

BARRETT **MAHONY** CIVIL & STRUCTURAL CONSULTING ENGINEERS

Outline Construction Management Plan

> Project: Carlisle Residential Development, Kimmage Road West, Kimmage, Dublin 12 Job No. 21.221

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EXECUTIVE SUMMARY

This Outline Construction Management Plan (OCMP) has been developed to set out the standard best practice measures to be implemented by '1 Terenure Land Ltd' (and their appointed contractors, subcontractors and agents) during the construction of the proposed residential development at Carlisle, Kimmage Road West, Kimmage, Dublin 12.

This report has been prepared as part of a Large Scale Residential Development planning application for the proposed development. The purpose of this report is to demonstrate that the construction of the proposed development can be implemented in a safe and controlled manner, such as to minimise disruption to the public in general and to the immediately surrounding residents and businesses, and to ensure that best construction management practices are applied to the site by the main contractor and that measures are in place during construction to reduce as much as possible the impact of the works on people, property and the environment. The contractor will be asked to develop this outline report further in line with his/her detailed requirements.

1. PROJECT DESCRIPTION

1.1 SITE CONTEXT

The site consists of approximately 1.25ha net site area which is intended for residential development. The site is bounded by residential dwellings along the north, west and east, and Ben Dunne Gym to the southwest. The site is currently a greenfield site with no existing structures. Access to the site is from Kimmage Road West via a shared access road (also serving Ben Dunne Gym Carlisle). Refer to figure 1 for the site location.



Figure 1: Site Location

Permission was granted, under ABP 313043 on the 22/09/2022, for an SHD on the subject site comprising 208 no. apartment units in 5 no. blocks. The current proposed LRD application provides the same layout and quantum of units as this permitted development. The proposed LRD OCMP is the same as permitted in the SHD application.

1.2 PROPOSED DEVELOPMENT

The proposed Large Scale Residential Development will consist of the construction of 5 no. blocks of development and will range in height up to 6 storeys. This will provide 208 no. residential units (104 no. 1 beds and 104 no. 2 beds) all of which will have associated private balconies/terraces. Car, cycle and motorbike parking will be located at undercroft and surface level. Vehicular/pedestrian/cyclist access is provided off Kimmage Road West via the existing Ben Dunne Gym access route. All associated site development works, open spaces, landscaping, boundary treatments, plant areas, waste management areas, and services (including ESB substations) shall be provided. A full description is set out in the statutory notices included with this application.

1.3 Key Interfaces

The site is bounded by residential dwellings along the north, west and east, and Ben Dunne Gym to the southwest. Access to the site is from Kimmage Road West via a shared access road (also serving Ben Dunne Gym Carlisle).

The boundary between the proposed development site and the private houses to the north, west and east comprising boundary walls with varying degrees of vegetation and trees.

The existing access road onto Kimmage Road West will be in use by patrons and staff of Ben Dunne Carlisle Gym, during the construction of the proposed works. This is the only access to the subject site for construction and as such will be shared by construction traffic and gym traffic.

2. SITE TOPOGRAPHY

A detailed topographical survey of the existing site has been carried out. The site slopes from the west of the site towards the east of the site by approximately two metres.

3. GROUND CONDITIONS

Comprehensive site investigations have been carried out across the proposed site. Refer to BMCE CDWMP report for details of the site investigations.

4. DEMOLITION

The site is currently greenfield and as such no demolition of existing structures is required.

5. EARTHWORKS

In the absence of a basement in the proposed development, the bulk earthworks are relatively nominal and are only associated with the site strip and levelling to suit the new buildings, along with excavations for foundations, attenuation systems, roads, footpaths and site services. Building ground floor levels are designed to be close to existing ground levels on the site which minimises excavation works.

