PROPOSED LOCAL AUTHORITY OWN HOUSING DEVELOPMENT AT MAYESTON, POPPINTREE, DUBLIN 11

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

BSM Est. 1968

Brady Shipman Martin

Built. Environment.

Environmental Assessment

Built Environment

Client: Fingal County Council

Date: 29 November 2023

DOCUMENT CONTROL SHEET

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CONTENTS

1 Introduction

Fingal County Council (FCC) proposes to develop new housing at Mayeston, Poppintree, Finglas, Dublin 11. It is proposed to carry out the said Local Authority Own Housing Development pursuant to s.179A of the Planning and Development Act 2000, as amended ("the 2000 Act"), and, *inter alia*, Art.81A of the Planning and Development Regulations 2001, as amended by the Planning and Development (Section 179A) Regulations 2023 (SI No.101/2023) ("the 2001 Regulations") – the foregoing provides the statutory criteria and processes which apply to such housing developments.

This document comprises a Construction Environmental Management Plan (CEMP) for the proposed Mayeston development. It sets out the proposed development works and the environmental measures to be implemented during the construction works in order to prevent, manage, minimise or mitigate any environmental impacts that may arise as a result of the proposed development.

An Environmental Impact Assessment Screening Report (EIA Screening) has been prepared for the proposed development. That report includes an assessment and analysis of potential impacts on the receiving environment arising as a result of the proposed development. The EIA Screening report should be read in conjunction with this CEMP.

Furthermore, this CEMP is to be read in conjunction with the following documents:

- Planning Report (Brady Shipman Martin, 2023);
- Social Infrastructure & Childcare Demand Report (Brady Shipman Martin, 2023);
- Architectural Design Statement (O'Briain Beary Architects, 2023);
- Universal Design Statement (O'Briain Beary Architects, 2023);
- Building Lifecycle Report (O'Briain Beary Architects, 2023);
- Inward Noise Impact Assessment (AWN Consulting, 2023);
- Air Quality Assessment (AWN Consulting, 2023);
- Resource and Waste Management Plan (AWN Consulting, 2023);
- Operational Waste Management Plan (AWN Consulting, 2023);
- Climate Action Energy Statement (Belton Consulting Engineers, 2023);
- Energy Analysis Report (Belton Consulting Engineers, 2023);
- Utilities and Public Lighting Report (Belton Consulting Engineers, 2023);
- Appropriate Assessment Screening Report (Brady Shipman Martin, 2023);
- Infrastructure Design Report (Downes Associates, 2023);
- Site Specific Flood Risk Assessment (Downes Associates, 2023);
- Surface Water Management Plan (Downes Associates, 2023);
- Site Investigation Report (Site Investigations Ltd., 2022);
- Green Infrastructure Report (Redscape Landscape, 2023);
- Landscape Design Report (Redscape Landscape, 2023);
- Traffic Report (Roadplan Consulting, 2023);
- Public Transport Capacity Assessment (Roadplan Consulting, 2023);
- Parking Assessment & Management Strategy (Roadplan Consulting, 2023);
- Mobility Management Plan (Roadplan Consulting, 2023);
- Road Safety Audit (Roadplan Consulting, 2023);

- DMURS Design Statement (Roadplan Consulting, 2023);
- Daylight and Sunlight Assessment Report (3D Design Bureau, 2023);
- Archaeological Impact Assessment (Archer Heritage Planning, 2022).

The CEMP will be a live, working document and will be finalised by the Contractor following their appointment, and prior to commencing works on site. However, all of the requirements set out in the CEMP will be implemented in full by the Contractor.

As the CEMP is a live document the Contractor will ensure that it remains up to date for the duration of the construction period. The CEMP may need to be altered during the lifecycle of the construction period to take account of monitoring results, legislative changes, outcomes of third party consultations etc. Additional appendices may be added to the CEMP to accommodate monitoring results, permits etc. The document will also be updated as required following the grant of permission, to reflect any and all of the planning conditions set by the planning authority.

2 Description of Proposed Development

2.1 Proposed Development Site

The proposed development site (c. 1.35Ha) is located at Mayeston, Poppintree, Finglas, Dublin 11 (refer to **Figure 2.1** below). It is located between St. Margaret's Road to the south and the M50 motorway to the north. The residential development of Mayeston Green is to the immediate east of the site. Mayeston Downs is to the immediate south and there is public open space to the west. The site is accessed via the existing road network off Mayeston Downs and Mayeston Green.

The site is not particularly sensitive to the environmental effects of development. There are no designated sites or surface water bodies on the site or in the immediate vicinity. However, the site is adjacent to existing residential developments and a public park. It is also located immediately south of the M50 motorway. Dublin Airport is c.1.4km to the north.

Under the Fingal Development Plan 2023-2029 the majority of the site is zoned as *Residential – 'Provide for residential development and protect and improve residential amenity.'* There is a small section of the site to the north-west zoned as *Open Space – 'Preserve and provide for open space and recreational amenities'*, no works are proposed in this section. The area to the immediate west is zoned as 'Open Space', to the south is 'Residential' and to the immediate east is a mix of 'Residential' and 'Open Space'. The land further to the east is surrounded by Ballymun Soccer Complex and is zoned as 'Open Space'. The site is partly within Dublin Airport Noise Zone C.

2.2 Proposed Development Overview

The proposed development relates to a site of c.1.35ha located within existing residential development referred to as Mayeston, Poppintree, Dublin 11. The site is located north of St Margaret's Road and is bound by the M50 motorway to the north, Mayeston Green and Silloge Green to the east, Mayeston Downs to the south, and to the west by public open space. The proposed development will include for the provision of 119 no. apartment units consisting of 39 one-bedroom apartments, 68 no. two-bedroom apartments and 12 no. 3-bedroom apartments ranging from 3-6 no. storeys and will also include for car parking, cycle parking, pedestrian and cycle links, storage, services and plant areas.

