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Outline Construction Management Plan

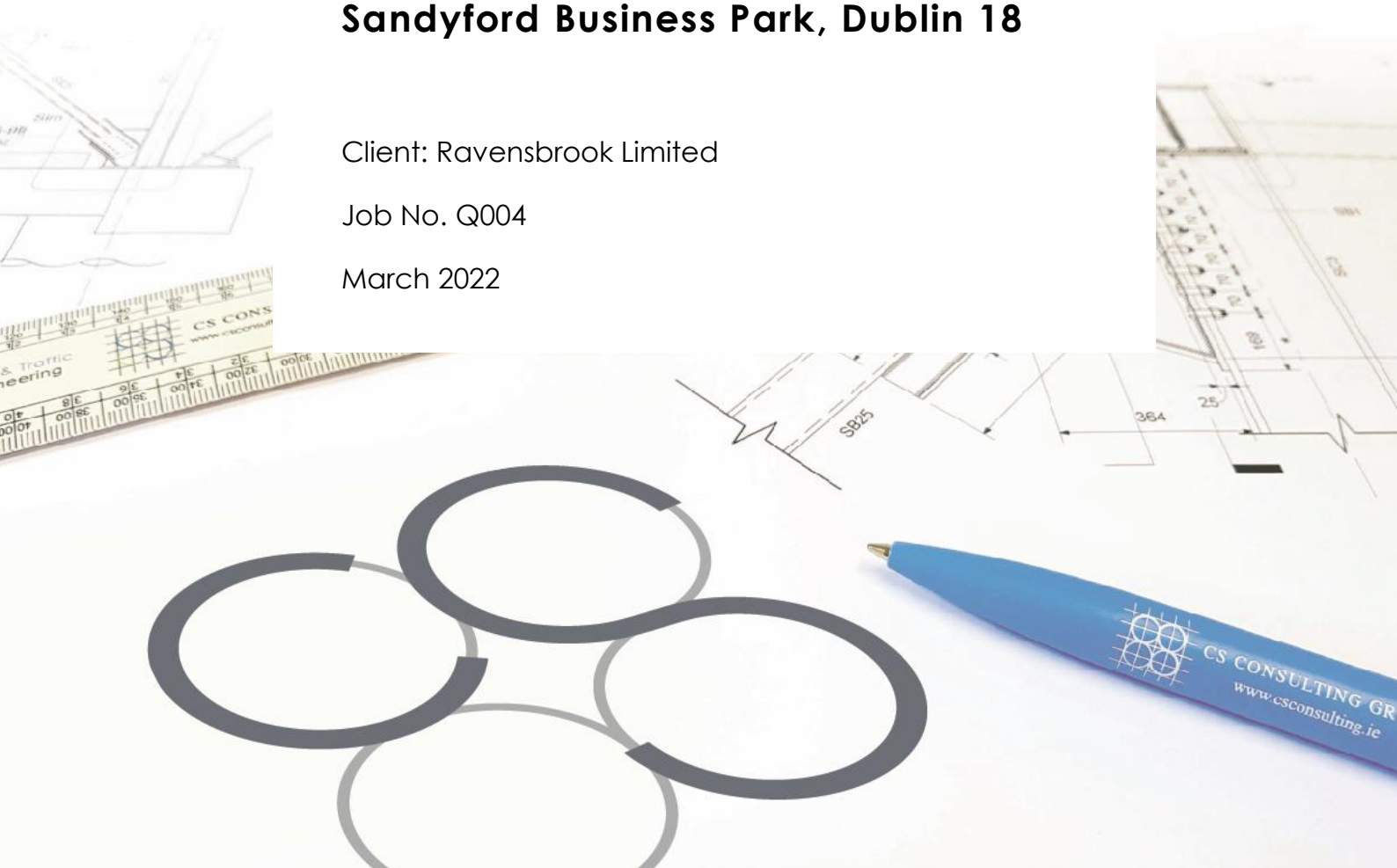
Proposed Residential Development

31 & 31A Raven's Rock Road, Sandyford Business Park, Dublin 18

Client: Ravensbrook Limited

Job No. Q004

March 2022



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OUTLINE CONSTRUCTION MANAGEMENT PLAN

PROPOSED RESIDENTIAL DEVELOPMENT, 31 & 31A RAVEN'S ROCK ROAD, SANDYFORD BUSINESS PARK, DUBLIN 18

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1.0 INTRODUCTION

Cronin & Sutton Consulting (CS Consulting) have been commissioned by Ravensbrook Limited to prepare an Outline Construction Management Plan to accompany a planning application for a proposed strategic housing development at 31 & 31A Raven's Rock Road, Sandyford Business Park, Dublin 18.

