**Document Title**

# Outline Construction Management Plan

**Project**

Amendment Application to Blocks A and D of GA01
lands at Baldoyle, Co. Dublin

**Client**

Land Development Agency

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Civil, Structural & Traffic Engineering

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# OUTLINE CONSTRUCTION MANAGEMENT PLAN

# AMENDMENT APPLICATION TO BLOCKS A AND D OF GA01 LANDS AT BALDOYLE, CO. DUBLIN

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## 1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by The Land Development Agency (LDA) to prepare an Outline Construction management Plan (PCMP) to accompany a LRD Opinion Request in respect of proposed amendments to permitted development of GA01 Lands, as permitted under ABP Reg. Ref. 310418-21 / FCC Reg. Ref. SHD/011/20. The proposed amendments comprise of alterations to the permitted Blocks A and D and Stapolin Square only.

The Outline Construction Environment Management Plan is a preliminary plan. This provides a framework within which all final construction processes, site management arrangements, and environmental protection measures employed during construction are to be specified. Construction of the proposed development will be under the control of a lead contractor, who will be appointed following a grant of planning permission. Upon appointment, once familiar with the site and having developed a final detailed methodology for construction, the lead contractor will expand upon the OCEMP to produce a detailed Construction Management Plan (CMP). The content of the contractor's CMP will be agreed with Fingal County Council prior to commencement of works.

The contractor's detailed Construction Management Plan will give greater detail of construction management arrangements and processes, while adhering to the stipulations of this OCEMP. It will also incorporate the following:

- an Operational Health & Safety (OH&S) Management Plan;
- an Environmental Management Plan (including a Waste Management Plan); and
- a Construction Traffic Management Plan (including a Pedestrian Management Plan).

The contractor's Construction Management Plan will be strictly adhered to throughout the development's construction stage, to ensure the following:

- That all site activities are effectively managed to minimise the generation of waste and to maximise the opportunities for on-site reuse and recycling of waste materials.
- To ensure that all waste materials generated by site activities, which cannot be reused on site, are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved licensed facilities in compliance with the Waste Management Act 1996, the Waste Management (Amendment) Act 2001, and the Protection of the Environment Act 2003.

- To manage and control any environmental impacts (noise, vibration, dust, water) that construction activities may have on the local receiving environment, in particular on receptors and properties adjacent to the construction site.
- To comply with all planning conditions and requirements imposed in relation to waste management.

The OCEMP demonstrates how the appointed contractor, and the relevant Project Supervisors (Site Manager, Health & Safety Officer, and Project Ecologist, as applicable) will comply with the following relevant legislation and best practice guidelines:

- Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013)
- Integrated Pollution Prevention and Control Directive (1996/61/EC)
- The Waste Framework Directive (Directive 2008/98/EC)
- Environmental Protection Agency Act 1992
- Waste Management Act 1996, the Waste Management (Amendment) Act 2001 and the Protection of the Environment Act 2003
- Waste Management (Collection Permit) (Amendment)(No.2) Regulations 2016
- Waste Management (Permit) Regulations 1998 (SI No. 165 of 1998)
- Department of the Environment, Heritage and Local Government – Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects – June 2006
- Local Government Water Pollution Act 1977

Environmental Protection Agency (EPA) – Best Practice Guidelines for the Preparation of Resource Management Plans for Construction & Demolition Projects – 2021.

## 2.0 SITE LOCATION AND PROPOSED DEVELOPMENT

### 2.1 Site Location

The proposed amendments relate to a site area of approx. 3.03 ha, which forms part of the wider c.9.1ha development permitted under ABP Reg. Ref. ABP-310418-21.