Item	Topsoil (m ³)	Soil Excavation Volume (m ³)	Anticipated Rock Excavation Volume (m ³)	Total (m ³)
Site Strip	c.5,500	0	0	
Foundations & Services		c.4,000	0	
Roads & Site Services		c.2,000	0	
Basement		0	0	
Total	5,500	c.6,000	0	11,500

Table 5.1 – Estimated Excavation Quantities

Note: Approximate total site area – c.12,500m²

Excavated material from the site will be generally disposed of off-site as there will be limited opportunities for re-use, except for some degree of topsoil re-use in landscaped areas

The total quantity of material to be disposed of off-site is assumed to be approximately 11,500m3. Using 4-axle trucks with an 18.0 tonne capacity (36m³), this equates to approximately 319No. truck movements over a likely period of 3 months equating to an average 5.3No. truck movements per work day. This is a minimal number of truck movements and can be easily catered for with normal access gate / traffic marshalling procedures for construction sites.

Excavated material will be disposed off-site to a licensed facility, in accordance with a Waste Classification Assessment system

6. NEW CONSTRUCTION

In summary the construction of the development will involve the following:

- Site strip (c.300-400mm of topsoil).
- Removal of existing services.
- Excavation for new foundations.
- Construction of the building superstructures and facades.
- Mechanical & Electrical installations.
- Architectural finishes, non-loadbearing walls, ceilings etc. associated with the above.
- Buried site services installation including connection to public services.
- Roads and footpaths.
- Soft and hard landscaping.

7. CONSTRUCTION MANAGEMENT

7.1 CONSTRUCTION PROGRAMME & PHASING

It is anticipated that the development will be constructed over a circa 18-20 month period.

7.2 HOARDING & SITE SECURITY

The new works will be hoarded off or fenced off from the public at all times. A 2.4m minimum high plywood painted timber hoarding will be provided along the long-term boundaries of the site – refer to example Photo 1, and at other areas around the site where the perimeter fence / wall is not deemed sufficient for safety and security reasons. Heras type fencing will be used on short term site boundaries where appropriate to suit the works. Refer to example Photo 2. The hoarding alignment and specification are to be confirmed by the appointed Contractor prior to commencement.

Controlled access points to the site, in the form of gates or doors/turnstiles, will be kept locked at any time that these areas are not monitored (e.g. outside of working hours).

During working hours, gatemen/flagmen will control traffic movements and deliveries to ensure safe access and egress to site. All personnel working on site must have a valid Safe Pass card and be inducted by the Main Contractor with regard to site specific information.



Photo 1 – Typical Site Hoarding Arrangement



Photo 2 – Typical Heras Type Demountable Fence

7.3 CRANES

It is anticipated that 4No. tower cranes shall be required for the project. All materials being lifted by crane will be controlled by guide ropes and will only be completed under the strict supervision of appropriately qualified and experience banksmen, in radio contact with the crane operator.

Some mobile cranes and materials hoist will also be required for the construction works of the blocks.

Whereas cranes may over-sail adjoining properties (it is a safety requirement that cranes can slew freely with the prevailing wind when not in operation), however no lifting operations will take place over third party properties.

7.4 SITE ACCOMMODATION & SITE PARKING

On site accommodation will consist of:

- Staff welfare facilities (toilets, canteen, offices/meeting rooms). These may be double stacked where space restrictions apply.
- Materials storage areas and drop off areas.
- Some limited onsite parking for site management staff.



Photo 3 - Typical Stacked Site Containers Where Space is Restricted

Temporary water supply, electricity supply and foul drainage will be required for the new site facilities. These public services are available on site, or within easy reach of the curtilage of the site.

Parking of construction operatives vehicles on the nearby residential roads will be prohibited.

An information leaflet will be provided to all construction staff as part of their induction on site, highlighting the location of the various public transport services in the vicinity of the construction site.

On site storage for tools and equipment will be provided, hence making the journey to and from the site much simpler for operatives.

7.5 HOURS OF WORKING / DELIVERY TIMES

Unless required otherwise by the Local Authority, it is proposed that standard construction working hours will apply i.e.:

- 8am 6pm Mondays to Friday
- 8am 2pm on Saturdays

Any works proposed outside of these periods shall be strictly by agreement with the Local Authority in advance.

A system of 'just in time' deliveries will be utilised for the site, so as to avoid constructed related traffic queuing at the site.

7.6 TRAFFIC MANAGEMENT

7.6.1 General

It is proposed that construction traffic access to the site will be via the existing access road onto Kimmage Road West. This access will be 'left in, left out only' and will be manned with dual flagmen / gate men, during all times the site is open and operating.