Landscaping will include for high quality private open space, communal amenity areas and public open space provision. Refer to Figure 2.2 for proposed site layout.

Figure 2.1 The location of the proposed development site at Mayeston, Poppintree, Finglas, Dublin 11

Figure 2.2 Proposed development site layout (O'Briain Beary Architects, 2023)

3 Methodology

This CEMP sets out the procedures, standards, work practices and management responsibilities to address potential environmental effects that may arise from the construction of the proposed residential development. The CEMP will comply with the requirements of the relevant authorities/environmental bodies.

Throughout the lifecycle of any construction project, environmental management procedures are required to ensure that all appropriate legislation, policy and construction best practice are complied with, and the environmental effects of a development are minimised as far as is practicable. The environmental legislation, policy and best practice guidance contained within this CEMP are applicable at the time of writing. These are subject to change and as such, the Contractor will be responsible for complying with current legal, policy and best practice guidance requirements applicable to their scope of works through the design and during construction of the proposed development.

Relevant legislation includes, but is not restricted to:

- Planning and Development Act, 2000 (as amended);
- Planning and Development Regulations, 2001 (as amended);
- The Birds Directive: Council Directive of 2 April 1979 on the conservation of wild birds (79/409/EEC) (as amended);
- The Habitats Directive: Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora;
- The European Communities (Birds and Natural Habitats) Regulations, 2011 (as amended);
- Water Framework Directive (WFD): Directive 2000/60/EC of the European Parliament and Council establishing a framework for Community Action in the field of water policy (as amended);
- European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (as amended);

This document has been prepared in accordance with relevant best practice guidance and includes, but is not limited to:

- C741 – Environmental Good Practice on Site Guide (4th Edition) (CIRIA, 2015);
- C532 – Control of Water Pollution from Construction Sites (CIRIA, 2001);
- C733 – Asbestos in Soil and Made Ground: a Guide to Understanding and Managing Risks (CIRIA,2014);
- BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites - Noise;
- BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites - Vibration;
- BS 7385: 1993 Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration;
- BS 8233:2014 Guidance on sound insulation and noise reduction for buildings;
- Guidance on Soil and Stone By-products in the context of article 27 of the European Communities (Waste Directive) Regulations 2011, Version 3 (EPA 2019);
- By-Product Guidance Note, A Guide to by-products and submitting a by-product notification under Article 27 of the European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) (EPA, 2020);

- Waste Classification, List of Waste and Determining if Waste is Hazardous or Non-hazardous, (EPA 2018); and
- Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013).
- Requirements for the Protection of Fisheries Habitat during Construction Works in and Adjacent to Waters (Inland Fisheries Ireland, 2016); and
- Framework and Principles for the Protection of the Archaeological Heritage (Department of Arts, Heritage, Gaeltacht and the Islands, 1999).

4 Construction Programme

4.1 Construction Sequence

The construction phase of the proposed development will include the following elements:

- Site enabling works;
- Sub-structure and superstructure works;
- Infrastructure works.

Standard best practice site management protocols, including good housekeeping and efficient materials management, will be implemented.

4.1.1 Site Enabling Works

It is envisaged that the site enabling works will include (but not necessarily be limited to) the following:

- Securing of site boundary and erecting of fencing or hoarding as required;
- Service terminations and positive identification of any services on the site by the utility providers;
- Provision of temporary power, lighting and water services;
- Set up of site accommodation and welfare facilities;
- As noted in the Archaeological Impact Assessment prepared by Archer Heritage Planning *there is a negligible potential for the survival of archaeological remains at this site. Therefore development may proceed without any further archaeological works.* Archaeological monitoring is not required;
- Removal of scrub and vegetation as per consultation with the Project Ecologist and as per measures set in the EIA Screening Report (including in relation to the timing of vegetation clearance (avoiding if possible vegetation removal during the bird nesting season);
- Identification of watercourses in the vicinity of the site and measures to be put in place to minimise contamination of same;
- Excavation and reuse/disposal of soil / subsoil on site.

4.1.2 Sub-structure and Superstructure Works

It is envisaged that the sub-structure and superstructure works will include (but not necessarily be limited to) the following:

- Excavation of foundations;
- Excavate, lay and test underground drainage;
- Coordinate and install all incoming services;
- Construction of floor slabs;
- Construction of superstructures and roofs;

- Fit out of the residential units will use traditional fit out techniques and finishing trades;
- Gardens and public open space areas will be landscaped and planted in accordance with the landscaping proposals for the scheme.

4.1.3 Infrastructure Works

The site infrastructure works include the provision of the permanent entrance to the site and the permanent connection of all the utilities and services required for the site, including the foul outfall sewer and haul roads for the site.

All works are to be carried out in accordance with Irish Water's Code of Practice for Water and Wastewater and the contractor is to liaise with Uisce Éireann for the duration of the construction phase.

Engagement with the service and utility providers will be entered into early in the design stage to allow for adequate planning of utility infrastructure. Provision of the permanent infrastructure to the site will be carried out as early as possible in the programmed works to incorporate the temporary site requirements with the permanent requirements.

It is the intention of Fingal County Council to minimise disruption of existing services and public roads and pathways in the providing of services to the site, this will be done in consultation with the service providers.

4.2 Construction Phasing & Duration

The envisaged duration of the construction phase is 21 months.

4.3 Construction Materials

The overall materiality for the proposed development will include standard construction material for any residential scheme (concrete, timber, stone etc).