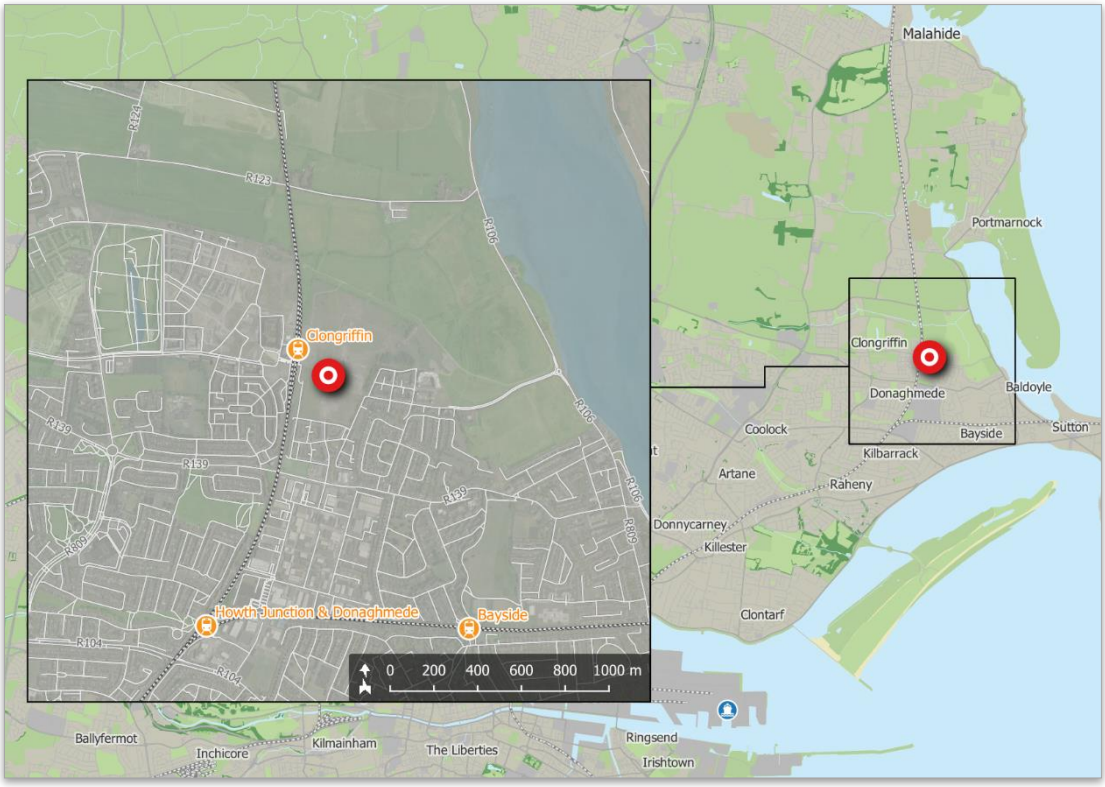


Figure 1 – Location of subject lands
(sources: EPA, OSi, OSM Contributors, Google)

The location of the subject lands is shown in **Figure 1**; their extents and environs are shown in more detail in **Figure 2**.

The site is bounded to the west by the Dublin-Belfast railway line, with Clongriffin DART Station located just to the northwest of the applicant lands, to the east and south by Blocks B and C which are currently under construction as permitted under FCC Reg. ref. SHD/011/20 and to the north by development lands known as Growth Area 3 (GA3).

Figure 2 – Subject lands extents and environs
(sources: NTA, OSi, OSM Contributors, Microsoft)

## 2.2 Existing Land Use

The subject lands are currently undeveloped and generates no traffic volumes.

## 2.3 Description of Permitted Development under FCC Reg. Ref. SHD/011/20

The development comprised of alterations to the permitted development, as permitted under FCC Reg. Ref. 16A/0412, ABP Reg. Ref. ABP-248970 (as amended by F20A/0258 and F21A/0046) of 544 no. residential units (385 no. apartments and 159 no. houses), retail and a crèche, to the development of 882 no. new residential dwellings (747 no. apartments, 135 no. houses), residential tenant amenity, retail, crèche, parking, and public realm, over a total site area of c. 9.1 ha, and site development area of c. 8.89 ha. Landscaping will include extensive communal amenity areas, and significant public open space provision.

## 2.4 Description of Amended Development

The proposed development will consist of the alteration of permitted development of Block A, Block D and Stapolin Square, as permitted under ABP Reg. Ref. ABP-310418-21 (and as amended under LRD/0015/S3 & LRD/0073/S3E). No amendments are proposed to any other permitted blocks. The permitted Block A and Block D are located to the south and north of

Stapolin Square and include for 528 units (277 in Block A1, A2 & A3 and 251 in Block D1, D2 & D3) and include residential tenant amenity, retail/café/restaurant, pharmacy, medical centre, crèche, gym, car and bicycle parking and public realm. The proposed alterations only relate to Block A, Block D and Stapolin Square, of the permitted development and for the most part are contained within the footprint and massing of the permitted development and relate to internal reconfiguration.

The proposed alterations result in an overall increase of 68 no. units in Block A and Block D, bringing the total units in Block A and Block D to 596, the total units permitted under ABP Reg. Ref. ABP-310418-21 (as amended) to 893 (760 apartments and 133 houses).

The proposed altered residential development of Block A and Block D will consist of a total of 596 no residential apartments, as follows:

1. Alteration of Blocks A1, A2 & A3 from permitted 4 to 7-storey buildings providing for 288 no. apartment units to a 4 to 7 storey building providing for 312 no. apartments.
2. Alteration of Blocks D1, D2 & D3 from permitted 5 to 10-storey buildings providing for 251 no. apartment units to a 5 to 10 storey building providing for 284 no apartments.
3. The reconfiguration of internal layouts of each of the blocks has resulted in the reduction of the blocks overall width and therefore increased width and area to the courtyards and increased distance between individual blocks.
4. Alteration of the permitted uses and facade at ground floor level and removal of permitted Residential Tenant Amenity Facilities located in Blocks A3 and D3 to provide for a ground floor level that includes in Blocks A1-A3, retail/restaurant/café/gym units and a creche including outdoor play space and in Blocks D1-D3, retail/restaurant/cafe units and residential units.
5. A revised central civic plaza at Stapolin Square centrally located between blocks A1-A3 and D1-D3, redesigned to address Condition 2 (a) of ABP-310418-21 which requires the removal of the two previously proposed public lifts. Stapolin Square is now designed to accommodate a gently sloped landscaped route from Longfield Road to Clongriffin Train Station.
6. Alterations to the permitted below podium areas under Block A, Stapolin Square & Block D to include for alterations to permitted layouts of car parking, cycle parking, plant, waste stores and substation locations. This includes the reduction in car parking as required under Condition 2 (b) of ABP-310418-21 which requires omission of car parking under the permitted ramped access road to the Train Station to the north of Block D. An increase in bicycle parking is proposed.

No amendments are proposed to the constructed Blocks within B3, B4, C4, C5, C6 or the permitted The Haggard Park which remains as permitted, or all other elements including surface water attenuation wetlands and associated upstream surface water network, demolition of existing temporary lift and stair enclosure and associated infrastructure to Clongriffin Train Station, road infrastructure (except where within the application boundary and requiring to be locally altered for proposed alterations), and utilities infrastructure (except where within the application boundary and requiring to be locally altered for proposed alterations), all of which remain as per permitted.

