Tay Lane Apartment Development

at Tay Lane, Rathcoole, Dublin 24

for Riverside Projects Limited

Outline Construction and Environmental Management Plan

September 2024

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1. Introduction

This Construction and Environmental Management Plan (CEMP) has been prepared for a proposed Age-Friendly Apartment Block development at Tay Lane, Rathcoole, Dublin. The CEMP provides a framework from which a construction stage CEMP will be developed to implement the mitigation measures described below which are designed to avoid, minimise or mitigate adverse construction effects on the environment during construction of the development.

The Contractor shall comply with any conditions arising from the site constraints identified and specified, all Statutory Regulations governing the works, and any additional measures or modifications that may be imposed on the proposed development by the local authority.

1.1 Project Background

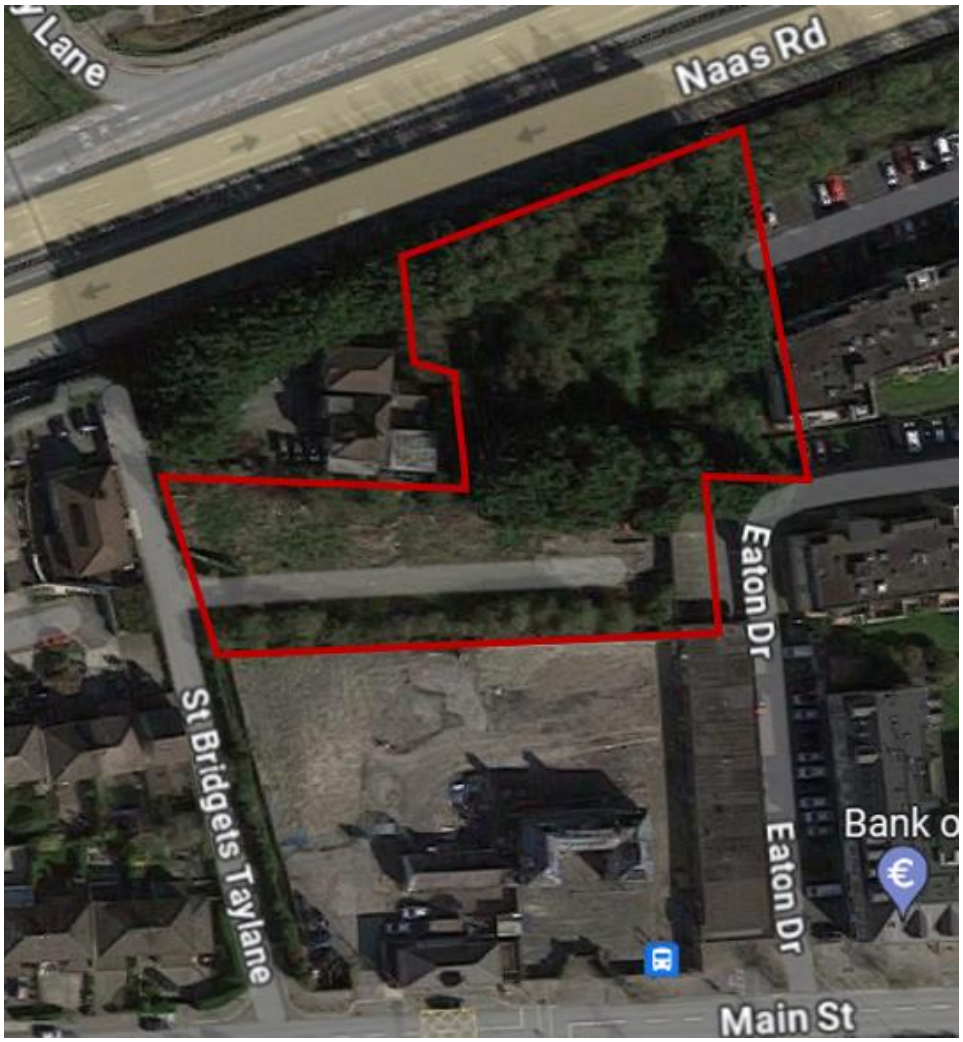
This development has been granted planning permission for a single four-storey apartment block containing 54 no. self-contained, age friendly units. In addition to the residential units, the development will include communal facilities such as shared social spaces, landscaped gardens, and recreational areas. The design has also considered the provision of parking spaces, ensuring the availability of accessible parking for residents, visitors, and service vehicles.

The development will be situated on a site measuring approx. 0.473 ha located east of Tay Lane, Rathcoole, Dublin 24. The site is located within Rathcoole town centre approx. 20km southwest of Dublin City centre and 10km West of Tallaght town centre. This site is positioned with convenient access to local services, public transport links, and community facilities, making it an ideal location for the proposed age-friendly housing within Rathcoole village.

The site sits between the well-established residential developments of Eaton Drive to the east and Hillview to the west. Surrounding residential building heights vary from 1.5 up to 4-storeys. The site is bound to the north by National Road N7 and to the west by Tay Lane. To the east the Site is bound by Eaton Drive and Eaton Green, a 4-storey apartment complex. To the south the site is adjoined by a property comprising of Glebe House (a protected Structure), and an existing warehousing/industrial premises.

The site formerly housed a single-family dwelling, in the northeast corner of the site, but is now in a disused condition and has fallen into a state of disrepair in recent years. The private single access path off Tay Lane remains largely intact however the rest of the site has become overgrown with trees/shrubs and the existing boundary walls are in need of structural repair.

The project seeks to create a vibrant and supportive community that fosters social interaction, active lifestyles, and a sense of belonging among older adults. It is aligned with local and national policies aimed at promoting sustainable housing solutions that meet the growing demand for age-appropriate accommodation in South Dublin. The development is sought to be delivered in conjunction with AHB Clúid Housing which has considerable experience in the management of age-friendly housing schemes.