4.4 Earthworks

The site is a partly developed brownfield site and forms part of the Mayeston estate which has been developed in recent years. During the construction phase, soil and stones will be excavated to facilitate construction. As per the RWMP, prepared by AWN Consulting, c. 5000m^3 of bulk excavation and removal will be required including topsoil, made ground, existing concrete slabs and foundations. There is currently no planned retention or re-use of the excavated materials and they will be removed to appropriate off site reuse, recovery, recycling and/or disposal.

Site Investigations Ltd. undertook ground investigations and environmental soil testing in December 2021 at the site. In total, twelve (12 no.) samples were assessed using the HazWasteOnLine™ Tool. All samples were classified as being non-hazardous.

4.5 Hazardous Substances

During the construction phase, hazardous substances typical of construction sites of this nature and scale will be present on-site, including concrete / cementitious materials, oils, fuels, paints and other chemicals. Hydrocarbons, solvents and other such hazardous substances will be stored in secure, bunded hardstanding areas. Re-fuelling and servicing of construction plant and machinery will only be

permitted at suitably located, designated hardstanding areas. Spill kits will be present on-site at all times.

5 Construction Management and Controls

5.1 Project Roles and Responsibilities

Fingal County Council is the **Employer** and will appoint project managers to oversee construction of the project.

The Employer, or their appointed representative will be responsible for maintaining and updating the CEMP throughout the life of the project. The **Project Manager** will be responsible for the overall implementation of the CEMP. They will ensure that all reporting and monitoring requirements are met, and will also ensure that adequate resources are made available to ensure the Plan is successfully implemented. The Project Manager will ensure that all site personnel comply with the CEMP.

The Project Manager will act on behalf of the Employer/Client, with responsibility for managing construction of the proposed development within the agreed environmental constraints in conjunction with all other necessary management processes.

The Foreman employed by the Main Contractor, as well as appropriate personnel from each sub-contractor will be assigned responsibility for ensuring that all relevant elements of the CEMP are undertaken as required.

5.2 Construction Traffic

All traffic for the proposed development will enter the site off St Margaret's Road (R104) via Mayeston Rise towards Mayeston Boulevard / Downs and Mayeston Green. Refer to **Figure 5.1** below.

A Construction Traffic Management Plan (CTMP) will be prepared for the works. The principal objective of the CTMP will be to ensure that the impacts of all building activities during the construction phase upon the public (offsite), visitors to the subject site (on-site) and internal (on-site) workers, are fully considered and proactively managed/programmed. This is in order to ensure that safety is maintained at all times, disruption is minimised and works take place within a controlled hazard free/minimised environment. During the general excavation of the foundations there will be additional HGV movements from the site. Monitoring measures will be adopted during the entire programme of construction activities on-site.

The CTMP will reflect the requirements of:

- Chapter 8 of the Department of the Environment Traffic Signs Manual, current edition;
- Guidance for the Control and Management of Traffic at Road Works (June 2010) prepared by the Local Government Management Services Board (Department of Transport);
- Any additional requirements detailed in the Design Manual for Roads and Bridges & Design Manual for Urban Roads & Streets (DMURS).

Traffic volumes are not anticipated to be significant[1]. Warning signage will be provided for pedestrians and other road users on all approaches in accordance with Chapter 8 of the Traffic Signs Manual and the Contractor's Traffic Management Plan.

5.2.1 Road Cleaning

Provision will be made for the cleaning by road sweeper etc. of all access routes to and from the site during the course of the works. Road cleaning shall be undertaken as required. All road sweeping vacuum vehicles will be emptied off site at a suitably licensed facility. The gate man will be responsible for managing the cleanliness of the road.

5.3 Site Compound

It is envisaged that one construction site compound will be required for the purposes of the proposed development.

The construction compound will be engineered with appropriate services and will be hoarded or fenced off for security purposes. The compound will be used as the primary location for the storage of materials, plant, and equipment, site offices (which may be two to three storeys in height), and worker welfare facilities. The construction compound will contain facilities for construction personnel and a waste segregation area. Temporary toilets and wash facilities will be provided for construction workers. These facilities may require periodic waste pumping and waste offsite haulage, which will be carried out by an authorised sanitary waste contractor. Car parking will be provided for construction workers.

An access control facility will be provided to restrict compound access to site personnel and authorised visitors only.