## 3.0 SITE MANAGEMENT

### 3.1 Site Establishment and Construction Phasing

The contractor will provide all necessary accommodation, material handling and secure storage for its operations.

The facilities to be provided and maintained by the contractor will include:

- construction plant;
- hoisting equipment and cranes;
- scaffolding, platforms, access ladders, barriers, handrails;
- barricades and hoardings;
- temporary driveways, road crossovers and construction zone;
- 24/7 emergency vehicle access to site during working hours;
- on-site hardstand areas for vehicle loading and unloading;
- storage sheds and compounds;
- rubbish sorting areas;
- site amenities with all required equipment and facilities;
- construction worker accommodation;
- first aid facilities;
- site administration accommodation.

Construction plant and site amenities will comply with the requirements of all relevant authorities and be wholly contained within the hoarded site. All construction plant and equipment will be progressively removed when no longer required.

First Aid facilities for the use of all construction staff in the form of a fully provisioned first aid area within the site office with life-saving and safety equipment as required by relevant statues, authorities and awards will be maintained at all times by the contractor.

The contractor will obtain all required permits, pay the applicable fees and comply with all conditions.

Subject to a successful grant of planning, it is intended for the works to commence in Q2 2027. The proposed development is anticipated to be constructed over an 18-24-month period.

### 3.2 Hoarding and Fences

Prevention of unauthorised access to the site is a very high priority and shall be vigorously managed throughout the construction period. When the contractor is appointed, the site shall be secured with site barriers and hoardings in accordance with the final construction management plan. Any hoardings and signboards to the perimeter of the site shall comply with the requirements of the relevant authorities and the relevant Health and Safety Acts.

The contractor shall be required to erect a single project signboard to the hoarding at the main entrance points to identify the site.

### 3.3 Services Relocations and Temporary Protection of Public Domain

Prior to any works commencing on site, detailed dilapidation reports will be carried out to properties and buildings adjoining the site.

Further dilapidation reports will be carried out for footpaths, kerbs, road pavements and utility infrastructure features of the main access routes in the immediate vicinity to the site.

The contractor will provide protection to existing surrounding building elements potentially impacted by the works. Protection may be in the form of screened hoardings, scaffolding and fencing, taped drop sheets and the like, all installed prior to commencement of the demolition works.

The type of required hoardings, scaffolding and fencing will vary over the duration of the works, depending on how the site activities potentially impact on the adjoining public domain and neighbourhood.

Dial-before-you-dig enquiries and detailed services location investigations shall be carried out to identify any need for temporary protection of elements of existing utility infrastructure that are not to be diverted as part of the works.

All temporary protection is to be installed and maintained during the duration of the works until they are no longer required.

### 3.4 Major Plant and Equipment

Plant and equipment used during the entire works are:

- articulated and rigid trucks;
- rigs, bulldozers, excavators, backhoes, with ancillary equipment (rock hammers or saws);
- mobile cranes;
- concrete delivery trucks;
- concrete pumps;
- man, and material hoists;
- scissor, boom and fork lifts.

All plant and equipment will be operated by experienced and qualified personnel with the appropriate registrations.

### 3.5 Vehicular Access to Site

Construction site access will be via a haul road from an access at Red Arches Road to the south of the development site extents. Access to the construction site will be restricted to this location in order to define exit and entry areas for site vehicles.

Security personnel will be present at the entrance/exit of the site to ensure all egressing traffic will do so safely. A wheel wash will be installed at the exit from the site to prevent any dirt being carried out into the public road. A road sweeper will be employed as required to keep all public roads around the site clean.

### 3.6 Protection of Public Areas from Construction Activity

Perimeter hoarding will be erected around the construction site, to provide a barrier against unauthorised access from the public realm. Controlled access points to the site, in the form of gates or doors, will be kept locked for any time that these areas are not monitored (e.g. outside working hours).

The hoarding will be well-maintained and will be painted; it may also feature graphics portraying project information.

Method statements will be prepared where any plant is operating adjacent to existing buildings.

### 3.7 Site Security

Access to site will be controlled by means of an electronic access control system and camera remote monitoring system for out of hours use. During working hours, a gateman will control traffic movements and deliveries.

All personnel working on site will be required to have a valid Safe Pass card.

### 3.8 Material Hoisting & Movement Throughout the Site

It is envisaged that the periodic use of mobile cranes will be sufficient for all construction works on site. Mobile crane visits will be coordinated with the other site activities to ensure that all risks are correctly assessed and guarded against. A detailed crane analysis will be prepared for verification of the safe load parameters. No loads will be lifted over the public domain or adjacent properties.

Hoists and teleporters may also be used within the site and around its perimeter as required during the project, to facilitate material and waste movements into and out of the site.

### 3.9 Deliveries & Storage Facilities

It is proposed that unloading bays within the hoarding perimeter be provided for deliveries to the site. They should be accessible by tower crane and forklifts. Appropriately demarcated storage zones will be used to separate and segregate materials.

All deliveries to site will be scheduled to ensure their timely arrival and avoid need for storing large quantities of materials on site. Deliveries will be scheduled outside of rush traffic hours to avoid disturbance to pedestrian and vehicular traffic in vicinity of the site.