The Outline Construction Management Plan includes a description of the proposed works and how these works will be managed for the duration of the works on site. This plan will be updated by the contractor and agreed with Dún Laoghaire-Rathdown County Council (by the appointed Contractor) in advance of the construction phase.

The project will be under the control of a main contractor who will be appointed after the approval is granted for the Project Application. Upon appointment and once familiar with the site and having developed a final detailed methodology for the construction of the Development Project, the contractor will prepare a Detailed Outline Construction Management Plan. It is anticipated the detailed plan will be based upon this plan. This outline construction management plan (OCMP) is a preliminary plan which has been prepared to give an outline of the processes to be employed during construction of this project. Prior to the on-site activities commencing, this plan will be revised by the contractor and expanded to provide a project specific site management plan, incorporating:

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

The Outline Construction Management Plan will be integrated into and implemented throughout the construction phase of the project 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, that cannot be reused on site, are removed from site by appropriately permitted waste haulage contractors and that all wastes are disposed of at approved waste licensed / permitted 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 project construction work activities may have on receptors and properties that are located adjacent to project work areas and on the local receiving environment.
- To comply with planning conditions and requirements relating to waste management as required by Dún Laoghaire-Rathdown County Council.

The proposed Outline Construction Management Plan has been prepared to demonstrate how the appointed contractor and the appointed Project Supervisors will comply with the following relevant legislation, and relevant Best Practice Guidelines:

- 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.

This Stage 1 Construction Management Plan presents the potential environmental impacts and proposed management and monitoring methodologies based on the concept of Best Practice and the proposed mitigation measures to be implemented at the site.

2.0 SITE LOCATION

2.1 Site Location

The proposed development site is located in Sandyford, Dublin 18 and in the administrative jurisdiction of Dún Laoghaire-Rathdown County Council. The subject site has a total area of approximately 0.31ha.

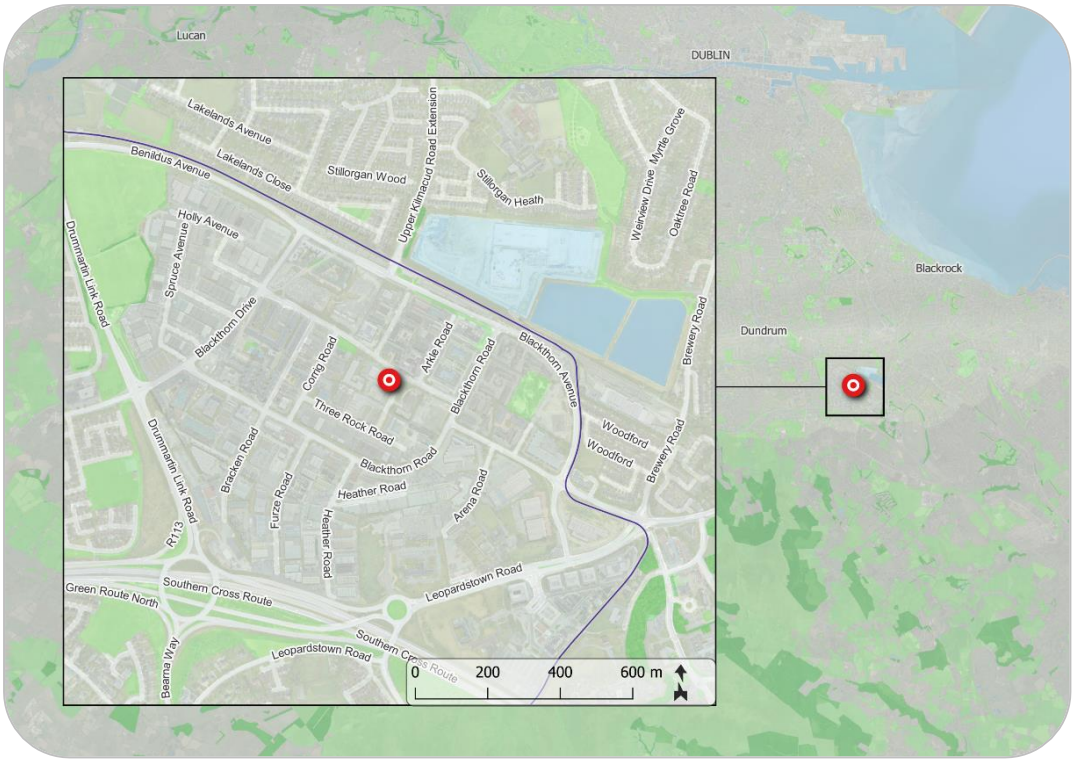

Figure 1 – Location of proposed development site
(map data: EPA, NTA, OSM Contributors, Google)