All deliveries to the site will be scheduled to ensure their timely arrival and avoid need for storage 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.

7.6.2 Contractors Traffic Management Plan

Should planning permission be granted, a detailed Traffic Management Plan will be prepared by the contractor and agreed with DCC Transportation Department and An Garda Siochana, to mitigate any impact of the construction on the surrounding road network. The Traffic Management Plan will provide for the following where required:

- 1. The contractor shall be responsible for and make good any damage to existing roads or footpaths caused by their own contractors or suppliers transport to and from the site.
- 2. The contractor shall at all times keep all public and private roads, footpaths entirely free of excavated materials, debris, rubbish and provide vehicle wheel wash and thoroughly clean all wheels and arches of all vehicles as they leave the site.
- 3. The contractor shall confine their activities to the area of the site occupied by the works and the builders' compound, as far as practicably possible, during any particular phase of the development.
- 4. Haul routes to and from the site will be defined and agreed with the Local Authority.
- 5. Properly designed and designated entrance and egress points to the construction site for construction traffic will be used to minimise impact on external traffic.
- 6. Flagmen shall be used to control the entry and exit of construction vehicles from the site onto the public road.

Suggested headings for the Contractors Traffic Management Plan (not exhaustive)

- Construction Traffic Management General Requirements
- Traffic Safety and Control
- Emergency Contact Numbers and Personnel
- Emergency Plan
- Access Arrangements to and from Site
- Compound and Staff Parking

7.6.3 Public Traffic

The management of the public traffic, both pedestrian & vehicular, is a key part of this development due to the busy nature of Kimmage Road West. This is why gatemen/traffic marshals will be deployed at this access point, to ensure the left in – left out arrangement is implemented in the safest way possible.

7.6.4 Construction Traffic

The vehicles associated with the construction activities are as follows:

- Excavators
- Dump trucks
- Concrete delivery trucks
- Concrete pumps

- Delivery trucks flatbed & containers
- Mobile cranes
- Mobile hoists

7.6.5 Measures to Minimise Construction Vehicle Movements

Construction vehicle movements will be minimised 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 in the new construction
- '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
- Construction staff vehicle movements will also be minimised by promoting the use of public transport
- Car sharing among the construction staff will be encouraged, especially from areas where homes of staff may be clustered. Such a measure offers a significant opportunity to reduce the proportion of construction staff driving to the off-site car parking facility and will minimise the potential traffic impact on the road network surrounding this facility
- Public Transport: An information leaflet 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.

7.7 SITE SAFETY

The Contractor will be responsible for the security of the site. The Contractor will be required to:

- Operate a site induction process for all site staff
- Ensure all site staff shall have current 'safe pass' cards
- Install adequate site hoarding to the site boundary
- Maintain site security staff at all times
- Separate pedestrian access from construction at the site entrance off Kimmage Road West and provide a safe walkway for pedestrians along the main access road into the site
- Ensure restricted access is maintained to the works.

7.8 WATER SUPPLY

A water supply will be required for various activities on site.

The main contractor will require a water source for the duration of the works. Water will be required for:

- Main contractor's welfare facilities
- Wheel wash and vehicle wash-down (use recycled water where feasible)
- Dust suppression as required
- Curing of concrete in warm weather
- General construction cleaning materials/equipment etc.

7.9 GROUNDWATER CONTROL

Any groundwater in the foundation & service trenches excavations will be pumped out. It is estimated that the required pumping rate will be low. There are no basements in the proposed development. It is envisaged that any water to be discharged will be clean groundwater. If water needs to be discharged off site then it will be discharged to a public surface water sewer under a discharge license regulated by Dublin City Council issued under the Water Pollution Act (Section 4 License). Frequent monitoring will be adopted to ensure that the water is of sufficient quality to

discharge to the sewer. The use of slit traps will be adopted if the monitoring indicates the requirements for the same with no silt or contaminated water permitted to discharge to the sewer.