### 3.10 Site Accommodation

Onsite facilities will consist of:

- materials storage area(s);
- a site office and meeting room;
- staff welfare facilities (e.g. toilets, drying room, canteen, etc.).

Electricity will be provided to the site via the national grid. Water supply to the site during demolition and construction works will be provided by means of a temporary connection to a public watermain. Similarly, a temporary connection for foul water drainage will be made to the public network.

### 3.11 Site Parking

Vehicle parking for construction personnel shall be accommodated within the development site. To the extent possible, personnel will also be encouraged to use public transport, and information on local transportation will be published on site.

### 3.12 Site Working Hours

Subject to the agreement of the Planning Authority, the following site operation hours are proposed:

- Monday to Friday: 07:00 to 19:00
- Saturdays: 08:00 to 14:00
- Sundays & Bank Holidays: Works not permitted

It may be necessary for some construction operations to be undertaken outside these times, for example: service diversions and connections; concrete finishing and fit-out works; etc. There may also be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times.

## 4.0 ENVIRONMENTAL MANAGEMENT

The contractor will establish guidelines and controls for all activities that may impact on the surrounding environment for the duration of the works, including; air, water, land, natural resources, flora, fauna, humans, and their interrelation.

The project is to be developed to enable to all personnel with the means to understand their responsibilities and to meet the contractor's statutory, contractual and procedural obligations relating to environmental management.

For each activity, the environmental aspects and associated actual and potential impacts are to be identified as they relate to the following environmental elements:

- emissions to air;
- releases to water;
- releases to land;
- use of raw materials & natural resources;
- use of energy;
- waste and by-products;
- community & neighbours;
- flora & fauna;
- heritage & cultural

### 4.1 Materials and Decontamination

Excavation works will each address the requirements of this investigation report and verify the treatment and removal of all materials and contamination encountered during the works.

### 4.2 Storm Water and Waste Management

The purpose of stormwater management is to ensure that storm water runoff is managed and that there is no off-site environment impact caused by overland storm water flows.

The project environmental management plan will be developed in detail to include:

- silt control on the roads;
- discharge water from dewatering systems;
- diversion of clean water;
- treatment and disposal of wastewater from general clean-up of tools and equipment;
- spills control;
- a buffer zone of at least 20m separating working machinery from watercourses;
- a prohibition on machinery entering watercourses;
- refuelling of machinery off-site or at a designated bunded refuelling area;
- silt trapping and oil interception (to be considered where surface water runoff may enter watercourses).

### 4.3 Noise

Noise monitoring will be established on site throughout the project. Noise monitoring shall be carried out for a period of at least 2 weeks prior to any works commencing, in order to establish a baseline, and the results communicated to DCC in the form of baseline reports.

All construction activities will be carried out in compliance with the recommendations of BS 5228 (*Code of practice for noise and vibration control on construction and open sites*) and BS 6187 (*Code of practice for full and partial demolition*).

The measures employed to ensure compliance will include:

- Noise monitoring stations, monitored daily, located on site and at recommended locations in the vicinity of the site, to record background and construction noise activity.
- The best means practical used to minimise the noise produced by all on site operations.
- Proper maintenance of all operating plant to ensure noise emission compliance.
- Selection of all operating plant on the basis of incorporating noise reducing systems, with a minimum requirement that effective exhaust silencers be fitted.

- Fitting of compressors with acoustically lined covers, which will remain closed while the machines are in operation.
- Location of plant such as pumps and generators, which are required to work outside of normal working hours, within acoustic enclosures.
- Strict adherence to the site working hours stipulated in the Planning Conditions.

4.3.1 General considerations

All site staff shall be briefed on noise control measures and best practice methodologies to control noise.

- Site hoarding will be erected to minimise noise transmission beyond the site boundary.
- The Contractor will employ a Dedicated Community Liaison Officer (DCLO) to engage with neighbours on a weekly basis, keep them apprised of the pending works on site and address any concerns raised.
- Internal haul routes shall be maintained, and steep gradients shall be avoided where possible.
- Material and plant loading and unloading shall only take place during normal working hours unless the requirement for extended hours for traffic management (i.e. road closure) or health and safety reasons has been granted (application must be made to the Council a minimum of 4 days prior to proposed works).
- The opening and shutting of gates will be minimised through good coordination of deliveries and vehicle movements.

4.3.2 Plant

- The Contractor will ensure that each item of plant and equipment complies with the noise limits quoted in the relevant EC Directive 2000/14/EC.
- All plant and equipment shall be fitted with appropriate mufflers or silencers of the type recommended by the manufacturer.
- All plant and equipment shall be used only for the tasks for which it has been designed.
- All plant and equipment in intermittent use shall be shut down in the intervening periods between work or throttled down to a minimum.
- Plant shall be powered by mains electricity wherever possible, rather than by generators.
- Partial or full enclosures shall be provided around fixed plant where possible.

- Movable plant shall be located away from noise sensitive receptors where possible.
- All plant operators are to be qualified in their specific piece of plant.
- Compressors and generators shall be sited in areas least likely to give rise to nuisance.
- Regular and effective maintenance by trained personnel shall be carried out to reduce noise and/or vibration from plant and machinery.

4.3.3 Vehicle activity

- All vehicle movement on site will occur within permitted working hours, unless permission to the contrary has been granted.
- Loading and unloading shall occur within designated loading areas, as far from noise receptors as possible.
- Deliveries and vehicle movements shall be planned so that vehicles are not waiting or queuing on the adjacent road network.
- The site layout shall be planned to ensure that reversing of vehicles is kept to a minimum.

