policy BE15-3(a), to "ensure that biodiversity issues are considered at the earliest possible stages of plan-making", and National Investment Framework for Transport in Ireland's Intervention Hierarchy.

All necessary site clearance and landscaping works will comply with current legislative requirements and best practice. All retained trees that are within or close to the proposed development will be protected in accordance with the requirements of British Standard BS5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations', with protective fencing being installed around all trees to be retained, prior to commencement of development. Any planting plans and/or landscaping proposals will ensure that no invasive species are introduced, either deliberately or inadvertently, to the site.

A preliminary landscape plan is outlined in the Part VIII Planning Report and EcIA, however a more detailed plan will be developed during the Detailed Design stage to be delivered as part of the Scheme.

10.2 Habits and Flora

The EcIA identified all habitats and flora within and adjacent to the Scheme area, in order to ascertain the potential impacts associated with the delivery of the Scheme, and subsequently propose appropriate mitigation measures.

Annex I habitats listed under the EU Habitats Directive are located immediately adjacent to the southern extent of the proposed development, namely Atlantic salt meadows [1330], Coastal

lagoons [1150], and Estuaries [1130]. Species belonging to the Flora (Protection) Order 2022 have historically been recorded within Cammouge Marsh, namely Borrer's Saltmarsh-grass (Puccinellia fasciculata).

In the absence of mitigation, the proposed construction phase works have the potential to result in sediment runoff and leaks of hydrocarbons which possess the potential to negatively impact the above sensitive habitats and protected plant species, including Cammogue Marsh, Knocknabohilly Stream, and Bandon Estuary.

The EcIA identified the following mitigation measures to protect Local Surface Water, Habitats, and Flora:

- All machinery will be regularly inspected and maintained, and all vehicles will carry mobile spill kits. Staff will be instructed in the proper use and disposal of spill kits.
- Soil will be stored away from any open surface water drains.
- Waste fuels and materials will be stored in designated areas and skips will be covered. • Wash down and washout of concrete transporting vehicles will take place at an appropriate facility offsite.
- Rainwater and surface water runoff from hardstanding areas will be discharged to proposed Sustainable Urban Drainage Solutions (SuDS) with silt traps and a Class1 petrol interceptor where required.
- Through all stages of the construction phase the contractor will ensure that good housekeeping is maintained at all times and that all site personnel are made aware of the importance of the nearby aquatic environments and the requirement to avoid pollution of all types.
- Boundary habitats and trees which are to be retained will be fenced off prior to the commencement of works to protect these habitats from accidental ingress and damage to the root zone.
- Grassland strips within the proposed development boundary will be managed as wildflower meadows following guidance outlined by the All-Ireland Pollinator Plan (AIPP) guidance documents including in Pollinator Friendly Management of Transport Corridors (NBDC, 2019).
- Commercial wildflower seed mixes will not be used as they can contain non-native and potentially invasive species which displace native flora if sown in the wild. Furthermore,

they run the risk of introducing pests, diseases and new genetic strains which may displace or compromise the local, naturally occurring flora.

- Herbicide and fertiliser use will be eliminated entirely for the management of the site and will not be applied to the proposed wildflower meadow and adjacent areas.

10.3 Invasive Alien Species

Nine Alien Invasive Plant Species (AIPS) were identified by the EcIA within and adjacent to the Scheme area. The only 'High Impact' AIPS was Japanese Knotweed, with others being 'Medium Impact' Black Currant, Butterfly-bush, Himalayan Honeysuckle, Pampas-grass, Three-cornered Garlic, Traveller's-joy, and Virginia Creeper.

The 'High Impact' alien invasive plant species (AIPS) Japanese Knotweed (Reynoutria japonica) has been identified in two distinct locations, alongside Rhododendron ponticum within private residential gardens. The proposed development involves works in close proximity to these stands, of which one is located directly adjacent to a watercourse. There exists potential for the spread of this species in the absence of suitable mitigation measures. No fill material will be required for importation during construction phases which minimises the risk of importation of an alien invasive plant species.

