CS CONSULTING

GROUP

DUBLIN | LONDON | LIMERICK

Outline Construction Management Plan

Proposed Residential Development

Belgard Square, Tallaght, Dublin 24

Client: South Dublin County Council

Job No. C186

July 2020

CS CONSULTING
GROUP

OUTLINE CONSTRUCTION MANAGEMENT PLAN

PROPOSED RESIDENTIAL DEVELOPMENT, BELGARD SQUARE, TALLAGHT, DUBLIN 24

CONTENTS

File Location: j:\c_jobs\job-c186\b_documents\c_civil\a_cs reports\cmp\tal-csc-zz-xx-rp-c-0105_cmp_p2.docx

BS 1192 FIELD	TAL-CSC-ZZ-XX-RP-C-0105_CMP

Job Ref.	Author	Reviewed By	Authorised By	Issue Date	Rev. No.
C186	FB/GS	NB	OS	29.07.2020	P2
C186	FB	NB	OS	07.05.2020	P1
C186	FB	NB	OS	28.04.2020	-

1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers (CS Consulting) have been commissioned by South Dublin County Council to prepare an Outline Construction Management Plan (OCMP) for a proposed residential development at Belgard Square, Tallaght, County Dublin.

The aim of this OCMP is to address issues that can arise during construction including noise and vibration, traffic management, working hours, pollution control, dust control, road cleaning, compound / public health facilities and staff parking, all associated with the construction works. This plan will be updated by the contractor and agreed with South Dublin County Council (SDCC) in advance of the construction phase.

This Outline Construction Management Plan (OCMP) has been prepared to give an overview 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 appointed lead contractor and expanded to produce a Detailed Construction Management Plan, which shall incorporate:

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

The Construction Management Plan will be integrated into and implemented throughout the construction phases 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;
- 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 Acts 1996 to 2005;

- that any environmental impacts (noise, vibration, dust) of project construction work activities on receptors and properties located adjacent to the project work areas, and on the local receiving environment, are managed and controlled.

2.0 SITE LOCATION

The proposed development site is located at Belgard Square North, Tallaght, Dublin 24. The site is located in the administrative jurisdiction of South Dublin County Council and has a total area of approximately 0.49 ha.

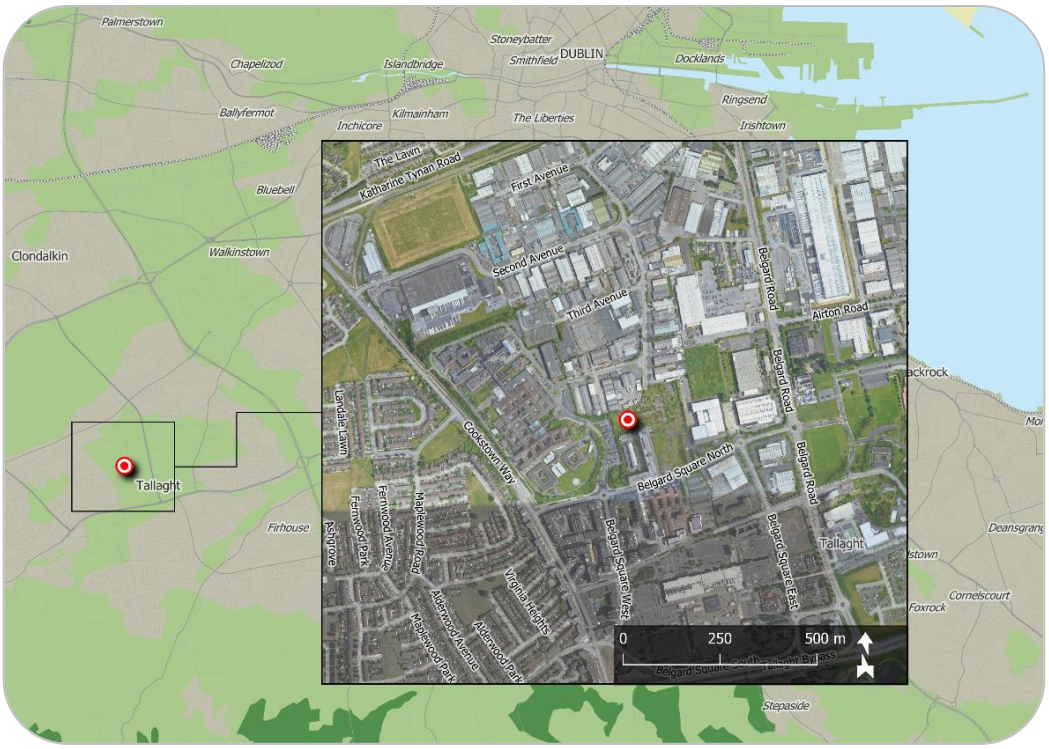

Figure 1 – Location of proposed development site
(*map data & imagery: EPA, OSM Contributors, Google*)

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

The site is bounded to the west by Tallaght University Hospital, to the north by lands in industrial use, to the east by future development lands and to south by the Exchange Hall residential development and commercial buildings.