The location of the proposed development site is shown in Figure 1 above; the indicative extents of the development site and the area subject to this application, as well as relevant elements of the surrounding road network, are shown in more detail in Figure 2.

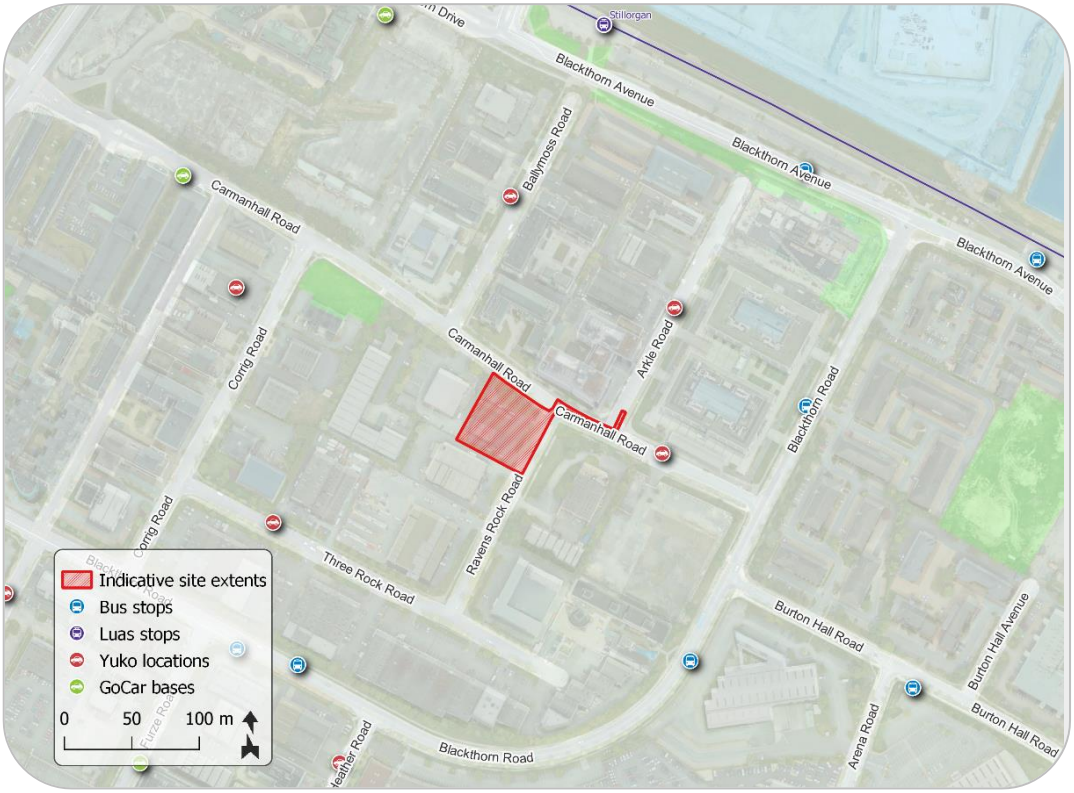

Figure 2 – Site extents and environs
(*map data and imagery: OSM Contributors, Google*)

The site is bounded to the north by Carmanhall Road. To the east by Ravenrock Road & to the south and west by existing industrial units.

3.0 EXISTING LAND USE

The development site is at present occupied by industrial and commercial units.