1.2 **Description of Works**

Construction of a four-storey apartment block (4,224 sq. m) consisting of 54 age friendly residential units comprising 18 one bedroom units and 36 two bedroom units with associated private balconies, associated lift and stair cores, entrance lobby, and circulation space; Provision of a community facility (99.3 sq. m) and ancillary accommodation including refuse store (26.9 sq. m), cycle store (36 sq. m), plant room (46.2 sq. m), sub-station (14 sq. m), switch room (16 sq. m), landscaped public open space (907.4 sq. m) and communal open space

(1225.6 sq. m), and 30no. car parking spaces and 80 no. cycle parking spaces to serve the development; Vehicular access to the development will be provided via an upgraded entrance from Tay Lane with a minor pedestrian access provided from Eaton Drive to facilitate direct linkages to the town centre; The development also includes the provision of internal access roads and pedestrian / cycle pathways and linkages, boundary treatment, public lighting, hard and soft landscaping, services, rooftop PV panels and associated signage.

1.2.1 Topography

The site topography slopes gently up from Tay Lane and is bounded by adjacent sites north and south opening up to a larger area which remains relatively level towards the northern N7 dual carriageway boundary**.**

1.2.2 Boundary Treatments

The existing boundary walls are in need of structural repair. It is proposed that the existing boundary walls will be retained and repaired with additional pedestrian and access routes added.

1.2.3 Access

The proposal provides separate vehicular and pedestrian access. The pedestrian route follows along the southern boundary and leads directly to the main building entrance. It is proposed to connect the proposed access route with Tay Lane to the West and Eaton Drive to the East in the interest of improving permeability. The entrance point to the building has been located

approx. halfway along its length which would correspond with the point of access to Eaton Drive.

1.2.4 Development Roads

Roads within the development will be constructed to provide access car parking, bin stores and mechanical and electrical plant storage buildings. Roads will consist of an asphalt pavement on granular capping and subbase layers. Most of the car parking areas will consist of porous asphalt paving. Concrete footpaths will be provided. Services such as foul and surface water drainage, water, electricity, public lighting and telecommunications will be run under or next to the roads.

1.2.5 Development Buildings

The development buildings breakdown is given in Section 1.1 above. The exact substructure and superstructure for the buildings will be the subject of greater detailed design and the establishment of geotechnical conditions present under the footprint of the buildings. From initial investigations it is envisaged that traditional shallow foundations will be used. The superstructure of the building is likely to be of masonry walls and precast slabs.

1.2.6 Works to be Carried Out

The client will appoint an experienced Main Contractor for the construction phase of this proposed development. The appointed Main Contractor for the works will be required to comply with this Preliminary Construction & Operations Waste Management Plan and any revisions made to this document in the preparation of method statements for the various elements of the construction phase of the proposed development. An overview of the proposed Construction Methodologies is provided below in this non-exhaustive list of primary construction activities:

- Site set up & construction compound.
- Site clearance and associated specialist works including archaeological monitoring as required.
- Protection of existing live services.
- Excavation operations.
- Construction of foundations for new structures.
- Construction of new building superstructures.

- Construction of new roof structures and coverings and plant areas.
- Fitting windows, doors and screens to new buildings.
- Mechanical and electrical fit out.
- Internal buildings fit out and finishes, painting, decorating, etc.
- Construction of on-site drainage and utility pipe networks including connections to existing services.
- Markings to new car parking areas.
- Finishes.
- Landscaping, boundaries and finished pavement surfaces.

1.2.7 Landscape Areas

Green spaces and landscaped areas are provided within the development, refer to the Landscape planning information for further details.

2. Project Management

2.1 Project Team and Responsibilities

2.1.1 Construction Manager

The Construction Manager will have overall responsibility for the site during the construction phase.

This will include implementation of the CEMP. The Construction Manager shall:

- Manage all construction staff and subcontractors to ensure the requirements of the CEMP, planning permission and all legislative requirements are complied with.
- Cooperate with the Environmental Manager to ensure that the do not pose an environmental risk.
- Ensure all monitoring plans are maintained throughout the construction phase.
- Be responsible for implementing all response plans and notifying relevant bodies of any incidents.
- Report to the project team any environmental incidents or non-compliance issues.

2.1.2 Environmental Manager

The Environmental Manager will be responsible for all environmental monitoring during the construction phase. The duties of the Environmental Manager are summarised as follows:

- Carry out (or manage) all environmental monitoring and maintain auditable logs of all environmental requirements including completion of a weekly checklist.
- Liaise with statutory bodies in relation to environmental issues.
- Prepare regular environmental reports and maintain the CEMP.
- Carry out environmental site audits to ensure the works are carried out in accordance with the CEMP. Advise the Construction Manager of non-conformances and areas for improvement. This audit report will be forwarded to SDCC, if required.
- Review the Contractor's method statements with respect to environmental issues.
- Monitor compliance with the mitigation measures and any planning conditions relating to the environment.
- Assist the Construction Manager in the notification and investigation of all environmental incidents.
- Act as a point of contact to allow all site staff to take responsibility for and report environmental issues.
- Provide education and toolbox talks for all site staff and maintain an Environmental Notice Board.
- Carry out the role of Noise Liaison with the Public.

2.1.3 Client Representatives

The project managers (client representatives) will be continuously monitoring the works and will be fully briefed and aware of the environmental constraints and protection measures to be employed.

The works will be periodically monitored during the construction phase by a qualified ecologist. Following completion of the works, the ecologist will complete a final audit report to show how

the works complied with the environmental provisions described in this document.