These have been brought to the attention of the relevant Cork County Council departments and Control measures for the AIPS, particularly the Japanese Knotweed, are now in place for routine treatment as of Q1 2024 by the local area office management programme which includes yearly herbicide treatment. Particular care should be taken when using herbicide treatment adjacent to watercourses. During construction, a minimum of 5m setback distance should be provided from the identified Japanese Knotweed stands to avoid the root zone.

10.4 Birds

Cammogue Marsh is recognised as a wildlife and bird sanctuary, though it holds no official designations at present. Over 60 different species of native bird protected under the EU Birds Directive have been identified in Cammogue Marsh since the 1980s, with many of these recorded in recent years.

As stated by the EcIA, noise and visual effects arising from construction phase works have the potential to negatively impact foraging and roosting bird species associated with Cammouge Marsh and the Lower Bandon Estuary. Some species such as Lapwing are particularly sensitive to visual disturbance, often alighting in large numbers when their sightlines are disturbed by

movement. Construction activity such as ground preparation and site clearance works is likely to cause localised disturbance to the birds present in or close to the development footprint. Should works be carried out in spring or summer there is potential to directly and indirectly impact upon nesting birds occurring at the site through removal of vegetation or noise and light disturbance respectively. The Contractor will be responsible for ensuring that the Construction Programme does not impact on nesting birds during the spring and summer.

The EcIA has identified the following mitigation measures for Birds:

- Hedgerow and tree clearance should preferentially take place outside the breeding bird season. Section 40 of the Wildlife Act 1976 (as amended) makes provision for the clearance of vegetation (e.g. hedgerows) within the bird breeding season (defined as 1st March to 31st August inclusive) where the works are required to facilitate permitted construction activity.
- It is an offence under Section 22 of the Wildlife Act 1976 (as amended) to wilfully destroy, injure, or mutilate the eggs or nest of a wild bird or to wilfully disturb a wild bird on or near a nest containing eggs or un-flown young birds at any time of the year. Where felling or habitat clearance works are required during the bird breeding season, these features will be inspected in advance by a suitably experienced Ecologist to identify if active bird nests are present. If a nest is discovered, an exclusion zone will be installed at a distance appropriate to the species concerned.
- Screening should be established prior to the commencement of works and remain during the entirety of the construction phase along the southern extent of the site to block any direct sightlines or artificial lighting with foraging, roosting or wading birds.
- Measures relating to Noise & Vibration set out in Section 9.
- Basic housekeeping measures should be implemented including the proper use and daily emptying of bins to avoid attracting avian scavengers to the site.

10.5 Mammals

The Ecological Impact Assessment Screening identified evidence of non-volant mammal usage in proximity to the proposed scheme, largely confined to area of scrub and grassland. Three underground dwellings of various species were identified adjacent to the proposed development. Only a single underground dwelling was recently occupied by Fox, with the remaining two burrows being only attempted excavations or belonging to either Rat or Rabbit.

10.6 Bats

No roosting bats were encountered during a survey for the EcIA in Q1 2024, and no unoccupied roosts which contained signs of bats were encountered. No 'PRF-M' suitability tree roosts with features suitable for multiple bats and there is no potential for a maternity roost of any bat species to occur within any of the trees surveyed.

Notwithstanding this, the EcIA has identified the following mitigation measures during construction to minimise / negate any potential impact on bats:

- During construction, works will generally take place during daylight hours only, and the site will not be lit during the hours of darkness. If some lighting is required for health, safety or security reasons, lighting shall be directed away from sensitive ecological features. These measures are considered sufficient to prevent any adverse impacts on roosting, commuting and foraging bats.
- Installation of artificial bat boxes, locations subject to prior agreement with Cork County Council.

11 Drainage Works

Gullies located along the Abbey View Road, Bandon Road and Cappagh, will be required to be relocated as part of this scheme in order to provide wider footpaths and dedicated cycle facilities, however, no amendments to the capacity of the existing surface water network will be required.