4.0 PROJECT DESCRIPTION

The development will consist of the demolition of the existing 2 no. storey building (c.717sqm) and hard surface parking area on the site and construction of a Build to Rent residential development comprising 101 no. residential apartments as follows:

- 101 no. build to rent apartments within a part 5, part 6 to part 11 no. storey building over partial basement comprising 65 no. 1 bedroom apartments and 36 no. 2 bedroom apartments (balconies on all elevations);
- 734 sqm of external communal amenity space provided in the form of a podium courtyard at first floor level and a series of rooftop terraces at fifth, sixth and tenth floor levels, c. 514sqm of public open space provided fronting Carmanhall Road;
- 511 sqm of resident support facilities/ services and amenities space provided at ground and first floor levels;
- Vehicular access to the development will be from the upgraded existing access from Ravens Rock Road;
- Provision of 10 no. car parking spaces [1 no. accessible] at surface level, 2 no. motorcycle spaces; and 234 no. cycle parking spaces;
- Provision of 4 no. Ø0.3m Microwave link dishes to be mounted on 2 No. steel support pole affixed to lift shaft overrun, all enclosed in radio friendly GRP shrouds, together with associated equipment at roof level;
- Provision of an ESB substation, switch room and plant room at ground floor level, hard and soft landscaped areas, public lighting, attenuation, service connections and all ancillary site development works.

5.0 LOGISTICS

5.1 Construction Program & Phasing

Subject to a successful grant of planning, it is intended for the works to commence in Q3 2022. The proposed development is anticipated to be constructed over an 18-month period.

The development is proposed to be constructed on the following basis;

- Set up site perimeter hoarding, maintaining existing pedestrian and traffic routes around the site;
- Site Clearance and Demolitions;
- Reduced Level excavations;
- Site services installations (drainage, power, water and the like);
- Construct Building Frame and Envelope; and
- Finish Interior and Exterior Landscaping.

5.2 Vehicular Access to Site

The site is currently accessed from an entrance on the eastern boundary from Raven's Rock Road. The existing vehicular access will be maintained and altered slightly as part of the development works. It is anticipated that for the duration of the works all access and egress for deliveries will be via the existing vehicle access from Raven's Rock Road. Pedestrian access to the development shall be accommodated via the main access off Carmanhall Road, on the northern boundary of the development site.

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. If necessary, a road sweeper will be used to keep the public road around the site clean.

5.3 Protection of Public Areas from Construction Activity

Perimeter hoarding will be provided around the site to provide a barrier against unauthorized access from the public areas. 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. Any hoardings may contain graphics portraying project information.

5.4 Site Security

The site will be secured with a hoarding.

The site hoarding will be branded using the appointed Contractors logos etc. Some marketing images or information boards may also be placed on the hoarding.

Access to site will be controlled and monitored outside of site working hours.

All personnel working on site must have a valid Safe Pass card.

5.5 Material Hoisting & Movement Throughout the Site

Hoists and teleporters may be utilised as required during the project to facilitate material movement into the structures and waste movements out. With the commencement of the fit-out activities, hoists strategically positioned will play a key role for successful project delivery. They are also less susceptible to being affected by inclement weather conditions.

5.6 Deliveries & Storage Facilities

It is proposed that unloading bays are provided for deliveries to the site within the hoarding perimeter. They should be accessible by 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.

5.7 Site Accommodation

On-site facilities will consist of;

- Materials storage area;
- Site office & meeting room;
- Staff welfare facilities i.e. toilets, drying room, canteen, etc.

Electricity will be provided to the site via the national grid.

Water supply to the site will be provided by means of a temporary connection to the public water main. Similarly, a temporary connection for foul water drainage will be made to the public network.

5.8 Site Parking

There will be limited on-site parking for staff and visitors. Construction staff will also be encouraged to use public transport and information on local transportation will be published on site.

5.9 Site Working Hours

Construction operations on site will generally be subject to a planning permission and conditions. However, 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.

Deliveries of materials to site will generally be between the hours of 07:00 and 19:00, Monday to Friday, and 08:00 to 14:00 on Saturdays.

6.0 ENVIRONMENTAL ISSUES

6.1 Noise

The Contractor shall implement measures to eliminate where possible and reduce noise levels where not.

Please refer to the CEMP submitted under separate cover within the subject application for further details of recommendations to be undertaken.

6.2 Air Quality & Dust Monitoring

Dust prevention measures shall be included for control of any site airborne particulate pollution. The Contractor shall monitor dust levels in the vicinity of the site in accordance with planning conditions.

Please refer to the CEMP submitted under separate cover within the subject application for further details of recommendations to be undertaken.

6.3 Migrating Dust & 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.

Please refer to the CEMP submitted under separate cover within the subject application for further details of recommendations to be undertaken.

6.4 Harmful Materials

Harmful material 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 tank at a minimum.

6.5 Vibration

The Contractor will be required to carry out their works such that the effect of vibration on the adjacent buildings and surroundings is minimised, and that no damage to these results from construction activity on site.