2.2 Project Directory

Discipline	Company Name & Address	Company Contact Details
CLIENT TEAM		
Project Management	Carron + Walsh, 4th Floor, The Atrium, Maritana Gate, Canada St., Waterford X91 A250	Peter Tierney - +353 (0)85 8530 896 ptierney@carronandwalsh.com
Cost Management	Carron + Walsh, Mounttown House, 62-63 Mounttown Road Lower, Dun Laoghaire, Dublin, A96 P8X6	Alan O'Connor - +353 (0)85 8565 826 aoconnor@carronandwalsh.com
Architectural	Executive Studio 4D, 8 Herbert Place, Dublin 2 DY02 Y162	John Bradley - +44 (0)2871 262 184 jbradley@studio4design.eu
Civil and Structural Consultancy	CORA Consulting Engineers, Behan House, 10 Lower Mount Street, Dublin 2	John Piggott - +353 (0)86 8159 014 john.pigott@cora.ie
M&E Consultancy	McElligott Consulting Engineers, Unit D4, Riverview Business Park, New Nangor Road, Gallanstown, Dublin 12	Richard McElligott - +353 (0)1 4260 099 richard@mcelligott.ie
Fire Safety Consultant	Jensen Hughes, 16 Clanwilliam Terrace, Grand Canal Quay, Dublin 2, D02 DR98	Richard Parker - +353 (0)86 8425 190 richard.parker@jensenhughes.com

2.3 Communication Plan

Effective communication is critical to the successful management and delivery of the construction project in Tay Lane, Rathcoole, Co. Dublin. This communication plan outlines the strategies, channels, and tools that will be employed to ensure clear, consistent, and timely communication among all project stakeholders, including the project team, contractors, subcontractors, suppliers, local authorities, and the community.

The objectives of the communication plan are to:

- Ensure all stakeholders are informed of project progress, milestones, and key decisions.
- Facilitate timely decision-making and issue resolution.
- Maintain transparency and build trust among stakeholders.
- Comply with statutory and regulatory communication requirements.
- Address community concerns and minimise disruptions to the local area.

Key stakeholders for the Tay Lane project include:

- **Client**: Ensures the client's requirements and expectations are met.
- **Project Management Team**: Manages day-to-day operations and overall project delivery.
- **Contractors and Subcontractors**: Executes the construction work as per the project plan.
- **Suppliers**: Provides materials and equipment required for construction.
- **Local Authorities**: Includes South Dublin County Council, planning and environmental authorities.
- **Local Community and Businesses**: Residents and businesses in Rathcoole affected by construction activities.
- **Health and Safety Authorities**: Ensures compliance with health and safety regulations.

Various communication channels will be employed to ensure information is disseminated effectively:

- **Project Meetings:** Regular project meetings (weekly, bi-weekly) involving key stakeholders to discuss progress, issues, and upcoming activities.
- **Email Updates:** Regular email updates to all stakeholders summarising project status, upcoming milestones, and key decisions.
- **Progress Reports:** Monthly progress reports detailing work completed, any delays, and financial updates.

- **Site Signage:** On-site signage to inform the public and workers of safety measures, project details, and contact information.
- **Community Liaison:** A dedicated community liaison officer to manage interactions with local residents and businesses, addressing any concerns or complaints.
- **Newsletters:** Periodic newsletters distributed to the community with updates on the project and its impact.

A regular communication schedule will be established to ensure consistent updates, the below list shows what is being considered to ensure that effective communication is upheld throughout the project:

- **Weekly Meetings:** Internal project team meetings to review progress and plan the week ahead.
- **Bi-Weekly Meetings:** Meetings with contractors and key subcontractors to align on activities and resolve any issues.
- **Monthly Reports:** Detailed reports provided to the client and key stakeholders summarising progress, financial status, and upcoming activities.
- **Quarterly Community Updates:** Public updates to inform the local community about ongoing and upcoming works, including any potential disruptions.
- **Ad Hoc Communications:** As-needed communication in response to emergencies, critical issues, or significant changes in project scope.

The effectiveness of the communication plan will be monitored and evaluated regularly:

- **Performance Metrics:** Tracking the timeliness and accuracy of information dissemination, response times to queries, and stakeholder satisfaction.
- **Surveys:** Conducting surveys with stakeholders to gather feedback on the effectiveness of communication and identify areas for improvement.
- **Plan Adjustments:** The communication plan will be reviewed quarterly and adjusted based on feedback and changing project conditions.

This communication plan is designed to ensure that all stakeholders are informed, engaged, and able to contribute to the successful delivery of the construction project in Tay Lane, Rathcoole, Co. Dublin. By maintaining clear and open communication, the project team aims

to minimise disruptions, address concerns promptly, and build positive relationships with all involved parties.

3. Site Management

3.1 Site Security Measures

The development site shall be secured with minimum 2.4m high anti-intruder fence/ hoarding to prevent unauthorised access to the works site area and protect the public from any site dangers. Adequate security will be provided to prevent unauthorised entry to or exit from the working areas also. The following measures may be used to prevent unauthorised access:

- Install CCTV and alarm systems where required.
- CCTV and security systems will be sited and directed so that they do not intrude into occupied residential properties.
- Provide adequate security guards and patrols if required.
- When there is no site activity, close and lock site gates and set appropriate site security provisions in motion.
- Consult with neighbouring properties, local businesses and local crime prevention officers in An Garda Síochána and Dublin South County Council on site security matters as required; and
- Prevent access to restricted areas and neighbouring properties by securing equipment on site such as scaffolding and ladders.

Site hoarding also performs an important function in relation to minimising nuisance and effects including:

- Noise emissions (by providing a buffer),
- Visual impact (by screening the working areas, plant and equipment); and
- Dust minimisation (by providing a buffer).

The erection of hoarding would be of a similar nature to what is carried out on most construction sites. Mounting posts would be erected and the posts will be set in concrete or otherwise secured. The size and nature of the posts and hoarding would depend on the requirements for any acoustic mitigation as well as preferences that the Contractor may have. Where practicable, hoarding and fencing would be retained, reconfigured and re- used

between working areas as the construction activities progress. The following measures will be applied in relation to hoarding and fencing:

- Maintenance of adequate fencing and hoardings to an acceptable condition to prevent unauthorised access to working areas and provide noise attenuation, screening, and site security where required.
- Appropriate sight lines/ visibility splays will be maintained around working areas to ensure safety of both vehicles and pedestrians is preserved.
- Use of different types of fencing and hoarding (e.g., mesh fence of solid hoarding including hoardings used for noise control).
- Temporary fences may be used in certain areas, such as for short term occupation of working areas.
- Display information boards with out of hours contact details, telephone helpline number (for comments/ complaints) and information on the works.
- Erect notices on site boundaries to warn of hazards on site such as deep excavations, construction access, etc.
- Signage to be displayed which direct pedestrians and convey "Business as Usual" for adjoining businesses.
- Keep hoarding and fencing free of graffiti or posters.
- Retain existing walls, fences, hedges and earth banks as far as reasonably practicable; and
- Appropriate positioning of the fencing or hoarding to minimise the noise transmitted to nearby receptors or from plant, equipment and vehicles entering or leaving the working area.