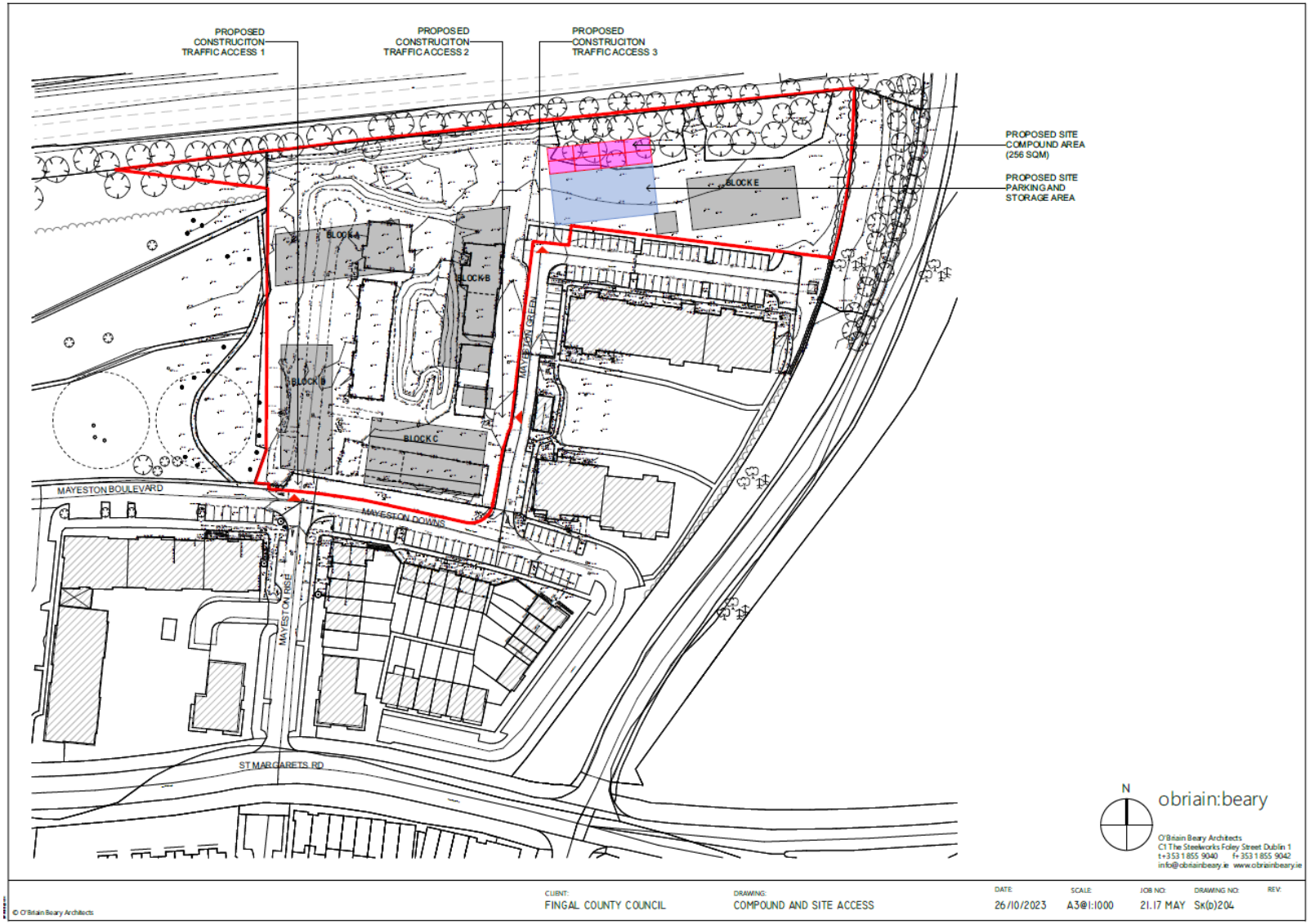
Materials to be stored on site will be stored in a safe manner. The risk of any negative environmental effects will be strictly managed and materials will be delivered on a 'just-in-time' basis. All fuel storage areas will be bunded in the compound and will be clearly marked. A dedicated fuel filling point will be set up on site with all plant brought to this point for filling.

Appropriate lighting will be provided as necessary at the construction compound. All lighting will be installed to minimise light spillage from the site and will be temporary, i.e. confined to use during construction only.

The location of construction compound and construction access is shown in **Figures 5.1**.

[1] Confirmation of vehicle numbers will be included in the CTMP and in the CEMP as it evolves

Figure 5.1 Site access and construction compound location



5.4 Working Hours

Envisaged working hours are as follows:

- Monday – Friday: 08:00 – 19:00;
- Saturday: 08:00 – 14:00;
- Weekends / Bank Holidays: No works.

Works outside of these hours will be subject to prior agreement with Fingal County Council.

5.5 Public Health and Site Safety

The appointed Contractor will be required to ensure all Health & Safety requirements are met and that the site is operated in a safe manner at all times.

All construction staff and operatives will be inducted into the security, health and safety and logistic requirements on site prior to commencing work.

All contractors will be required to progress their works with reasonable skill, care and diligence and to proactively manage the works in a manner most likely to ensure the safety, health and welfare of those carrying out construction works, all other persons accessing the subject site and interacting stakeholders.

Contractors will also have to ensure that, as a minimum, all aspects of their works and project facilities comply with legislation, good industry practice and all necessary consents.

The requirements of the *Safety, Health and Welfare at Work Act 2005 (as amended), the Safety, Health and Welfare at Work (Construction) Regulations, 2006 (as amended)* and other relevant Irish and EU safety legislation will be complied with at all times.

As required by the Regulations, a Health and Safety Plan will be formulated which will address health and safety issues from the design stages through to completion of the construction and maintenance phases. This plan will be reviewed and updated as required, as the development progresses.

In accordance with the Regulations, a "Project Supervisor for the Construction Stage" will be appointed as appropriate. The Project Supervisor Construction Stage will assemble the Safety File as the project progresses.

5.6 Emergency Responses

The Contractor will maintain an emergency response action plan which will cover all foreseeable risks, i.e. fire, spill, flood, etc. The response plan will be developed in accordance with the site emergency plan. Appropriate site personnel will be trained as first aiders and fire marshals. In addition, appropriate staff will be trained in environmental issues and spill response procedures.

Equipment and vehicles will be locked, have keys removed and be stored securely in the works area.

6 Environmental Management and Controls

To ensure the CEMP remains fit for purpose, it will be maintained as a live document. The appointed contractor will be responsible for updating the CEMP, as required; e.g. to reflect the publication of relevant new or revised guidelines and / or new statutory requirements.