The Contractor will be required to comply with the requirements of the planning permission for any vibration limits for the works. In the absence of any Local Authority requirements, the following table shall set the limitations.

The Administrator, Engineer, Client, and/or Contractor are to establish background vibration levels prior to the commencement of works.

A vibration monitoring system is to be put in place prior to any works taking place. This system is to raise an alarm if an agreed limit is exceeded, at which time the working methods are to be adjusted so as to reduce the vibration generated.

Table 1 – Trigger values for vibration

Trigger Level	Peak Particle Velocity (PPV)	
	50Hz and below	Above 50Hz
1	10 mm/s	10 mm/s
2	10 mm/s	12 mm/s
3	10 mm/s	15mm/s

Please refer to the CEMP submitted under separate cover within the subject application for further details of recommendations to be undertaken.

7.0 TRAFFIC MANAGEMENT

7.1 Access to the Site

Construction traffic will access the site from the adjoining street network. The site is bound by the Carmanhall Road which provides easy access to the M50 via a network of local distributor roads for deliveries and extraction to and from the site.

7.2 Vehicle Movements During Construction

The major construction items include excavation, construction and fit out. It is anticipated that the peak of HGV movements to and from the site will be during excavation works and construction of the building foundations and basement. The peak LGV movements to and from the site will be during the building construction and fit out. It is anticipated that the construction traffic impact on the surrounding local road network will be minimal.

The Contractor must submit a Construction Traffic Management plan to the Local Authority for approval. Haulage vehicle movements should be fully coordinated to comply with the requirements of the layout and requirements herein.

- At no time should construction associated vehicles be stopped or parked along the routes.
- Haulage vehicles should not travel in convoys of greater than two vehicles at any time.
- Haulage vehicles should be spaced by a minimum of 250m at all times.
- Strictly at no time should haulage vehicles be parked or stopped at the entrance to the site.
- All loading of excess material will occur within the site boundary.

- All off-loading of deliveries will take place within the site, away from the public road and will access via the construction site access.

The routes to and from the site shall depend on where the excavated material will be taken to and from where construction material will be brought into the site. The above locations will be identified by the Contractor at a later stage and appropriate routes will be agreed with Dún Laoghaire-Rathdown County Council as part of the Contractors more detailed construction management plan.

The increase in traffic as a result of construction will be minor and can be readily accommodated within the existing road network.

7.3 Minimise Construction Vehicle Movements

Construction vehicle movements will be minimized through:

- Consolidation of delivery loads to/from the site and manage large deliveries on site to occur outside of peak periods;
- Use of precast/prefabricated materials where possible;
- 'Cut' material generated by the construction works will be re-used on site where possible, through various accommodation works;
- Adequate storage space on site will be provided;
- A strategy will be developed to minimise construction material quantities as much as possible;
- Construction staff vehicle movements will also be minimised by promoting the use of public transport.

The following headings identify some of the measures to be encouraged.

7.4 Public Transport

Construction staff will be encouraged to use public transport as means to 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.

7.5 Public Roads

A Visual Condition Survey (VCS) will be carried out of all surrounding streets prior to any site works commencing. The Contractor will liaise with Dún Laoghaire-Rathdown County Council Roads & Traffic Department 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.

All 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;
- In the event of any fugitive solid waste escaping the site, it will be collected immediately and removed.

7.6 Project Specific Traffic Management Plan

A detailed project specific traffic management plan will be developed by the Contractor and agreed with Dún Laoghaire-Rathdown County Council prior to works commencing on site. This plan will be updated as required throughout the project.

Issues addressed in the Traffic Management Plan will 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.

8.0 PROVISIONS FOR CONSTRUCTION

8.1 Hoarding, Set-up of Site & Access/Egress Points

The site area will be enclosed with hoarding details of which are to be agreed with Dún Laoghaire-Rathdown County Council. Hoarding panels will be maintained and kept clean for the duration of the project.

This will involve erecting the hoarding around the proposed site perimeter in line with the finished development description.

8.2 Removal of Services

Prior to any works a utility survey will be carried out to identify existing services. All services on site will be disconnected, diverted or removed as agreed with service providers.

8.3 Site Clearance & Demolition

On the site there is an existing single storey data centre building. In initial decanting works will involve the removal of all electrical, server equipment and generators. A services stripout will remove exposed services. The building structure consists of a steel and concrete frame with brick/rendered blockwork cladding. The building will be demolished in a top-down form, and all foundations will be excavated. The remaining site consists mostly of green area space, an existing car parking.