7.10 PUBLIC RELATIONS/COMMUNITY LIAISON

The site is located in a primarily residential area, with a regional road (Kimmage Road West) to the south of the site. The Main Contractor will be required to ensure that all agents, sub-contractors and suppliers act in a manner to minimise disruption to the locality, in particular the operation of business in the locality. Construction staff will be encouraged to remove all Personal Protective Equipment (PPE) and use wash down facilities before leaving the site.

A senior member of the construction staff should be appointed as a Liaison Manager. They shall be responsible for the following:

- Participation and distribution of a local information leaflet on site activities
- Briefing as necessary with neighbours on progress and issues
- Liaison with DCC and emergency services as appropriate
- Liaison with An Garda Siochana, particularly in relation to traffic movements and permits
- Preparation of reports for the site meetings on neighbourhood issues, as required

Efficient signage, maintenance and cleanliness of services and temporary facilities will be given high priority.

Due to the nature of construction works, it is essential to operate Good Neighbour Policies wherever possible. The key aspect of the Projects Team's good neighbour policy include:

- Early implementation
- Good client, staff and neighbourhood liaison
- Reduction of nuisance factors
- Clear access for neighbouring premises to be maintained
- Clear and concise information to neighbours in response to queries
- Designated liaison officer
- Working within the prescribed hours

It is essential that the Good Neighbour Policy and any necessary procedures be in place before any works are commenced on site.

8. ENVIRONMENTAL CONSIDERATIONS

The main contractor will be required to be accredited with ISO14001 Environmental Management Systems. The main contractor will be required to mitigate the impact of the construction works on the environment. Proposed measures in relation to a number of items are set out in the following sections.

8.1 Noise

Some impact of noise is likely to occur as a result of the construction activity. Construction work is of a temporary nature and the resulting noise levels are usually acceptable, subject to typical management and time control procedures which are common to most urban based development projects.

Construction plant on site will comply with the relevant Irish regulations in relation to noise and vibration requirement.

Noise will be minimised as far as possible, by limiting the use of compressors and other plant to stated hours and by fitting and use of silencing devices wherever practicable. Attention should be paid to the recommendations given in BS 5228. 'Noise Control on construction & Open Sites' & BS 6187 Code of Practice for Demolition.

Measures employed to reduce noise should include:

- Noise monitoring stations, which will be monitored daily, will be located on site and at recommended locations in the vicinity of the site to record background and construction noise activity.
- Proper maintenance of all operating plant to ensure noise emission compliance. Operating plant will be selected on the basis of incorporating noise reducing systems, and at a minimum be fitted with effective exhaust silencers.
- Compressors will be fitted with acoustically lined covers, which will remain closed while the machines are in operation.
- Plant such as pumps and generators which are required to work outside of normal working hours will be enclosed with acoustic enclosures.

It is noted that no rock breaking is anticipated for this site. It is further noted that piling is not anticipated for the site. This is subject to the final site investigation findings.

8.2 DUST

The Contractor's proposals are to include dust control measures in accordance with best practice and with reference to the following:

- Air Pollution Act 1987
- BS 6187: Code of Practice for Demolition

Measures are to include the following:

- Ensuring construction vehicles have a clean surface to travel on within the site (i.e. haul road).
- Truck spraying and hosing down will be carried out during dry periods and as necessary to control dust.
- A road sweeper operating during excavation stage as required.
- Wheel washing facility to be provided if required.
- For operations resulting in significant dust generations, the work areas will be sheeted off to control the spread of dust.

A dust minimisation plan will be formulated for the construction phase of the project. The Contractor will put in place a regime for monitoring dust levels in the vicinity of the site during the works using the Bergerhoff Method. Then minimum criteria to be maintained shall be the limit specified by the Environmental Protection Agency (EPA) for licensed facilities in Ireland which is 350mg/m²/day as a 30-day average.

8.3 POLLUTION CONTROL

Prior to the commencement of construction, the appointed contractor will be required to obtain formal agreement from the Local Authority on pollution prevention measures as well as the overall approach and emergency procedures for all construction stages.

Contractors will have regard to the following best practice guidelines to ensure that water bodies are adequately protected from construction work:

- Construction Industry Research and Information Association (CIRIA) C649: Control of water pollution from linear construction projects: Technical guidance (Murnane et al. 2006)
- CIRIA C649: Control of water pollution from linear construction projects: Site guide (Murnane et al. 2006)

This plan will provide precise details on methods to prevent sediment or pollutants from leaving the construction site.