This section details on the general construction management measures to be undertaken during the construction phase of the proposed development. These include:

6.1 Population and Human Health

- A Community Liaison Officer (CLO) will be appointed by the contractor for the duration of the construction phase. They will be responsible for keeping the local community and businesses informed of the timing and duration of potentially disruptive works, and for receiving and addressing concerns of local residents and businesses in relation to the proposed works.
- A Dust Minimisation Plan has been prepared by AWN Consulting Ltd. (and submitted as Appendix to the Air Quality Assessment by AWN Consulting Ltd.) for the construction phase of the proposed development, the implementation of which will provide for the proactive control of fugitive dust. The main contractor will be responsible for the coordination, implementation and ongoing monitoring of the Dust Minimisation Plan.
- Mitigation measures in relation to selection of quiet plant, noise control at source, screening, hours of work, adherence to noise limits, community liaison, monitoring and vibration control shall be undertaken.
- Measures in relation to dust and dirt control measures, noise assessment and control measures, routes to be used by vehicles, working hours of the site, details of construction traffic forecasts, times when vehicle movements and deliveries will be made to the site, facilities for loading and unloading, facilities for parking cars and other vehicles shall be implemented. It requires the implementation of a Construction Traffic Management Plan, to be prepared by the appointed contractor during pre-construction phase in agreement with Fingal County Council.
- A Resource and Waste Management Plan prepared as part of the application shall be implemented throughout the construction phase of the proposed development. Refer to Section 6.5.
- Measures in relation to management of water supply, wastewater, surface water, gas, ESB supply and telecommunications shall be implemented during the construction phase.

6.2 Biodiversity

- No designated conservation areas will be impacted in any way by the proposed development and no mitigation measures are required in this regard. Refer to the AA Screening Report that accompanies the planning documentation for full details in relation to European designated sites.
- The clearance of scrub and other vegetation that may be suitable for use by nesting birds will be undertaken outside the bird nesting season (avoiding the period 1 March to 31 August). Should the construction programme require vegetation clearance between March and August, and this is unavoidable, bird nesting surveys will be undertaken by suitably qualified ecologists. If no active nests are recorded, vegetation clearance will take place within 24 hours. In the event that active nests are observed, an appropriately sized buffer zone (up to 5 m radius around the nest) will be maintained around the nest until such time as all the eggs have hatched and the birds have fledged – a period that may be three weeks from the date of the survey. Once it is confirmed that the birds have fledged and no further nests have been built or occupied, vegetation clearance may take place immediately.
- There will be no impacts on badgers or other large mammals. Regardless, a pre-construction check for badgers will be undertaken prior to the commencement of construction, to ensure this remains the case.

- As set out in the Landscape Design Report and drawings (Redscape Landscape, 2023), a significant amount of new planting has been incorporated into the landscape design, and the planting has been designed with a view to maximising the new biodiversity resource at the proposed development site. The proposed planting / landscaping strategy includes a mix of appropriate species, incorporating species that will attract feeding invertebrates, including moths, butterflies and bees.
- The proposed planting schedule shall not contain any invasive species and none will be introduced, either deliberately or inadvertently, to the proposed development site. Appropriate biosecurity measures will be implemented during the construction phase of the proposed development.
- It is recommended that c. 3 – 4 no. wooden bird boxes suitable for use by house sparrows, robins, blue tits and / or tree creepers (e.g. as available on BirdWatch Ireland website) be incorporated into the landscaping at the proposed development site;
- Insect / bee 'hotels' may also be incorporated into landscaped areas, but should be appropriately designed and maintained so as to minimise the occurrence of pollinator pests and disease (refer to guidance document from South East Technological University2).
- Bats are sensitive to light at night, and the lighting design will ensure that the proposed development will not result in impacts on bats that do commute / forage in or near the proposed development site. The lighting design for the proposed development includes the following measures:
  - Where human safety permits it, dark corridors and dark areas will be incorporated into the open space and landscape design for the proposed development;
  - All luminaires shall lack UV elements when manufactured and shall be LED;
  - A warm white spectrum shall be adopted to reduce blue light component;
  - Luminaires shall feature peak wavelengths higher than 550 nm;
- A Surface Water Management Plan has been prepared by Downes Associates (2023) and the measures set within this plan for construction and operational phase shall be implemented in full to prevent any impacts on the receiving environment. Refer to the standalone plan for further details.

6.3 Land, Soils, Hydrology, Air & Climate

- Topsoil and subsoil will be excavated to facilitate the proposed development. Correct classification and segregation of the excavated material will take place to ensure that any potentially contaminated materials are identified and handled in a way that will not impact negatively on workers as well as on water and soil environments, both on and off-site.
- During earthworks and excavation works care will be taken to ensure that exposed soil surfaces are stable to minimise erosion.
- Silt reduction measures on site will include a combination of silt fencing and settlement measures (silt traps, silt sacks and settlement tanks/ponds).
- 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.

[2] https://www.wit.ie/news/news/a-hotel-with-too-many-vacancies

- The temporary storage of soil will be carefully managed. Stockpiles will be tightly compacted to reduce runoff and graded to aid in runoff collection.
- Construction materials, including aggregates etc. will be stored a minimum of 20-meter buffer distance from any surface water bodies and surface water drainage points.
- Aggregate materials such as sands and gravels will be stored in clearly marked receptacles within a secure compound area to prevent contamination.
- Movement of material will be minimised to reduce the degradation of soil structure and generation of dust.
- Excavations will remain open for as little time as possible before the placement of fill. This will help to minimise the potential for water ingress into excavations.
- Weather conditions will be considered when planning construction activities to minimise the risk of run-off from the site.
- Where feasible all ready-mixed concrete will be brought to site by truck. A suitable risk assessment for wet concreting will be completed prior to works being carried out which will include measures to prevent discharge of alkaline wastewaters or contaminated storm water to the underlying subsoil.
- No wash-down or wash-out of ready-mix concrete vehicles during the construction works will be carried out at the site within 10 meters of an existing surface water drainage point. Washouts will only be allowed to take place in designated areas with an impervious surface where all wash water is contained and removed from site by road tanker or discharged to foul sewer submit to agreement with Uisce Éireann / Fingal County Council.
- The construction contractor will be required to implement emergency response procedures, and these will be in line with industry guidance. All personnel working on the Site will be suitably trained in the implementation of the procedures.
- The following mitigation measures will be implemented during the construction phase to prevent any spillages to ground of fuels and other construction chemicals and prevent any spillages resulting to surface water and groundwater systems:
  - Designation of bunded refuelling areas on the Site;
  - Provision of spill kit facilities across the Site;
- Where mobile fuel bowsers are used, the following measures will be taken:
  - Any flexible pipe, tap or valve will be fitted with a lock and will be secured when not in use;
  - The pump or valve will be fitted with a lock and will be secured when not in use;
  - All bowsers to carry a spill kit and operatives must have spill response training;
  - Portable generators or similar fuel containing equipment will be placed on suitable drip trays.
- In the case of drummed fuel or other potentially polluting substances which may be used during the construction phase, the following measures will be adopted:
  - Secure storage of all containers that contain potential polluting substances in a dedicated internally bunded chemical storage cabinet unit or inside a concrete bunded area;
  - Oil and fuel storage tanks shall be stored in designated areas, and these areas shall be stored within temporary bunded areas, doubled skinned tanks or bunded containers to a volume of 110% of the capacity of the largest tank/container. Drainage from the bunded area(s) shall be diverted for collection and safe disposal.