The following is a high-level method statement for the site clearance and demolition of existing buildings:

- Establish a site set-up and welfare facilities;

- Carry out an invasive species survey using a qualified and approved surveyor;

- Carry out a detailed services survey of the site to identify all buried services, determine what services are live, redundant and potentially serve neighbouring properties. This survey is to be performed before any demolition is performed on site;

- Carry out any necessary services diversions and decommissioning works;

- Demolition will only take place following a full asbestos survey. Any materials identified as being hazardous will be removed and disposed of in strict accordance with the applicable legislation. All services will be disconnected and removed from the building along with a 'soft strip' of any fixtures, fittings and demountable non-load bearing structure. Demolition will be completed by appropriately experienced and skilled Contractors who will commence by removing the remaining roof. Where possible material will be removed by hand or by low impact equipment. Walls will be demolished by pulling them from the top down back into the site so as not to impact on adjoining lands. The existing slab and concrete foundations will be broken by excavators. All reinforced concrete will be partially processed on site to separate the steel from the concrete. All materials will either be fully separated on site and disposed of to the applicable landfills / processing facility or failing that material will be sent to a processing facility for separation. Relevant certification and documentation confirming the final separation and most environmentally friendly disposal will be available.

8.4 Excavation

This development will involve excavation and removal of material from site for foundations and regrading of the site profile.

It is not envisaged that rock will be encountered during the excavation works.

The Contractor must prepare a Construction Waste Management Plan in accordance with the "Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects" (Department of Environment, Heritage and Local Government, 2006) and ensure that all material is disposed of at an appropriately licensed land fill site. The Contractor must also outline detailed proposals within the Construction Management Plan to accommodate construction traffic.

8.5 Site Service Installations

Drainage, power, water and the like will be installed to serve the proposed development.

8.6 Construction Stage

Following on from site clearance and excavations, foundations will be laid, and the external buildings envelope and roof constructed. Reinforced concrete walls will form retaining elements to the east and south of the Lower Ground Floor. The building frame will most likely consist of load bearing masonry walls with reinforced concrete cores. Floors will likely be constructed using hollow core precast slabs overlaid with structural screed but with some localised elements of reinforced concrete slabs are also likely for transfer slabs and larger cantilevers.

Works to the façade will commence following partial completion of the external envelope. Once the buildings are weather sealed, the internal fit out and completion works will take place.

8.7 Superstructure

The construction of the superstructure will involve complex sequencing of activities and various construction methodologies could be adopted to deliver the Contract. It is envisaged that all buildings could be constructed as combination masonry and reinforced concrete frame subject to change in detailed design stages. The façades may consist of a typical rendered block 100mm thick outer leaf.

As noted, the construction methodology and therefore the programme of the construction activities will be dictated by the Contractor.

The following outlines a general construction sequence for the superstructure:

Buildings Structure:

- Construction of the foundation basement slab and permanent retaining wall structure;
- Construction of rising elements to ground floor and construction of ground floor slab;
- Construction of strip footings;
- Construction of 215mm masonry load bearing walls and any required reinforced concrete beams and columns;
- Installation of precast floor panels on load bearing walls;
- Installation of screed on precast floor panels.

Envelope / Cladding:

- Commencement of envelope works to ground floor when structure has progressed to approximately Level 2/3, with suitable temporary openings in the façade left for ease of transport of construction material;
- Advancing of external leaf two or three levels behind the structure

Mechanical & Electrical fit-out:

- First fix will commence at each level behind structure; and
- This will be followed by the second fix and the final connections

Fit-out:

- Initial installation of stud work when cladding is complete, and floor is weather tight;
- Installation of equipment and associated connection to services; and
- Completion of finishes.

Commissioning:

- The final commissioning period will commence during fit-out; and
- The above is an indicative construction sequence. The final sequence will be dictated by the Contractor. The Contractor must issue a detailed construction programme outlining the various stages prior to commencement of works.

Erection and operation of cranes

It is envisaged that a tower crane will be temporarily erected to accommodate the construction works for the distribution of reinforcing steel, concrete skips, concrete formwork element and general building

materials. The Contractor will need to obtain all necessary licences from the Local Authority. A "mast climber" maybe installed at some local areas to facilitate particular façade features. The mast climber is essentially a climbing platform that allows the user safely to access any level without the requirement for a full scaffold tower.