3.2 Site Lighting

During the construction stage the appointed Main Contractor will provide site lighting that would typically be mobile tower mounted units, that reflects downward using 1000W metal halide floodlights directed at the main construction area of the site only. These floodlights will be cowled/ louvered and angled downwards to minimise light spillage to surrounding properties and roads. These floodlights would only be used during normal construction working hours on this site and a secondary security lighting system would be operational outside these hours for the duration of the works. The following measures will be applied to these systems in relation to the site lighting system:

- Lighting will be provided with the minimum luminosity sufficient for safety and security purposes. Where practicable, precautions will be taken to avoid shadows cast by the site hoarding on surrounding footpaths, roads and amenity areas.
- Motion sensor lighting and low energy consumption fittings will be installed to reduce usage and energy consumption; and
- Lighting will be positioned and directed as not to unnecessarily intrude on adjacent buildings, businesses, ecological receptors, and structures used by protected species, or to cause distraction or confusion to passing motorists along the adjacent roads.

The arrangement, design and the number of external lampposts shall be established in light level calculations to be provided by an approved Car Park Lighting Supplier to the Main Contractor and agreed in writing with the Client. A minimum lux level of Em=10 lux and a uniformity level of 0.25 shall be achieved. The height of the light heads in the car park area will be no more than 8m maximum.

A lux sensor shall be mounted on the building to control the external lighting scheme, and the position of the sensor will be site specific but will generally be located on a north-facing wall of the proposed new building. Exact positioning is to be advised by the appointed BMS subcontractor before commencing construction.

All site lighting will be controlled through a Building Management System and the site lighting system will remain on for up to thirty (30) minutes after closing times only. Appropriate access lighting that can achieve 7 lux is to be installed at the backside of the building leading to the plant areas and escape doors and this system shall be fitted with a motion detection sensor.

All site lighting to the proposed car park area will be fitted with cowls or louvers and will be angled downwards to minimise light spillage to the surrounding environment and eliminate any light spill upwards.

An Aviation Authority approved fixed obstacle signal light will be fitted to the highest point along the parapet wall of the proposed building. The exact location and position of this fitting will be agreed in writing with the Irish Aviation Authority.

3.3 Traffic Management Plan

3.3.1 Site Access and Egress

The primary access to the site will be from Tay Lane, located to the west of the proposed development. Entry to the site will be controlled through a gated access point, designed to accommodate large vehicles such as cranes, trucks, and delivery lorries. This gate will be manned by a trained traffic marshal during working hours, ensuring regulated entry and exit of construction vehicles. Outside of these hours, the gate will be securely locked to prevent unauthorised access.

Adequate signage and traffic management measures will be implemented at the access point to ensure visibility and safety for both site users and the public. High-visibility warning signs will alert road users to the presence of construction traffic. Egress from the site will be through the same location, with a one-way traffic system in place where possible to minimise congestion. The traffic marshal will manage vehicle flow onto Tay Lane, ensuring smooth departures and preventing trucks from queuing on public roads, thus reducing traffic delays.

For pedestrian access, a designated route will be established adjacent to the main vehicle entrance. This route will be separated by barriers to prevent any interaction between pedestrian and vehicle traffic. A secure turnstile system will be installed to allow only authorised personnel access, while clearly marked footpaths will ensure safe movement throughout the construction period.

3.3.2 Deliveries

Construction traffic shall route to the site via Rathcoole Main Street. Haulage contractors will be notified of this main access route.

Construction vehicles should, where possible, adhere to the following principles:

- Avoid peak hour movements,
- Vehicles should endeavour for two-way use, if possible,
- Ensure part loads are avoided to minimise trips.

Signage should be provided by the Main Contractor on approach roads to the site to notify the public of the site entrance ahead. Traffic management and on-site signage shall indicate clear routes for construction vehicles. New temporary signage advertising construction access ahead will be provided along the access roads to the site at agreed locations with local authority.

Adequate measures shall be provided to minimise tracking of dirt and debris onto the public roads network. Precautions shall be taken to control run-off from any washing facilities and a road sweeper shall be utilised to clean roads and car park surfaces when required.

The construction works will generate additional traffic which will use the public infrastructure around the site. It is anticipated that deliveries will be continuous throughout the build process, but certain peaks will be expected for the following activities:

- Soil export,
- Superstructure,
- Car Park and site development works.

In general, all deliveries to the site should be scheduled so as to avoid traffic congestion and be programmed for non-peak traffic flow periods.

The on-site earthworks operations require no significant import/ export of materials to generate vehicle movements. Additional traffic will primarily be generated by construction workers travelling to and from the site. The additional traffic generated by the construction site daily will not represent a significant increase on existing traffic levels.

In order to ensure the safe access of all construction vehicles to the development site the Client will instruct the appointed Main Contractor to provide a site specific "Construction Traffic Management Plan" for this project to the local authority for approval prior to works proceeding. In general, all materials used for the construction of this type of building are delivered in regular sized HGV or rigid vehicles.

The Contractor will ensure that the delivery of materials is coordinated to minimise impacts to adjacent properties. The Contractor will ensure the roads adjacent to the site are kept clean and free of debris. Construction materials will be transported in clean vehicles. Lorries/ trucks will be properly enclosed or covered during transportation of friable construction materials and spoil to prevent the escape material along the public roadway.

3.3.3 **Visitors**

Visitors will only be allowed to enter the main site compound via the designated pedestrian access gate. A dedicated, secured footpath to the site office is to be established at the gate for registration and obtaining PPE prior to entering the site. A log will be maintained by security to control access to the site.

3.3.4 Parking Arrangements

The site set-up shall allow for parking for all site staff within the confines of the proposed site boundary or at a dedicated parking facility local to the development site. No site vehicles will be permitted to park along the public roads or outside the working site boundary adjacent to the development site. The Main Contractor will provide a suitable secure area for all site personnel vehicles for the duration of the works. Additionally, this area is well served with public transport links and site workers will be encouraged to utilise the public transport network when possible.