## 4.4 Air Quality & Dust Monitoring

Dust suppression measures shall be employed to control airborne particulate pollution. The Contractor shall monitor dust levels in the vicinity of the site using a Bergerhoff gauge instrument or in accordance with DCC planning conditions. Records shall be kept of such monitoring for review by the Planning Authority. The minimum criteria to be maintained shall be the limit for Environmental Protection Agency (EPA) specification for licensed facilities in Ireland, which is 350mg/m$^2$/day. The Contractor shall continuously monitor dust over the variation of weather and material disposal to ensure the limits are not breached throughout the project.

The Contractor will ensure that all construction vehicles that exit the site onto the public roads will not transport dust and dirt to pollute the external roadways. This will be achieved through a combination of the following measures:

- ensuring that construction vehicles have a clean surface to travel on within the site (i.e. haul road);
- ensuring that all construction vehicles are inspected by the gateman for cleanliness prior to exiting the site;

- providing a full-body self-contained wheel wash facility within the site, assisted if required by a manned power washer;
- retaining a dedicated road sweeper for the duration of the haulage works.

Water supplies shall be recycled for use in the wheel wash. All waters shall be drained through appropriate filter material prior to discharge from the site.

The use of appropriate water-based dust suppression systems will greatly reduce the amount of dust and windborne particulates as a result of the construction process. This system will be closely monitored by site management personnel, particularly during extended dry periods and in accordance with site management methods.

### 4.5 Migrating Dust and Dirt Pollution

The Contractor will ensure that all construction vehicles that exit the site onto the public roads will not transport dust and dirt to pollute the external roadways. This will be achieved through a combination of the following measures:

- ensuring that construction vehicles have a clean surface to travel on within the site (i.e. haul road);
- ensuring that all construction vehicles are inspected by the gateman for cleanliness prior to exiting the site;
- providing a full-body self-contained wheel wash facility within the site, assisted if required by a manned power washer;
- retaining a dedicated road sweeper for the duration of the haulage works.

Water supplies shall be recycled for use in the wheel wash. All waters shall be drained through appropriate filter material prior to discharge from the site.

The use of appropriate water-based dust suppression systems will greatly reduce the amount of dust and windborne particulates as a result of the construction process. This system will be closely monitored by site management personnel, particularly during extended dry periods and in accordance with site management methods.

### 4.6 Harmful Materials

Harmful materials if encountered will be stored on site for use in connection with the construction works only. These materials will be stored in a controlled manner. Where on site

facilities are used, there will be a bunded filling area using double bunded steel tanks at a minimum.

4.6.1 Contaminated soil

If any contaminated material is encountered, it will need to be segregated from clean/inert material, tested and classified as either non-hazardous or hazardous in accordance with the EPA publication entitled 'Waste Classification: List of Waste & Determining if Waste is Hazardous or Non-Hazardous' using the HazWasteOnline application (or similar approved classification method). The material will then need to be classified as clean, inert, nonhazardous or hazardous in accordance with the EC Council Decision 2003/33/EC, which establishes the criteria for the acceptance of waste at landfills.

4.6.2 Fuels/oils

As fuels and oils are classed as hazardous materials, any on-site storage of fuel/oil, all storage tanks and all draw-off points will be bunded and located in a dedicated, secure area of the site. Provided that these requirements are adhered to, and site crew are trained in the appropriate refuelling techniques, it is not expected that there will be any fuel/oil wastage at the site.

4.6.3 Other known hazardous substances

Paints, glues, adhesives and other known hazardous substances will be stored in designated areas. They will generally be present in small volumes only and associated waste volumes generated will be kept to a minimum. Wastes will be stored in appropriate receptacles pending collection by an authorised waste contractor. In addition, WEEE (containing Construction and Demolition Waste Management Plan 11 hazardous components), printer toner/cartridges, batteries (Lead, Ni-Cd or Mercury) and/or fluorescent tubes and other mercury containing waste may be generated during construction activities. These wastes (if encountered) shall be stored in appropriate receptacles in designated areas of the site pending collection by an authorised waste contractor.

In the event that hazardous soil, or historically deposited hazardous waste is encountered during the work, the Contractor must notify the Fingal County Council and provide a Hazardous/Contaminated Soil Management Plan, to include estimated tonnages, description of location, any relevant control measures, destination for authorised disposal/treatment, in addition to information on the authorised waste collectors.

## 5.0 CONSTRUCTION TRAFFIC MANAGEMENT

### 5.1 Works-Specific Construction Traffic Management Plan

Prior to works commencing on site, the lead Contractor appointed to the project will develop a detailed works-specific Construction Traffic Management Plan (CTMP), reflecting the specifics of their final site management and construction methodologies. This plan shall be prepared in consultation with the Design Team, with Fingal County Council (FCC), and with An Garda Síochána, and shall be updated as required throughout the project.

The principal objective of the CTMP is to proactively manage the impacts of all construction traffic related to the proposed development, upon both the public (off-site) and internal (on-site) environments. It shall aim to ensure that the safety of the public and of construction workers is maintained at all times, that disruptions are minimised, and that all operations are undertaken within a risk-controlled environment. It is noted that the impact of the construction works on the surrounding road network will be temporary in nature.