- Clear labelling of containers so that appropriate remedial measures can be taken in the event of a spillage;
- All drums to be quality approved and manufactured to a recognised standard;
- If drums are to be moved around the Site, they will be secured and on spill pallets; and
- Drums will be loaded and unloaded by competent and trained personnel using appropriate equipment.

- Refuelling of construction vehicles and the addition of hydraulic oils or lubricants to vehicles will take place in a designated area or within the construction compound (or where possible off the site). In the event of a machine requiring refuelling outside of this area, fuel will be transported in a mobile double skinned tank. An adequate supply of spill kits and hydrocarbon adsorbent packs will be stored in this area. All relevant personnel will be fully trained in the use of this equipment. Guidelines such as "*Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors*" (CIRIA 532, 2001) will be complied with.
- The construction contractor will be required to implement emergency response procedures, and these will be in line with industry guidance. All personnel working on the Site will be suitably trained in the implementation of the procedures.
- Construction works and the proposed mitigation measures are informed by best practice guidance from Inland Fisheries Ireland on the prevention of pollution during development projects including but not limited to:
  - Construction Industry Research and Information Association (CIRIA), Control of Water Pollution from Construction Sites, Guidance for Consultants and Contractors (C532);
  - Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters (2016);
  - Construction Industry Research and Information Association (CIRIA) Environmental Good Practice on Site (4th edition), (C741); and
  - Enterprise Ireland Best Practice Guide, Oil Storage Guidelines (BPGCS005).
- All excavated materials will be visually assessed by suitably qualified persons for signs of possible contamination such as staining or strong odours. Should any unusual staining or odour be noticed, samples of this soil will be analysed for the presence of potential contaminants to ensure that historical pollution of the soil has not occurred. Should it be determined that any of the soil excavated is contaminated, this will be segregated and appropriately disposed of by a suitably permitted/licensed waste disposal contractor.
- 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 site is complete. A temporary drainage system shall be established prior to the commencement of the initial infrastructure construction works to collect and discharge any treated construction water during construction.
- Foul wastewater discharge from the site will be managed and controlled for the duration of the construction works. Prior to connection to sewer, site welfare facilities will be established to provide sanitary facilities for construction workers on site. The main contractor will ensure that sufficient facilities are available at all times to accommodate the number of employees on site and are disposed of by a licenced contractor.

- The proactive control of fugitive dust will ensure the prevention of significant emissions, rather than an inefficient attempt to control them once they have been released.
- A Dust Minimisation Plan has been prepared by AWN Consulting Ltd. (and submitted as Appendix to the Air Quality Assessment by AWN Consulting Ltd.) for the construction phase of the proposed development, the implementation of which will provide for the proactive control of fugitive dust. The main contractor will be responsible for the coordination, implementation and ongoing monitoring of the Dust Minimisation Plan.
- 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.
- Drop heights from conveyors, loading shovels, hoppers and other loading equipment will be minimised, if necessary fine water sprays should be employed.
- In the event of dust nuisance occurring outside the site boundary, movements of materials likely to raise dust would be curtailed and satisfactory procedures implemented to rectify the problem before the resumption of construction operations.
- Monitoring of construction dust deposition along the site boundary to nearby sensitive receptors during the construction phase of the proposed development is recommended to ensure mitigation measures are working satisfactorily. This can be carried out using the Bergerhoff method in accordance with the requirements of the German Standard VDI 2119. The Bergerhoff Gauge consists of a collecting vessel and a stand with a protecting gauge. The collecting vessel is secured to the stand with the opening of the collecting vessel located approximately 2m above ground level. The TA Luft limit value is 350 mg/m^2/day during the monitoring period of 30 days (+/- 2 days).
- Minimising waste of materials due to poor timing or over ordering on site will aid in minimising the embodied carbon footprint of the site.
- Sourcing materials locally where possible will reduce transport related CO_2 emissions.

6.4 Noise and Vibration

- The appointed contractor will be required to implement specific noise abatement measures to the extent required in order to comply with the recommendations of BS 5228–1 (BSI 2014a) and S.I. No. 241/2006 - European Communities (Noise Emissions by Equipment for Use Outdoors) (Amendment) Regulations 2006.
- BS 5228–1 includes guidance on several aspects of construction site practices, which include, but are not limited to:
    - Selection of quiet plant;
    - Control of noise sources;
    - Screening;
    - Hours of work;
    - Liaison with the public; and
    - Monitoring.
- The contractor will put in place the most appropriate noise control measures depending on the level of noise reduction required during specific phases of work.
- The potential for any item of plant to result in exceedance of construction noise thresholds will be assessed prior to the item being brought onto the site. The least noisy item of plant will be selected

wherever practicable (e.g. plant items with sound attenuation incorporated). Should a particular item of plant already on the site be found to exceed the construction noise thresholds, the first action will be to identify whether the item can be replaced with a quieter alternative.