3.3.5 Pedestrian and Cyclist Safety

Due to the development being situated on a cul-de-sac, a low number of pedestrians and cyclists are anticipated to approach the site. All appropriate safety measures will be put in place.

3.4 Temporary facilities and Utilities

The construction compound will be used as the location for worker welfare facilities such as locker rooms, toilets, showers, kitchen, etc. with a potable water supply to be made available by installing a temporary construction water connection. The proposed site compound shall be located within the site boundary and positioned to ensure that deliveries, staff parking and visiting vehicles do not wait on the public road before entering the site insofar as is practicable. (The appointed Main Contractors will confirm details and location of the proposed works compound before proceeding on site if required by the local authority).

Construction of the compound shall be from clean materials and the Contractor shall ensure that run-off from potentially contaminating surfaces, i.e., parking or material stockpiles, is contained and treated appropriately in an either a temporary, on-site settling pond or a holding tank. All construction support activities will be controlled within the site construction compound, including office facilities, toilets, canteen, etc. Materials and waste handling, and storage will all be within the confines of the development site. Adequate statutory warning signs will be on display to illustrate the required PPE and risks associated when entering the construction site.

The site shall be appropriately hoarded prior to commencement of the works and the hoarding shall display an emergency out of hours contact telephone number for the Main Contractor at the main entrance.

3.5 Cranage Operations

A full cranage plan will be developed in detail upon the appointment of the main contractor, which will include all necessary specifications, risk assessments, and safety protocols in compliance with industry standards and regulatory requirements. In the interim, an outline plan has been prepared to ensure the cranage operations are coordinated with Casement Aerodrome due to its proximity to the site. This outline includes initial engagement with the Irish Aviation Authority (IAA) and Casement Aerodrome to obtain necessary airspace clearance, risk mitigation measures to prevent interference with flight paths, and the implementation of appropriate crane height restrictions, lighting, and marking systems. Further coordination will take place once the main contractor is in place, ensuring all activities align with aviation safety protocols and project timelines.

Below is what would be expected to be covered in the developed Cranage Plan –

- Project Information
- Crane Specifications
- Risk Assessment
- Coordination with Third Parties
- Safety Protocols
- Lifting Operations
- Maintenance and Inspection
- Communication Plan
- Weather Monitoring
- Permit to Work

Coordination with Casement Aerodrome

- Notify Casement Aerodrome about the upcoming crane operations to allow them to assess the potential impact on flight paths and take necessary precautions.
- Submission of Preliminary Information: Send the crane specifications, location, and operational timeline to Casement Aerodrome's operations office or designated point of contact for review.

- Contact the IAA to request an airspace assessment. This will determine if the crane's height or position interferes with controlled airspace or flight paths operating in the vicinity of Casement Aerodrome.
- Notification of Potential Airspace Intrusion: If the crane exceeds a certain height or is located within proximity to the aerodrome, the IAA may classify it as an obstacle requiring specific lighting and marking. They will assess if the crane's operation creates any hazards and may impose restrictions on height or timing.
- Approval Process: The IAA, in coordination with Casement Aerodrome, will issue approval or request modifications to the crane operation plan. This could include:
- Final Crane Plan Submission: Once the crane specifics are finalised, submit a detailed cranage plan to Casement Aerodrome and the IAA for their records, confirming that all requirements regarding height, lighting, marking, and operational timeframes are met.
- Final Clearance Issuance: The IAA and Casement Aerodrome will issue a formal airspace clearance once they are satisfied that the crane operations will not interfere with air traffic. This clearance is required before the crane can be erected on-site.
- Maintain ongoing communication with Casement Aerodrome during crane operations. If there are any changes to crane height, operational hours, or location, these must be reported immediately to ensure continued compliance with airspace clearance.

A full traffic management plan will be implemented by the main contractor, in consultation with local authorities, to ensure that construction activities have minimal impact on local traffic flow, pedestrian safety, and public transport services. Where necessary, temporary traffic control measures such as stop/go systems or temporary traffic lights may be introduced.

4. Construction Schedule

4.1 Project Timeline

It is proposed that a construction project will proceed to construction if all associated statutory procedures have been approved. Subject to securing consents, it is intended for the main works to commence in Q1 2025. It is estimated that construction works will be completed in Q3 2026.

4.2 Key Milestones

Key Milestone	Forecast Commencement Date
Enabling Works	Q4 2024
Contractor Appointed	End of Q1 2025
Permanent Works	End of Q1 2025
Project Completion	Q3 / Q4 2026

5. Environmental Management

5.1 Archaeological Monitoring

Site Overview: The site sits between the well-established residential developments of Eaton Drive to the east and Hillview to the west. The site is bound to the north by National Road N7 and to the west by Tay Lane. To the south the site is adjoined by a property comprising of Glebe House (a protected Structure). From the archaeological assessment report, submitted under the granted planning permission of the development, has advised that a known and legally protected archaeological site situated within the proposed development area, i.e. St. Bridget's Well (DU021-030004).

The proposed development has been finalised to minimise and avoid any impacts near the location of St. Bridget's Well (DU021-030004),

Objective: To safeguard archaeological features, particularly the holy well, while allowing for construction activities.

Pre-Construction Measures

- **Archaeological Assessment**: Desktop study carried out for the granted planning permission of the development with recommendation of preservation in situ to avoid any impacts on any archaeological sites within the development area.
- **Archaeological Monitoring**: A licenced archaeologist has been appointed to monitor groundworks in areas near the holy well or any identified archaeological features.
- **Exclusion Zone**: Establish a physical exclusion zone around the holy well. No construction, vehicular access, or storage of materials should occur within this zone.
- **Consultation with Authorities**: Engage with the National Monuments Service, South Dublin County Council, and other relevant heritage bodies before works commences.

- **Permits and Licences**: Ensure that any required archaeological excavation licenses are obtained prior to construction.