The final CTMP will be prepared in accordance with the principles outlined below and shall always comply with:

- Chapter 8 of the Department of Transport Traffic Signs Manual, current edition, published by The Stationery Office and available from the Government Publications Office, Sun Alliance House, Molesworth Street, Dublin 2.
- the *Guidance for the Control and Management of Traffic at Road Works* (June 2010) prepared by the Local Government Management Services Board.
- the *Construction Site Traffic Management Plan (CSTMP) Guidance* prepared by the Health and Safety Authority.
- any additional requirements detailed in TII standards or in the *Design Manual for Urban Roads and Streets* (DMURS).

Issues addressed in the CTMP shall include:

- Public safety
- Construction traffic routes
- Deliveries schedule
- Special deliveries (wide and long loads)
- Traffic flows
- Signage and lighting

- Road opening requirements
- Road closures
- Lighting

A liaison officer will be appointed as a point of contact with local residents, DCC, and An Garda Síochána.

Among the traffic management measures to be included in the CTMP are:

- Securely fencing off the site from adjacent properties, public footpaths and roads during the pre-construction stage.
- Providing signage on the surrounding road network to define the access and egress routes for the development.
- Strictly controlling the traffic generated by the construction stage of the development in order to minimise the impact of this traffic on the surrounding road network.
- Adequately signposting and enclosing all road works to ensure the safety of all road users and construction personnel.
- Accommodating all unavoidable personnel and visitor vehicle parking demands on-site or within designated off-site parking areas.
- Implementing a programme of street cleaning as required.
- Making arrangements to facilitate the delivery of abnormal loads to the site.
- Implementing measures to avoid queuing of construction traffic on the adjoining road network.

### 5.2 Site Parking

Vehicle parking for construction personnel shall be accommodated within the development site. To the extent possible, personnel shall however be encouraged to use public transport, and information on local transportation shall be published on site.

### 5.3 Vehicular Movements During Construction

The major construction activities include site clearance, excavation, construction, and fit out. Heavy Goods Vehicle (HGV) construction traffic to and from the site shall reach a peak during preliminary earthworks, which may require the removal of spoil from the site and/or the importation of soil and aggregate. The final programming and scheduling of any such material transfer shall be determined by the lead Contractor appointed to the project. Under a 'worst-case' scenario, however, it is possible that up to 4no. such HGV trips may be made to the site

each hour (one HGV arrival and one HGV departure every 15 minutes). This would equate to total traffic movements of 18 Passenger Car Units (PCU) in each of the background peak hours.

In addition to HGV traffic, periodic deliveries of materials to site shall be made by Light Goods Vehicles. To the extent possible, these shall be scheduled to take place outside of the background peak traffic hours. Such trips are also unlikely to occur frequently during the stages of construction that require bulk excavation or the importation of fill material; LGV trips are therefore unlikely to occur in significant numbers at the same time as HGV trips take place. For the purposes of estimating a worst-case construction traffic generation scenario, however, 5no. LGV arrivals and 5no. LGV departures (total traffic movements of 10 PCU) are assumed in each of the background peak hours.

As car parking for construction personnel will be provided on site during construction works; some vehicular trips shall be made to and from the site each day by construction personnel commuting to and from work. The majority of these trips are expected to fall outside the background traffic peak hours. In the worst-case scenario, it is assumed that 10no. such light vehicle trips may be made to the site during the AM peak hour, and 10no. such trips may be made from the site during the PM peak hour.

The anticipated worst-case scenario vehicular trip generation of the subject site during construction is summarised in **Table 1**.

Table 1 – Maximum Peak Hour Construction Traffic Generation

| Time Period | Heavy Goods Vehicles | Light Vehicles | TOTAL (PCU) [1] |
|---|---|---|---|
| Arrivals | | | |
| AM Peak | 4 | 15 | 24 |
| PM Peak | 4 | 5 | 14 |
| Departures | | | |
| AM Peak | 4 | 5 | 14 |
| PM Peak | 4 | 15 | 24 |
| Total Trips | | | |
| AM Peak | 8 | 20 | 38 |
| PM Peak | 8 | 20 | 38 |

This projected construction-stage vehicular trip generation shall not significantly increase total traffic flow volumes at any nearby road junction and therefore does not have the potential to significantly affect the operation of the surrounding road network.

### 5.4 Minimisation of Construction Vehicles Movements

Construction vehicle movements will be minimised through:

- Consolidation of delivery loads to/from the site and management of large deliveries on site to occur outside of peak periods.
- Use of precast/prefabricated materials where possible.
- Reuse on site of 'cut' material generated by the construction works, where possible, through various accommodation works.
- Provision of adequate storage space on site.
- Development of a strategy to minimise construction material quantities as much as possible.

### 5.5 Minimisation of Staff Vehicle Movements

Construction staff vehicle movements to and from the site shall be minimised by promoting more sustainable means of transport among construction personnel. The following headings identify some of the measures to be adopted in this regard.

[1] Light Vehicle (car or LGV) = 1 PCU; HGV = 2.3 PCU

5.5.1 Walking and Cycling

Cycle parking spaces will be provided on the site for construction staff. In addition, lockers and drying facilities will be provided to allow pedestrians and cyclists to store and dry their clothes.

5.5.2 Public Transport

Construction staff will be encouraged to use public transport for travel to and from the site. An information leaflet will be provided to all staff as part of their induction on site highlighting the location of the various public transport services in the vicinity of the construction site.

5.5.3 Car Sharing

Organisational support and encouragement will be provided for car sharing amongst staff, particularly those for whom end-to-end public transport journeys are impractical. To the extent possible, the Contractor will endeavour to arrange staff shift patterns to facilitate shared journeys by staff who would drive similar routes.