The design of the scheme has incorporated permeable grasscrete at two locations where there is currently on-street car parking along the southern extents of the scheme by the Cammogue Marsh, in addition to other areas which have been identified for future consideration for further SuDS measures to be integrated into the Scheme. It is anticipated that these will be developed during the Detailed Design stage.

Drainage infrastructure will be constructed and protected through the following measures:

- Hoarding or fencing to be provided to cordon-off completed infrastructure works:

  As is standard practice on construction sites, elements of works may be completed on a phased basis. As works are completed and handed over within each phase, this area will be enclosed with hoarding or fencing offset a safe distance from the line of the existing infrastructure and no further excavation works will be allowed within this area unless agreed with site management.

- Contractor to produce as-built construction records of drainage infrastructure:

  These records will be submitted to the employer's representative for approval in advance of handover. The as-built records will be reviewed and will need to be approved by the Engineer before practical completion can be certified. The as-built records *(drawings, manhole cards, material approvals, correspondence, etc.)* will be used by site personnel as a working record of where drainage infrastructure is located and its status. The locations of these will be recorded on the as-built records and will be marked out on the ground in advance of any works commencing in later stages. This methodology will be formally incorporated into a method statement to be completed by the groundworks sub-contractor before excavations commence.

- Site personnel to be informed of works already completed:

  As part of the accompanying Safe System of Work Plan (SSWP), site personnel will be made aware of the drainage lines which are in operation. A site-specific method statement will be required in all cases where it is deemed that there is a risk of damaging such services.

Those involved in direct management and supervision of site-based excavations require relevant competencies to deliver safety standards on site. They will have health and safety training in order to design safe systems of work that are appropriate to specific site conditions. They will need to prepare clear and simple safety method statements that can be used and understood by all site workers. Ongoing checks will be carried out to ensure that appropriate equipment has been provided and is being used correctly.

- Monitoring of excavation and prevention of undermining of infrastructure:

  Special care will be taken when digging above or close to the lines of services. The locations of these will be marked out on the ground in advance of any excavation being undertaken. In addition, careful consideration will be taken to ensure that any buildings and infrastructure serving areas outside the development site are not undermined by excavation works. The general principles outlined in the Health and Safety Authority document 'Code of Practice for Avoiding Danger from Underground Services' will be followed to ensure the safety of workers and to minimise the risk of damage to any existing pipelines or buildings.

- Water quality control of discharges to drainage network:

  As detailed within the previous section, groundwater needs to be protected from sedimentation and erosion due to direct surface water runoff generated onsite during the construction phase. This includes preventing any sediment-laden water from entering the surface water outfalls. To prevent this from occurring, surface water discharge from the site will be managed and controlled for the duration of the construction works until the permanently attenuated surface water drainage system of the proposed development area is complete. Any manholes will need to be securely covered and gullies fitted with a geotextile filter to allow protection of the surface water within the pipe.

- Protection of services from breakage or crushing:

  Where drainage infrastructure serving areas outside of the development are located within the development site, the drainage infrastructure will have to be protected from breaking or crushing. Consideration will be given to areas where heavy plant is going to be tracked across the existing drainage infrastructure. This may require construction of temporary protective concrete slabs to bridge across the existing lines where haul roads are required.

12 Conclusion

This preliminary Construction Environmental Management Plan (pCEMP) addresses construction activities on-site that may result in noise, air quality, water quality, biodiversity or waste management issues, should the Plan not be put in place and implemented.

These include procedures for monitoring and tracking construction activities and ensuring construction personnel are trained and educated as necessary. This Preliminary CEMP should be reviewed and updated as more detailed information comes available and to accommodate any changes.

This pCEMP has been carried out prior to the Detailed Design, Tender and Construction stages and as such will be reviewed again prior to works commencing on-site and incorporated into the Contractor's Site Safety Plan and Construction Traffic Management Plan (CTMP). The contents of the Site Safety Plan and the CTMP should also continue be reviewed and updated as the construction phase progresses to accommodate any changes in activities on site.

ENVIRONMENT
ISO 14001:2015
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QUALITY
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