On-Site Archaeological Procedures

- **Site Supervision:** A qualified archaeologist to be present during all ground-disturbing activities near the well or potential archaeological features.
- **Holy Well Protection:** Develop a specific plan for the protection of the holy well during construction, including:
    - **Buffer Zones:** Maintain the agreed buffer around the holy well.
    - **Fencing:** Erect temporary fencing or barriers to prevent accidental damage to the well.
    - **Signage**: Install signage to ensure all workers are aware of the protected area.
    - **Ground Disturbance Protocol:** Any ground disturbance should follow a step-by-step plan, ensuring minimal impact on the surrounding archaeological features.

Unexpected Discoveries

- **Stop-Work Protocol:** If any unrecorded archaeological features or artifacts are discovered during construction:
    - Immediately halt all work in the vicinity of the find.
    - Notify the appointed archaeologist and the National Monuments Service.
    - The archaeologist will assess the find and recommend further action, which may include excavation, preservation, or re-routing of construction.
- **Documentation and Reporting:** Ensure that all finds are properly documented and reported to the relevant authorities.

Post-Construction

- **Final Archaeological Report:** After construction, the archaeologist should prepare a final report detailing the site monitoring process, any discoveries, and how they were managed.
- **Holy Well Conservation:** If necessary, conservation measures for the holy well (e.g., landscaping, protective structures) should be implemented post-construction to ensure its long-term protection.

A Conservation Management Plan for the well is being prepared and will be submitted to the relevant authorities for approval. This plan will cover all areas of conservation required during construction.

5.2 Noise and Vibration Control

Specific noise abatement measures shall comply with the recommendations of BS5228-1 2009. BS5228 includes guidance on several aspects of construction site practices, including, but not limited to:

- Selection of quiet plant.
- Control of noise sources.
- Screening (boundary, and or localised plant screening).
- Hours of work.
- Liaison with the public.
- Monitoring.

Noise measures will include:

- No plant used on site will be permitted to cause an ongoing public nuisance due to noise.
- The best means practicable, including proper maintenance of plant, will be employed to minimise the noise produced by on site operations.
- All items of plant should be subject to regular maintenance. Such maintenance can prevent unnecessary increases in plant noise and can serve to prolong the effectiveness of noise control measures.
- For mobile plant items such as cranes, dump trucks, excavators and loaders, the installation of an acoustic exhaust and or maintaining enclosure panels closed during operation can reduce noise levels by up to 10dB. Mobile plant should be switched off when not in use and not left idling.
- Compressors and generators will be attenuated models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers.
- Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use.
- Any plant, such as generators or pumps, required to operate before 07:00hrs or after 19:00hrs will be surrounded by an acoustic enclosure or portable screen.

- Location of plant shall consider the likely noise propagation to nearby sensitive receptors.
- For percussive tools such as pneumatic concrete breakers and tools a number of noise control measures include fitting muffler or sound reducing equipment to the breaker 'tool' and ensure any leaks in the air lines are sealed. Erect localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries.
- For concrete mixers, control measures should be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.
- For all materials handling ensure that materials are not dropped from excessive heights, lining drops chutes and dump trucks with resilient materials.
- Demountable enclosures can also be used to screen operatives using hand tools/breakers and will be moved around site as necessary.

Quiet Plant will be selected for use on this development. This practice is recommended in relation to sites with static plant such as compressors and generators. It is recommended that these units be supplied with manufacturers' proprietary acoustic enclosures where possible. The potential for any item of plant to generate noise will be assessed prior to the item being brought onto the site. The least noisy item should be selected wherever possible.

If replacing a noisy item of plant is not a viable or practical option, consideration will be given to noise control "at source". This refers to the modification of an item of plant or the application of improved sound reduction methods in consultation with the supplier. For example, resonance effects in panel work or cover plates can be reduced through stiffening or application of damping compounds; rattling and grinding noises can often be controlled by fixing resilient materials in between the surfaces in contact.

The earthworks will generate typical construction activity related noise and vibration sources from use of a variety of plant and machinery such as rock breakers (where required), excavators, lifting equipment, dumper trucks, compressors and generators. The noise levels shall comply with the mitigation measures and any planning conditions.

Vibration limits to be applied for the infrastructure works will be those specified in the TII document Guidelines for the Treatment of Noise and Vibration in National Road Schemes (TII, Revision 1, 2004). These limits are outlined below:

Allowable vibration (in terms of peak particle velocity) at the closest part of sensitive property to the source of vibration shall comply with the mitigation measures and any planning conditions.

5.3 Dust and Air Quality Management

The aim is to ensure good site management by avoiding dust becoming airborne at source. This will be done through good design, planning and effective control strategies. The siting of construction activities and soil stockpiles will take note of the location of sensitive receptors and prevailing wind directions to minimise the potential for significant dust nuisance. In addition, good site management will include the ability to respond to adverse weather conditions by either restricting operations on-site or using effective control measures quickly before the potential for nuisance occurs.

- During working hours, technical staff (e.g. Environmental Manager/ ECoW) will be available to monitor dust levels as appropriate; and
- At all times, the dust management procedures put in place will be strictly monitored and assessed.

The dust minimisation measures will be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust generation. In the event of dust nuisance occurring outside the site boundary, site activities will be reviewed, and procedures implemented to rectify the problem. Dust levels shall comply with the mitigation measures and any planning conditions.

Specific dust control measures to be employed are presented below.

5.3.1 Site Routes

Site access routes (particularly unpaved areas) can be a significant source of fugitive dust from construction sites if control measures are not in place. The most effective means of suppressing dust emissions from unpaved roads is to apply speed restrictions.

- A speed restriction of 15 km/ hr will be applied as an effective control measure for dust for on-site vehicles or delivery vehicles within the vicinity of the site.
- Bowsers will be available during periods of dry weather throughout the construction period, with water sourced from the mains supply. The bowser will operate during dry periods to ensure that unpaved areas are kept moist. The required application frequency will vary according to soil type, weather conditions and vehicular use.
- Any hard surface roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced areas shall be restricted to essential site traffic only.

5.3.2 Excavations

Excavation works during periods of high winds and dry weather conditions can be a significant source of dust.