## 5.6 Deliveries and Storage Facilities

It is proposed that unloading bays be provided for deliveries to the site within the hoarding perimeter. These should be accessible by crane and teleporters. Appropriately demarcated storage zones will be used to separate materials.

All deliveries to site will be scheduled to ensure their timely arrival and avoid need for storing large quantities of materials on site. Deliveries will be scheduled outside of peak traffic hours, to avoid disturbance to pedestrian and vehicular traffic in the vicinity of the site.

## 5.7 Monitoring and Maintenance of Public Roads

A Visual Condition Survey (VCS) will be carried out of all surrounding streets prior to any site works commencing. The lead Contractor will liaise with FCC to agree any changes to load restrictions and construction access routes for the site. Measures will be put in place as required to facilitate construction traffic whilst simultaneously protecting the built environment.

Site entrances and temporary roads will be continuously maintained for emergency vehicle access. The following measures will be taken to ensure that the site, public roads, and surroundings are kept clean and tidy:

- A regular program of site tidying will be established to ensure a safe and orderly site.

- Scaffolding will have debris netting attached to prevent materials and equipment being scattered by the wind.
- Food waste will be strictly controlled on all parts of the site.
- Mud spillages on roads and footpaths outside the site will be cleaned regularly and will not be allowed to accumulate.
- Wheel wash facilities will be provided for vehicles exiting the site.

## 6.0 SEDIMENT AND WATER POLLUTION CONTROL PLAN

All works carried out as part of these infrastructure works will comply with all Statutory Legislation including the Local Government (Water Pollution) acts, 1977 and 1990 and the contractor will co-operate in full of the Environmental Section of Fingal County Council. Reference should also be made to the EIS accompanying this application and Chapter 6 of the Environmental Impact Statement as permitted under the grant of permission F16/0412.

As part of the overall construction methodology, the following issues will be addressed and have been identified as being of particular risk and/or concern to pollution.

### 6.1.1 Contamination of Watercourse / Groundwater

There is a risk that ground water could become contaminated with lime from cement which subsequently finds its way into the local adjacent watercourses. The measures proposed to be put in place to mitigate any potential damage from the effluent of contaminated ground water would be to create an exclusion zone, as far as reasonably practicable, by the erection of a visible 1.0m high barrier along watercourses. This will be formed by means of steel road pins, which will be used to support a PVC 'orange' barrier with warning signs appropriately fixed at regular intervals. The signs shall read '**NOTICE – NO DISCHARGE OF ANY KIND IS PERMITTED IN THIS VICINITY OR BEYOND THIS EXCLUSION ZONE'.**

### 6.1.2 Sediment & Erosion

Similar to the above, adjacent watercourses/groundwater need to be protected from sedimentation and erosion due to direct surface water runoff generated onsite during the construction phase. To prevent this from occurring surface water discharge from the site will be managed and controlled for the duration of the construction works until the permanently attenuated surface water drainage system of the proposed site is complete. A temporary positive drainage system shall be installed prior to the commencement of the construction works to collect surface water runoff by the site during construction. A series of geotextile lined cascading, high level outfall, settling

basins will be installed upstream of the agreed discharge point. This temporary surface water management facility will throttle runoff and allow suspended solids to be settled out and removed before being discharged in a control manner to the agreed outfall. All inlets to the cascading settling basins will be riprapped to prevent scour and erosion in the vicinity of the inlet.

- Minimisation site disturbance
- Implement sediment control (as outlined above)
- Minimise the potential for erosion
- Prevent sediment-contaminated water leaving the site

Such measures shall be agreed as part of the sites discharge licence.

### 6.2 Mayne River

- Discharge Licences – It will not be permitted to discharge into any newly constructed storm water systems or watercourse without adhering to the conditions of the discharge licence and agreeing the same with the Design Team, Site Manager and Local Authority Area Engineer.
- Over Ground Oil / Diesel Storage – Only approved storage system for oil / diesel within the site will be permitted, (i.e. all oil / diesel storage to be located within a designated area placed furthest away from adjacent watercourses and contained within constructed bunded areas e.g. placed on 150mm concrete slab with the perimeter constructed with 225mm solid blockwork rendered internally). The bunded area will accommodate the relevant oil / diesel storage capacity in case of accidental spillage. Any accidental spillages will be dealt with immediately on site however minor by containment/removal form site. Any accidental spillages will be dealt with immediately on site however minor by containment /removal form site.
- Re-fuelling will be contained within a designated area adjacent to the storage area.
- Concrete Washout – The washing out of concrete trucks on site will not be permitted as they are a potential source of high alkalinity in watercourses. Consequently, it is a requirement that all concrete truck washout takes place back in the ready-mix depot.
- Disposal of Wastewater off Site – The Site Management Team will maintain a record of all receipts for the removal of toilet or interceptor waste off site to insure its disposal in a traceable manner. These will be available for inspection by the Environment Section of Fingal County Council at all times.

- Road Sweepers / Cleaning – The cleaning of public roads in and around the subject site will be undertaken to reduce environmental impacts and care will be taken to prevent any pollution of watercourses from this activity.
- Maintenance of existing gullies on existing roads used for site access.

## 7.0 PROVISIONS FOR WORKS IN PROXIMITY TO TRAIN/DART LINE

The Dublin to Belfast line tracks is in the proximity to the western boundary of our site. The main contractor shall liaise with CIÉ / Iarnród Eireann to ensure the necessary protection measures are put into place to protect the rail line from Vibrations and dust during demolition and construction.