- The appointed contractor will evaluate the choice of excavation, breaking or other working method taking into account various ground conditions and site constraints. Where alternative lower noise generating equipment are available that will provide equivalent results, these will be selected to control noise within the relevant thresholds, where it is practicable to do so.
- Screening is an effective method of reducing construction noise limits at a receiver location and can be used successfully as an additional measure to other forms of noise control. The effectiveness of a noise screen will depend on the height and length of the screen, its mass, and its position relative to both the source and receiver.
- Erection of localised demountable enclosures or screens will be used around piling rigs, breakers or drill bits, as required, when in operation in proximity to NSLs with the potential to exceed the construction noise thresholds.
- In addition, careful planning of the construction site layout will also be considered. The placement of site buildings such as offices and stores between the site and sensitive locations can provide a good level of noise screening.
- The proposed construction phase working hours are as follows:

  - Monday – Friday: 08:00 – 19:00
  - Saturday: 08:00 – 14:00
  - Sundays / Bank Holidays: No works

  Any works proposed outside of these hours, e.g. for water mains / foul drainage connections, will be subject to prior approval by Fingal County Council.

- The contractor will establish clear forms of communication that will involve the appointed contractor to noise sensitive locations in proximity to the works, so that residents or building occupants are aware of the likely duration of activities likely to generate noise or vibration that are potentially significant.

6.5 Material Assets, Cultural Heritage and Landscape and Visual

- Where applicable, construction compounds will not be located within the root protection area of trees or hedgerows to be retained. Compounds will be enclosed by solid hoarding/fencing. The compound areas will be fully decommissioned and reinstated at the end of the construction phase.
- The construction site will be fully enclosed and secured. Construction traffic accessing the site will follow agreed routes and public roads will be maintained in a clean and safe manner (see Figure 5.1).
- Mitigation of landscape and visual impacts during the construction phase is focused on ensuring protection of elements to be retained and providing for a degree of visual screening of particular aspects of the works (e.g. the construction compounds).
- There is a negligible potential for the survival of archaeological remains at this site. Therefore development may proceed without any further archaeological works. Regardless, in the event that any archaeological items should be discovered during construction works, they will be reported to the National Museum of Ireland and the National Monuments Service of the DHLGH who will determine the nature and extent of any archaeological work to be carried out on site.

- As noted in Section 5.2, prior to works commencing on-site, a Construction Traffic Management Plan will be prepared by the appointed contractor.
- The CTMP will outline site logistics and indicate the following:
  - Site access location;
  - Site boundary lines;
  - Tower crane locations;
  - Vehicle entry and exit routes to/from the site;
  - Diversion of pedestrian and cycling routes;
  - Location of loading and unloading areas;
  - Location of site offices and welfare facilities;
  - Location of material storage areas;
  - Banksmen locations.
- A project-specific Resource & Waste Management Plan (RWMP) has been prepared by AWN Consulting in line with the requirements of the EPA 'Best Practice Guidelines for the Preparation of Resource and Waste Management Plans for Construction & Demolition Projects' (2021), and is included as part of the planning documentation. The implementation of the mitigation measures presented in the RWMP will ensure effective waste management and minimisation, reuse, recycling, recovery and disposal of waste material generated during the excavation and construction phases of the proposed development.
- The precise routing of electricity, gas and telecommunications infrastructure on the site will be agreed with ESB, GNI and Eir / Virgin Media, respectively, prior to the commencement of on-site works.
- All reasonable precautions shall be taken to avoid unplanned disruptions to any services / utilities during the proposed works.
- Consultation with the relevant services providers shall be undertaken in advance of works. This will ensure all works are carried out to the relevant standards and ensure safe working practices are implemented.
- There will be an interface established between the contractor and the relevant utilities service providers / authorities during the construction phase of the proposed development. This interface will be managed in order to ensure a smooth construction schedule with no / minimal disruption to the local community.
- In planning and executing the proposed works, regard shall be had to the Gas Networks Ireland *Guidelines for Designers and Builders – Industrial and Commercial (Non-Domestic) Sites (2018),* the Health & Safety Authority (HSA) *Code of Practice for Avoiding Danger from Underground Services (2016)*, and the ESB Networks & Health and Safety Authority *Code of Practice for Avoiding Danger from Overhead Electricity Lines (2019).*

6.6 Risk Management

There remains a low risk of unexpected incidents such as accidental/emergency spills of hazardous substances (oils, hydraulic fluids, concrete/cement etc.), or any malfunction of environmental protection systems that may result in environmental pollution and health and safety concerns. Any occurrence of environmental incidents will be reported to the Project / Site Manager and Site Environmental Manager. Each incident will be recorded with detailed specifics such as location of the

incident, date and time, scale, nature, remediation actions, name of personnel noting the incident and any other relevant information. Works in the vicinity of the incident must be stopped until the incident is resolved and remediated. The Project Manager or the Sie Environmental Manager will ensure, where required that the incident details are communicated to the relevant regulatory authorities.

7 Environmental Management Procedures

7.1 Construction / Environmental Manager

The Construction / Environmental Manager appointed by the Contractor will oversee the development of the CEMP and the implementation of recommended mitigation measures and other environmental protection measures as required. The Construction / Environmental Manager will act as the regulatory interface on environmental matters by reporting to and liaising with local authority for the relevant jurisdiction and other statutory bodies as required.

The Construction / Environmental Manager will act as the point of contact for all environmental matters for the Contractor and will be responsible for review and authorisation of all method statements and environmental plans for the proposed development. The Construction / Environmental Manager will be responsible for updating the CEMP and maintaining all environmental records relating to the works. The CEMP will detail the general tasks and communication lines for reporting procedures for all potential environmental risks, hazards or incidents which may relate to, but not be limited to, biodiversity, water quality, soil quality, dust, noise and vibration or archaeology.