- During dry and windy periods, and when there is a likelihood of dust nuisance, watering shall be conducted to ensure moisture content of materials being moved is high enough to increase the stability of the soil and thus suppress dust.
- During periods of very high winds (gales), activities likely to generate significant dust emissions will be postponed until the gale has subsided. The movement of truck containing materials with a potential for dust generation to an off-site location will be enclosed or covered.

5.3.3 Stockpiling

The location and moisture content of stockpiles are important factors which determine their potential for dust emissions. The following measures will be put in place:

- Overburden material will be protected from exposure to wind by storing the material in sheltered parts of the site, where possible.
- Regular watering will take place during dry/ windy periods to ensure the moisture content is high enough to increase the stability of the soil and suppress dust.
- Permanent or long-term stockpiles of topsoil shall be seeded to limit dust emission.

5.3.4 Site Traffic

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

- Vehicles delivering material with potential for dust emissions to an off-site location shall be enclosed or covered at all times to restrict the escape of dust.
- Any hard surface site roads will be swept to remove mud and aggregate materials from their surface while any unsurfaced roads shall be restricted to essential site traffic only.
- A power washing facility or wheel cleaning facility will be installed near to the site compound for use by vehicles exiting the site, when appropriate.
- Road sweepers will be employed to clean the site access route as required.

5.4 Waste Management and Recycling

This section outlines the measures that will be undertaken to minimise the quantity of waste produced at the site and the measures to handle the waste in such a manner as to minimise the effects on the environment. A site-specific Resource and Waste Management Plan has been prepared and will be employed to ensure sustainable and effective waste management throughout the construction and demolition phases of the project.

Adherence to the RWMP prepared for the construction works will ensure that the management of waste arising is dealt with in compliance with the provisions of the Waste Management Acts

1996 – 2022 and amendments. The waste management hierarchy to be adopted will be as follows:

- Prevention and Minimisation
- Reuse of Waste
- Recycling of Waste
- Disposal

Typical waste materials that will be generated from the demolition and construction works will include:

- Soil and stones
- Concrete, bricks, tiles and ceramics
- Wood, glass and plastics
- Metals
- Gypsum-based construction material
- Paper and cardboard
- Mixed C&D waste
- Chemicals (solvents, paints, adhesives, detergents etc.)

The management of all hazardous waste arisings, if they occur, shall be coordinated in liaison with Health and Safety Management.

5.4.1 Waste Minimisation

Waste minimisation measures proposed are summarised as follows (and are described in more detail in the RWMP):

- Materials will be ordered on an 'as needed' basis to prevent over supply.
- Materials will be correctly stored and handled to minimise the generation of damaged materials.
- Materials will be ordered in appropriate sequence to minimise materials stored on site.
- A waste tracking log will be established.
- Sub-contractors will be responsible for similarly managing their wastes.
- All wood waste generated by site works will be inspected and examined and will be segregated as re-useable wood and scrap wood waste.

5.4.2 Waste Storage

The main waste storage area will be located in the site compound. A dedicated and secure area containing bins, and/ or skips, and storage areas, into which all waste materials generated by construction site activities, will be established within the development.

Waste materials generated will be segregated at the site compound, where it is practical to do so. Where the on-site segregation of certain waste types is not practical, offsite segregation will be carried out. There will be skips and containers provided to facilitate segregation at source. All waste containers leaving site will be covered or enclosed. The appointed waste contractor will collect and transfer the wastes as containers are filled.

The site Construction Manager will ensure that all staff are informed of the requirements for segregation of waste materials by means of clear signage and verbal instruction. Appointed employees will be made responsible for ensuring good site housekeeping.

5.4.3 Records

A written record of all quantities and nature of wastes removed from the site will be maintained on-site in a waste file (in hardcopy or electronically).

It is the responsibility of the project manager or his/ her delegate that all contracted waste haulage drivers hold an appropriate waste collection permit for the transport of waste loads and that all waste materials are delivered to an appropriately licenced or permitted waste facility in compliance with the relevant Regulations as outlined in the RWMP.

The Contractor, as part of regular site inspection audits, will determine the effectiveness of the waste management strategy and will assist the project manager in determining the best

methods for waste minimisation, reduction, re-use, recycling and disposal as the construction phase progresses and waste materials are generated.

5.5 Soil and Groundwater Management

All measures will be taken to prevent contamination of groundwater and soil, below is an outline of these measures:

- Suspended Solids Management

  Timing: Limit major earthworks to dry periods.

  Barriers: Construct berms and install silt fencing to prevent runoff.

  Drainage: Use drainage ditches and settlement ponds for treating runoff.

  Groundwater Protection

  Stockpiling: Place soil in areas with low bedrock levels.

  Measures: Install silt fencing and settlement ponds to reduce contamination risk.

  Timing: Minimise exposure time for earthworks; seed early.
- Concrete Runoff Control

  Washout: Designate washout areas away from watercourses.

  Batching Controls: Maintain equipment and establish spill procedures.
- Flooding

  Flood Mitigation: Avoid stockpiling in flood-prone areas and develop an emergency response plan.
- Spill Management

  Storage: Use bunded areas for fuel storage.

  Response: Implement spill response procedures with trained personnel.
- Monitoring

  Inspections: Conduct daily checks and maintain logs for water management and spill incidents.

5.6 Biodiversity and Habitat Protection

A Natura Impact Statement (NIS) will be prepared. All site-specific mitigation measures from same must be adopted to ensure the protection of biodiversity during the construction works. An Ecological Impact Assessment will be prepared. This will identify any invasive species at the proposed development site.

6. Health and Safety Management

6.1 Risk Assessment

A comprehensive risk assessment will be conducted as part of the Health and Safety Management Plan to identify potential hazards associated with construction activities on-site. This assessment will evaluate risks to workers, visitors, and the general public, focusing on areas such as site access, machinery operation, manual handling, and hazardous materials. Each identified risk will be assessed for its likelihood and severity, with corresponding control measures implemented to mitigate or eliminate these risks. Control measures will include physical barriers, signage, safety protocols, and the use of Personal Protective Equipment (PPE). The risk assessment will be regularly reviewed and updated to reflect any changes in site conditions, project phases, or legislation, ensuring a proactive approach to maintaining a safe working environment throughout the project.