Cranes will be fitted with limiting system to prevent cranes from operating over Rail line. All works to be carried out in accordance to Iarnród Eireann document "Guidance on Third Party Works" "I-DEP-0120 Issue 1.0".

The western boundary of our site shares a boundary line with CIÉ / Iarnród Éireann. In general, the new building footprint is greater than the 3/4m from the shared boundary line with CIÉ / Iarnród Eireann.

As the set back from our building to the CIÉ / Iarnród Éireann Boundary, is greater than 3/4m, for the length of the western site boundary, it is our opinion that there is sufficient space available for our applicant to maintain his/her building without the need to encroach or enter CIE/Iarnród Éireann property.

A liaison officer will be appointed by the contractor as a key member of the construction management team, to review all items with CIÉ / Iarnród Eireann and other neighbours.

### 7.1 Safety Measures during Site Clearance and Construction

Safety of members of the public as well as safety of Iarnród Éireann infrastructure is a primary concern while carrying out works in proximity to Iarnród Éireann line. Various safety measures will be taken to mitigate the risks during all stages of construction.

#### 7.1.1 Construction Stage

Blocks A and D comprise of under croft parking under the full extent of the buildings. Our building loads will be transferred through piled foundations at this level. Therefore, no vertical or horizontal load will be imposed on the adjacent embankment. All piling works will be augured piles, therefore limiting any vibration or impacts on the adjacent embankment.

7.1.2 Piling works

Following site clearance, piling works will take place. Following on from piling and excavation works a reinforced concrete frame will be constructed. The use of permanent concrete pumps on site will be examined closer to construction but should they not be used concrete will be pumped using mobile equipment. Following completion of the superstructure, façade and fit out works will be completed.

A specialist piling contractor will be engaged to design and carry out the works. They will also carry out a full risk assessment before any site work commence. Only bored piles will be used. The piling rig will operate from within the hoarding lines at all time. Care will be taken to keep the rig in safe distance to OCS. During piling operation, all care will be taken to avoid any dislodged dirt being thrown outside the hoarding perimeter. Auger of the piling machine will be cleaned by hand and retracted from the ground carefully.

A piling mat will be designed to provide a stable platform for the piling machine. Design will be carried out by a competent engineer. Site investigation will be carried out before design of the piling matt to account for local ground conditions. If necessary, existing ground can be stabilized. Piling mat designer will issue a certificate verifying suitability of the mat for loads imposed.

During piling monitoring of vibration and settlement will be set out as described above to ensure no impact on adjacent buildings or Iarnród Éireann property.

7.1.3 Excavation

Works to the lower ground floor including piling and drainage will take in the order of 6-12 months by main contractor, however only the western side of our site is in close proximity to the Iarnród Éireann site boundary line.

7.1.4 Superstructure

The proposed building will have a reinforced concrete frame. Should any items need to be lifted they will be done so using appropriate craneage operated by trained crane drivers and assisted/directed by banksmen. Lifting of such items will take place only in light wind conditions and the items will be steered using guide ropes.

Scaffolding for building structure will be erected gradually with progress of the building. It will be covered with a light debris netting only. It is not envisaged to cover the scaffold in a solid facing. The use of a mesh netting provides an effective screen for falling debris, acts as a useful noise damper and dust barrier and provides a more acceptable finish on the working scaffold. The scaffold will generally be lifted in line with the super structure

programme and once erected, will remain in place until completion of the façade and glazing works.

7.1.5 Erection and Operation of Cranes

A Tower Crane will be erected on the project to assist with superstructure and façade works. The Tower Crane will be erected by a competent and certified company. In addition to the tower crane, separate mobile crane visits will be required from time to time. Mobile crane visits will be coordinated with the other site activities to ensure that all risks are correctly assessed and guarded against. A detailed crane analysis will be prepared for verification of the safe load parameters. No loads will be lifted over the public domain or adjacent properties.

Should the development require the use of a crane that could swing over the railway property, then the developer must enter into an agreement with CIÉ / Iarnród Eireann regarding this issue. All lifts by mobile crane will be carried out parallel to the train line ensuring that the load can't come into contact with overhead power lines without the driver knowingly slewing the machine beyond the boundary line. In order to control the crane movements and to prevent crane from operating over the train line an electronic limiting system can be fitted into the cranes.

7.1.6 Works in Proximity of Overhead Power Lines

Contact with the overhead Iarnród Éireann power lines is a high-risk event and therefore special measures to mitigate said risk will be put in place.

A risk analysis will be carried out for all works in vicinity of power lines. Risk assessments will be completed prior to any works on site and accompanied by a list of measures to eliminate or manage the hazard.

Competent and correctly trained slinger/banksman will be guiding works in the vicinity of Iarnród Éireann power lines.

Mobile cranes will operate parallel to the train line with slings and tag lines positioned to avoid any reach over train tracks and station.

Operations regarded as very high risk can be carried out during out of hours with power to the overhead lines turned off, subject to agreement with CIÉ / Iarnród Eireann.

## 8.0 PROVISIONS FOR WORKS IN PROXIMITY OF DUBLIN AIRPORT

Prior to the commencement of works on site, representatives of the applicant will engage in a consultation process with the Dublin Airport Authority and the Irish Aviation Authority.

CS CONSULTING

Civil, Structural & Traffic Engineering