The duties and responsibilities of Construction / Environmental Manager will include:

- Updating the CEMP and supporting environmental documentation and review/approval of Contractor method statements;
- Undertaking inspections and reviews to ensure the works are carried out in compliance with the CEMP.
- Monitoring the implementation of the CEMP, particularly all proposed/required Environmental Monitoring;
- Ensuring construction works and activities are completed in accordance with all planning conditions for the development;
- Ensuring construction works and activities have minimal impact/disturbance to local landowners and the local community;
- Ensuring construction works and activities have minimal impact on the natural environment;
- Maintaining awareness of the relevant legislation, codes of practice, guidance notes and good environmental working practice relevant to their work;
- Ensuring compliance through audits and management site visits;
- Ensuring timely notification of any environmental incidents to the relevant regulatory authorities;
- Adopting a sustainable approach to construction such as sustainable sources for materials supply where possible;
- Providing adequate environmental training and awareness for all project personnel;
- Using recycled materials if possible;
- Avoidance of any pollution incident or near miss as a result of working around or close to existing watercourses and having emergency measures in place;
- Avoidance of vandalism;

- Keeping all watercourses free from obstruction and debris;
- Following correct fuel storage and refuelling procedures;
- Implementing good waste management and house-keeping;
- Preventing air and noise pollution;
- Monitoring of the works and any adverse effects on the environment;
- Altering construction methods and designs where it is found there is an adverse effect on the environment;
- Compliance with all relevant water quality legislation; and
- Ensuring a properly designed, constructed and maintained drainage system appropriate to the requirements of the site is kept in place at all times.

7.2 Training

The Contractor will ensure that an Environmental Training and Awareness Programme is established and that all personnel and subcontractors receive adequate training prior to the commencement of the construction phase. All personnel will be aware of their individual environmental responsibilities and the environmental constraints of specific jobs. No person will work on site without first receiving environmental induction.

The environmental performance at the construction site will be on the agenda of all project management meetings. Elements of the CEMP, such as objectives, targets and the effectiveness of environmental procedures will be discussed at these meetings. All site monitoring results will be evaluated by the Environmental Manager. Key findings along with any mitigation measures as required will be clearly communicated to the project team.

All site personnel will receive Environmental Induction that will be integrated into the general site induction on a case-by-case basis for each member of staff employed on-site depending on their assigned roles and responsibilities on site. This will ensure that personnel are familiar with the environmental aspects and impacts associated with their activities, that appropriate procedures are in place to control these impacts and that they fully understand the consequences of departure from agreed procedures.

Toolbox talks would be held by the Construction / Environmental Manager at the commencement of new activities. The aims of the toolbox talks are to identify the specific proposed work activities that are scheduled work activities and associated environmental issues. In addition, the necessary work method statements and sub plans would be identified and discussed. Toolbox talks will reflect the type of works being undertaken and the environmental impacts that may result from these activities e.g. training on water pollution prevention before works near watercourses. Training to be given will include the contents of this CEMP incorporating the following as appropriate:

- Protected species / habitats;
- Environmental incidents;
- Water pollution prevention;
- Spill control and spill kits;
- Dust and air quality;
- Erosion and sediment control; and
- Storage and use of petrol, diesel, and oils.

Site meetings would be held on a regular basis involving all site personnel. The objectives of the site meetings is to discuss the coming weeks proposed activities and identify the relevant work method statements and sub-plans that will be relevant. Additionally, any non-compliance identified would also be discussed with the aim to reduce the potential of the same non-compliance reoccurring.

7.3 Control of Records

Environmental records, including waste management records, will be maintained in accordance with respective company procedures and legal requirements. This will in turn ensure effective monitoring and implementation of the CEMP.

Any complaint related to the site will be dealt with by the Project Manager. The source of the compliant will be investigated and remediated. All complaints must be recorded including details of the complaint and corrective action.

Routine inspections of construction activities will be carried out on a daily basis by the Contractor's Construction/Environmental Manager to ensure all necessary measures to avoid or mitigate environmental impact, relevant to the construction activities are being implemented.

8 Conclusion

This CEMP outlines the management procedures for the proposed development to prevent any environmental impacts and to respond to any potential environmental risks from construction activities on-site.

The CEMP will be a working document and will be finalised by the Contractor following appointment and prior to commencing works on site. However, all of the content in this CEMP will be implemented in full by the Contractor and finalised by the Contractor.

9 References

BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites - Noise;

BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites - Vibration;

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

BS 8233:2014 Guidance on sound insulation and noise reduction for buildings;

By-Product Guidance Note, A Guide to by-products and submitting a by-product notification under Article 27 of the European Communities (Waste Directive) Regulations 2011 (S.I. No. 126 of 2011) (EPA, 2020);

C741- Environmental Good Practice on Site Guide (4th Edition) (CIRIA, 2015);

C532- Control of Water Pollution from Construction Sites (CIRIA, 2001);

C733- Asbestos in Soil and Made Ground: a Guide to Understanding and Managing Risks (CIRIA, 2014);

Framework and Principles for the Protection of the Archaeological Heritage (Department of Arts, Heritage, Gaeltacht and the Islands, 1999).

Guidance on Soil and Stone By-products in the context of article 27 of the European Communities (Waste Directive) Regulations 2011, Version 3 (EPA 2019);

Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013).

National Roads Authority (2010). Guidelines on the Management of Noxious Weeds and Non-native Invasive Plant Species on National Roads.

Requirements for the Protection of Fisheries Habitat during Construction Works in and Adjacent to Waters (Inland Fisheries Ireland, 2016); and

Waste Classification, List of Waste and Determining if Waste is Hazardous or Non-hazardous, (EPA 2018).

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