Figure 2 – Site extents and environs

The development site is formerly a temporary halting site known as "Maelruan". The site is currently being used as a compound by the Contractor currently carrying out construction works of the Belgard Square to Cookstown link road.

3.0 PROJECT DESCRIPTION

The development will consist of the construction of 133 affordable rental apartments with a community facility (c 11,430m2) in two blocks ranging from six to eight storeys linked by a single storey podium containing a three storey block with associated balconies/ terrace for each apartment and roof mounted solar panels.

Block A (west- c 5,170m2) accommodates 2 no. studios, 31 no. 1 bed apartments and 28 no. 2 bed apartments.

Block B (east – c 5,900m2) accommodates 1 no. studio, 33 no. 1 bed apartments, 35 no. 2 bed apartments and 1 no. 3 bed apartment.

Block C (podium – 360m2) accommodates 2 no. 3 bed apartments laid out over 3 floors.

The podium accommodates 39 no. car parking spaces which includes 3 no. universal access spaces, 246 no. bicycle spaces, ESB substation and switch room, plant spaces, bins and other stores.

Ancillary site development works include the provision of pedestrian zip link/ greenway, access roadway, footpaths, 26 no. bicycle spaces, hard and soft landscaping, new boundary treatments and a landscaped courtyard at podium level.

4.0 SITE MANAGEMENT

4.1 Site Establishment

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.

4.2 Hoarding and Fences

Prevention of unauthorised access to the site is a very high priority and will be vigorously managed throughout the construction period. When the contractor is appointed, the site will 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 will comply with the requirements of the relevant authorities and the relevant Health and Safety Acts.

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

4.3 Services Relocations and Temporary Protection of Public Domain

Prior to any works commencing on site, detailed 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.

4.4 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.

4.5 Vehicular Access to Site

Construction site access will be via the Belgard Square North – Cookstown Industrial Estate Link Road which shall run in a north-south direction from Fourth Avenue to the north of the subject development to Belgard Square North in the south. The aforementioned link road is currently under

construction and shall be substantially complete prior to the commencement of works on site.

- Advanced warning provided to all users on the road and directional signage for site traffic

Revised measures will be developed further as part of the **Construction Traffic Management Plan (CTMP)** developed by the contractor in consultation with the Design Team and South Dublin County Council.

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

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

- Chapter 8 of the Department of the Environment Traffic Signs Manual, current edition, published
- by The Stationery Office, and available from the Government Publications Office, Sun Alliance House, Molesworth Street, Dublin 2;
- Guidance for the Control and Management of Traffic at Road Works (June 2010) prepared by the Local Government Management Services Board; and

- Any additional requirements detailed in the Design Manual for Roads and Bridges & Design Manual for Urban Roads & Streets (DMURS).

Note that all construction traffic will travel to and from the site via the proposed Cookstown Road.

In order to ensure satisfactory operation of the construction stage the following is proposed:

- Provision of sufficient employee and visitor parking and compounding to ensure no potential overflow onto the local network.

Site offices and compound will be located within the site boundary where feasible. Due to the location and nature of access to the site, there will be limited site parking or construction parking anywhere in the vicinity of the site. Nearby off-site car parking will be identified to avoid congestion in the surrounding areas. Construction staff will be encouraged to use public transport and information on local transportation will be published on site.

Finally, truck wheel washes will be installed at construction entrances and any specific recommendations regarding construction traffic management made by the Local Authority will be adhered to.

The following mitigation measures will be incorporated into the CTMP:

- During the pre-construction phase, the site will be securely fenced off from adjacent properties, public footpaths and roads.

- The surrounding road network will be signed to define the access and egress routes for the development.

- The traffic generated by the construction phase of the development will be strictly controlled in order to minimise the impact of this traffic on the surrounding road network.

- All road works will be adequately signposted and enclosed to ensure the safety of all road users and construction personnel.
- Nearby off-site car parking will be identified for use by employees and visitors to avoid congestion in the surrounding areas. Construction staff will be encouraged to use public transport and information on local transportation will be published on site.
- A programme of street cleaning if/when required.
- Any associated directional signage
- Any proposals to facilitate the delivery of abnormal loads to the site
- Measures to obviate queuing of construction traffic on the adjoining road network.

4.6 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.

4.7 Material Hoisting & Movement Throughout the Site

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. 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.

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.