6.2 Safety Procedures and Protocols

In accordance with the Safety, Health and Welfare at Work (Construction) Regulations, the appointed Contractor will be required to prepare a Construction Health & Safety Plan which will be put in place prior to commencement of the works. At a minimum, this plan will include:

- Construction Health & Safety training requirements
- Induction procedures
- Emergency protocols
- Details of welfare facilities
- Risk assessments and Method Statements

6.3 Emergency Response Plan

An Emergency Response Plan will be developed by the Main Contractor upon appointment. This will consider all emergency situations such as breaches of health and safety, flooding, oil spillage, fire, etc.

6.4 Site Induction and Training

All employees working on the site will be required to have a SafePass Card (or similar approved Construction Health & Safety card), manual handling training and the necessary certificates to

operate machinery as required. The details of training required, records maintained, and induction procedures will be outlined in the Main Contractor's Health and Safety Plan(s).

Visitors will be required to attend a site-specific induction to allow access to the compound and/ or construction site unless being accompanied by an inducted member of the site team. Visitors will then be taken by an inducted member of the construction team to the required area of the site.

7. Community Liaison and Communication

7.1 Community Engagement Strategy

Below is an outline of a community engagement strategy:

- **Objectives:**
  Build trust, minimise disruption, and encourage community participation.
- **Stakeholders:**
  Local residents, businesses, authorities, and community groups.
- **Communication Channels:**
  Use public meetings, newsletters, social media, and a hotline for updates and feedback.
- **Engagement Activities:**
  Appoint a liaison officer, conduct site tours, hold workshops, and gather feedback through surveys.
- **Addressing Concerns:**
  Perform impact assessments, resolve complaints efficiently, and manage noise and traffic.
- **Monitoring and Evaluation:**
  Regularly review strategy effectiveness and adapt as needed.
- **Benefits Communication:**
  Highlight project benefits and support community initiatives.
- **Post-Construction:**
  Organise a completion event and maintain communication for any ongoing concerns.

This strategy aims to ensure effective communication and community involvement throughout the construction project.

7.2 Handling Complaints and Feedback

A designated liaison should be appointed to site during construction works. All complaints should be logged and followed up in a prompt fashion by the liaison officer. In addition, prior to particularly disruptive construction activity, the liaison officer should inform the nearest sensitive locations of the time and expected duration of the works.

8. Quality Control

8.1 Quality Assurance Procedures

All quality assurance will be the responsibility of the main contractor.

8.2 Inspection and Testing Plans

All testing and inspections will be in accordance with the Main Contractors policies and procedures.

8.3 Documentation and Record Keeping

All record keeping will be shared with the client team when required.

9. Logistics Management

9.1 Material Storage and Handling

The storage of materials in the main compound and work sites will be controlled in such a manner to ensure that materials are not damaged prior to use either through vehicle or people movements or through exposure to the elements.

Aggregate materials such as sands and gravels will be stored in clearly marked areas in the compound area. Liquid materials will be stored within temporary bunded areas, doubled skinned tanks or bunded containers (all bunds will conform to standard bunding specifications – BS EN1992-3:2006) to prevent spillage

9.2 Equipment and Plant Management

Effective management of equipment and plant will be in place across the site. They will undergo regular maintenance and daily inspections to ensure they are in working condition. Detailed logs of maintenance and inspection activities for all equipment will be kept.

All operators of plant and equipment must carry the appropriate certification and work to the safety protocols as set out in construction regulations.

10. Legal and Compliance Requirements

10.1 Planning Permissions and Conditions

Planning permission for the project has been granted, subject to specific conditions outlined by the local planning authority. The project team is fully committed to addressing each of these conditions in a timely and efficient manner. We have implemented a robust process to ensure that all conditions are met, with regular monitoring and updates to maintain full compliance throughout the project's duration. By prioritising these actions, we aim to uphold the highest standards of adherence to planning requirements, thereby ensuring that the project proceeds smoothly and in line with all regulatory expectations.

10.2 Building Regulations and Compliance

BCaR Commencement Notice has been submitted and validate for the Tay Lane project and the project team has developed an inspection plan to ensure that all works, materials and equipment are in line with the design intent, building regulations and standards required through regular reviews and inspections to ensure that that the project proceeds smoothly and in line with all regulatory expectations.

10.3 Other Relevant Licences and Permits

All necessary licenses and permits required by statutory bodies for the project have been secured, where required, or are being developed to allow the project to proceed as smoothly as possible. The project team is actively addressing these conditions to ensure that every requirement is met in a timely and thorough manner. A dedicated compliance process has been established, with ongoing monitoring and reporting to ensure that all statutory obligations are consistently upheld. By prioritising these actions, we are committed to maintaining full compliance with all regulatory requirements, ensuring that the project advances smoothly and without any interruptions related to licensing or permitting issues.

11. Monitoring and Reporting

11.1 Review and Update of the CMP

The Construction Management Plan will be reviewed and updated accordingly up until a Main Contractor is appointed.

12. Conclusion

12.1 Summary of Key Points

In conclusion, the Tay Lane Rathcoole development will be delivered through a well-structured and thorough Construction and Environmental Management Plan (CEMP), once the Main Contractor is appointed and has developed their CEMP, which will be shared with SDCC once developed. This plan outlines robust strategies and procedures to ensure effective project delivery, while minimising environmental impact, ensuring safety, and maintaining compliance with local regulations. The appointed contractor will be tasked with implementing the CEMP, addressing site-specific challenges, and adhering to the rigorous safety, environmental, and legal requirements outlined.

Additionally, effective communication with the community and stakeholders will play a crucial role in ensuring that the construction process progresses smoothly and with minimal disruption. Regular monitoring, compliance checks, and updates will ensure that the project adheres to high standards of safety and environmental care, from commencement through to completion. The implementation of these measures will enable the successful and timely completion of the project, aligning with the objectives of creating a supportive, age-friendly residential environment for the community.