4.8 Deliveries & Storage Facilities

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

4.9 Site Accommodation

On-site facilities shall include:

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

Electricity will be provided to the site via national grid.

Water supply to the site during 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.

4.10 Site Parking

Due to the location and nature of access to the site, there will be limited site parking or construction parking anywhere in the vicinity of the site. Nearby off-site car parking will be identified to avoid congestion in the surrounding areas. Construction staff will be encouraged to use public transport and information on local transportation will be published on site.

4.11 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.

5.0 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.

5.1 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.

5.2 Noise

The Contractor shall implement measures to eliminate and reduce noise levels where possible.

All construction activities will be carried out in compliance with the recommendations of BS 5228, Noise Control on Construction and open sites part 1 and comply with BS 6187 Code of Practice for Demolition.

The following is an outline of the possible noise mitigation measure which the Contractor may consider implementing on site to address potential noise levels;

General Considerations:

1. All site staff shall be briefed on noise mitigation measure and of best practicable means to be employed to control noise.

2. Site hoarding should be erected to maximise the reduction in noise levels.

3. The Contractor should but in place a liaison officer to engage with neighbours on a weekly basis and keep them a braised of the pending works on site and address any concerns raised.

4. Internal haul routes shall be maintained, and steep gradients shall be avoided where possible.

5. 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).

6. Minimise opening and shutting of gates through good coordination of deliveries and vehicle movements.

Plant

1. Contractor should ensure that each item of plant and equipment complies with the noise limits quoted in the relevant EC Directive 2000/14/EC.

2. Fit all plant and equipment with appropriate mufflers or silencers of the type recommended by the manufacturer.

3. Use all plant and equipment only for the tasks for which it has been designed.

4. Shut down all plant and equipment in intermittent use in the intervening periods between work or throttle down to a minimum.

5. Power plant by mains electricity where possible rather than generators.

6. Employ partial or full enclosures for fixed plant where possible.

7. Locate movable plant away from noise sensitive receptors where possible.

8. All plant operators to be qualified in their specific piece of plant.

9. Compressors and generators will be sited in areas least likely to give rise to nuisance where practicable.

Vehicle activity:

1. Ensure all vehicle movement on site occur within permitted working hours unless permission to the contrary has been granted.

2. Plan deliveries and vehicle movements so that vehicles are not waiting or queuing on the public road, if unavoidable engines should be turned off.

3. Contractor should plan the site layout to ensure that reversing is kept to a minimum.

4. Wheel washing of vehicles prior to exiting the site shall take place to ensure that adjoining roads are kept clean of dirt and debris. Regular road sweeping of adjoining roads should take place as necessary.

5.3 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. 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.

5.4 Migrating Dust & Dirt Pollution

A regime of "wet" road sweeping can be set up to ensure the roads around the immediate site are as clean and free from dirt/dust arising from the site, as is reasonably practicable.

Footpaths immediately around the site can be cleaned by hand regularly, with damping as necessary.

Scaffolding to be cleaned regularly. Netting can be provided to enclose scaffolding at sensitive areas of the site.

Vehicle waiting areas or hard standings can be regularly inspected and kept clean.

Vehicle and wheel washing facilities can be provided at the site exit where practicable. If necessary, vehicles can be washed down before exiting the site.

Internal combustion plant should not be left running unnecessarily.

Where possible fixed plant such as generators should be located away from residential areas.

The number of handling operations for material should be kept to a minimum in order to ensure that dusty material is not moved or handled unnecessarily.

The transport of dusty materials and aggregates should be carried out using covered/sheeted lorries.

Vehicles loading should be dampened down and drop heights for material to be kept to a minimum.

Dust dispersal over the site boundary should be minimised using static sprinklers or other watering methods necessary.

Stockpiles of material should be kept to a minimum and may be sheeted or watered down. These should be located away from sensitive boundaries.

Equipment and techniques for cutting/grinding/sawing/sanding etc., which minimise dust emissions and which have the best available dust suppression measures, should be employed.

Where possible pre-mixed plasters and masonry compounds should be used to minimise dust arising from on-site mixing.

Prior to commencement, the main contractor should identify the construction operations which are likely to generate dust and to draw up action plans to minimise emissions. Furthermore, the main contractor should prepare environmental risk assessments for all dust generating processes, which are envisaged.

The main contractor should allocate suitably qualified personnel to be responsible for ensuring the generation of dust is minimised and effectively controlled.

5.5 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.

5.6 Vibration

The Contractor will be required to carry out the works such that the effect of vibration on the adjoining buildings and surroundings is minimised and does not cause any damage.

The Contractor shall 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:

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

Background vibrations shall be established prior to commencement.

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 vibrations generated.

6.0 WASTE MANAGEMENT

Refer to Waste Management Plan prepared by CS Consulting for details of waste management during the construction phase of the subject development.

7.0 TRAFFIC MANAGEMENT

7.1 Site Traffic, Traffic and Pedestrian Management

The anticipated truck movements from and to the site in relation to the preliminary programme for the works will be nominated in the construction methodology by the main contractor.

The construction site will be delineated by means of hoardings and lockable gates with screened fencing at the entry and exit points. The Contractor will pay particular attention to pedestrian traffic and safety at the entrances. Where possible, all vehicles will enter and exit the site in a forward direction.

Pedestrians will have right of way. If required, alternate pedestrian routes around the site will be created and clearly signed.

7.2 Minimization of Construction Vehicle Movements

Construction-related vehicle movements will be minimized through:

- consolidation of delivery loads to/from the site and scheduling of large deliveries to occur outside of peak periods;
- use of precast/prefabricated materials where possible;
- reuse of 'cut' material generated by the construction works on site 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;
- promotion of public transport use by construction personnel, in order to minimise staff vehicle movements.

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

7.2.1 Cycling

Cycle parking spaces will be provided on the site for construction personnel. In addition, lockers will be provided to allow cyclists to store their cycling clothes.

7.2.2 Car Sharing

Car sharing among construction personnel will be encouraged, especially from areas where construction personnel may be clustered. The contractor shall aim to organize shifts in accordance with personnel origins, hence enabling higher levels of car sharing. Such a measure offers a significant opportunity to reduce the proportion of construction personnel driving to the site and will minimise the potential traffic impact on the surrounding road network.

7.2.3 Public Transport

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

7.3 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 the Transportation and Infrastructure department of SDCC 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.

8.0 COMPOUND FACILITIES / PARKING

The construction compound for the infrastructure works shall be entirely within the site boundary, although in some instances located outside the phase being constructed. The compound shall be constructed using a clean permeable stone finish and will be enclosed with security fencing. Site accommodation to be provided will include suitable washing / dry room facilities for construction staff, canteen, sanitary facilities, first aid room, office accommodation etc. Access to the compound will be security controlled and all site visitors will be required to sign in on arrival and sign out on departure.

A permeable hardstand area will be provided for staff parking and these areas will be separate from designated machinery / plant parking.

A material storage zone will also be provided in the compound area. This storage zone will include material recycling areas and facilities.

A series of 'way finding' signage will be provided to route staff / deliveries into the site and to designated compound / construction areas.

On completion of the works all construction materials, debris, temporary hardstands etc. from the site compound will be removed off site and the site compound area reinstated in full on completion of the works.

9.0 PROVISIONS FOR CONSTRUCTION

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

The site area will be enclosed with hoarding, details of which are to be agreed with South Dublin 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.

The restricted confines of the site will require the contractor to set up an off-site "Construction Staging Area". This off-site facility should be suitably located to allow efficient delivery of materials and personnel to site. A "Just in Time" approach will be required for the delivery of particular building materials such as concrete formwork and reinforcement cages for the piles. The location of this facility should be highlighted within the Construction Management Plan.

9.2 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.

9.3 Site Clearance

The site is brownfield and does not generate any significant vehicular traffic. The following is a high-level method statement for the clearance of the site:

- 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.
- Carry out any necessary services diversions and decommissioning works.

9.4 Excavation

This development will involve a bulk excavation and removal of material during the construction of the building foundations.

The Contractor will 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.

9.5 Site Service Installations

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

9.6 Construction Stage

The super structure is a 7-8 storey building. The buildings are constructed as an RC frame of loading bearing perimeter and internal walls, supporting RC floor slabs. The building façade will be constructed in accordance with the Architect's specification.

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.

9.7 Superstructure

The construction of the superstructure will involve complex sequencing of activities. The building will be constructed as a reinforced concrete frame subject to change in detailed design stages.

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:

9.7.1 Buildings Structure

- Site clearance including install/removal of below ground services, demolition and removal of existing slabs
- Excavation of site and construction of the foundation basement slab and permanent retaining wall structures
- Construction of rising elements to ground floor and construction of ground floor slab
- Construction RC walls
- Construct the RC floor slab
- Repeat for upper floors.

9.7.2 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

9.7.3 Mechanical & Electrical fit-out:

- First fix will commence at each level behind structure;

- This will be followed by the second fix and the final connections.

9.7.4 Fit-out:

- Initial installation of stud work when cladding is complete, and floor is weather tight;

- Installation of equipment and associated connection to services;

- Completion of finishes.

- The final commissioning period will commence during fit-out;

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.

9.7.5 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. In addition to the tower crane, separate mobile crane visits will be required from time to time. These visits will be coordinated with the other site activities and crane operations to ensure all risks are correctly assessed and mitigated against. 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.