8.3.1 General

- Demolition and Construction methods used should be tailored to reduce, as much as possible, dust and noise pollution.
- In order to prevent the accidental release of hazardous materials (fuels, paints, cleaning agents, etc.) during site activity, all hazardous materials should be stored within secondary containment designed to retain at least 110% of the storage contents. Temporary bunds for oil/diesel storage tanks should be used on the site during the construction phase of the project. Safe materials handling of all potentially hazardous materials should be emphasised to all construction personnel employed during this phase of the project.
- Prior to the commencement of construction, details will be provided for locations and safeguards for refuelling of machinery, machine servicing, concrete-mixing etc.
- Comprehensive traffic management procedures, including the provision of access to all roads, and access/egress points should be prepared and agreed with the Local Authority. These traffic management measures should be implemented at times when traffic disruption may be experienced.
- Road sweeping and/or wheel wash facilities should be provided, as required.
- All oils/diesels stored on site for construction equipment are to be located in appropriately bunded areas.
- The location and size of stockpile areas for sands and gravel will be specifies and identified on the maps.
- Sediment runoff will be minimised by standard engineering measures including sediment skirts around soil stockpiles, sediment retention barriers in surface water drains and the use of adequate construction roads.

8.3.2 Water

- A method statement for all works to be carried out will be prepared by the contractor and agreed with the Local County Council prior to commencement of works to outline what measures are to be taken to ensure there is no loss of service during the works.
- Dewatering measures are not anticipated for this project there is no basement proposed and therefore only shallow excavations will be required.

- Existing drains within the site that (may) serve adjacent lands should be retained where possible to prevent causing increased flooding impacts.
- All surface water sewer connections shall be made under the supervision of the Local Authority and checked prior to commissioning.
- All new onsite surface water drains shall be tested and surveyed prior to connection to the public sewer to prevent any possibility of ingress of ground water.
- All surface water manholes and drains will be inspected and where necessary sealed to ensure that uncontrolled ground water inflow does not occur.
- Filters and silt traps will be used to prevent rain washing silts and other materials going into the surface water network and creating blockages.
- Bunded areas will be created for the storage or use of any fuels, oils, greases, cement, etc.
- Emergency spill kits will be kept close to works.
- During the demolition and construction phase, all excavation and exposed sub-soils in open cuts will be blinded and protected with clean broken stone as soon as possible after exposing the subsoil in order to prevent erosion.

8.4 REINSTATEMENT / ROAD CLEANING

8.4.1 Construction Stage

Prior to the works commencing, detailed photograph surveys (condition schedules) of adjoining walls, roads, footpaths, grass verges etc. is to be prepared. Copies of the relevant parts are to be made available to adjoining owners and Dublin City Council. This record will form the basis of assessing repairs to adjoining areas in the future should a dispute arise as to their cause. Roadways are to be kept clean of muck and other debris. A road sweeping truck is to be provided if necessary to ensure that this is so.

8.4.2 On Completion

Reinstatement at completion of the works will involve:

- The cleaning of the existing sewers in the vicinity of the development as required.
- Testing and cleaning of all watermains in the development to the requirement of Irish Water prior to connection to the public watermain. This will reduce the risk of contamination to the public water supply when the new network is connected to the system.
- Testing and cleaning of all new drains on site. CCTV surveys.
- Repair of any damage to any adjacent public roadways, kerbs, grass verges etc. in accordance with Local Authority requirements.
- Reinstatement of all excavations to the requirements of the Local Authority.
- Leaving the area in a neat and clean condition, removing all deleterious materials that may have been deposited during construction works.

9. MONITORING & PROTECTION OF NEIGHBOURING PROPERTIES

The proposed works are a significant distance from any nearby buildings or dwellings. Some of the site works and landscaping works will come close to the boundary walls with neighbouring properties. Detailed pre-works conditions surveys of all boundary walls and the existing gym access road shall be carried out prior to any works being undertaken.

A monitoring regime will be put in place to protect neighbouring properties with a full and detailed vibration, noise and dust monitoring regime to put in place for the duration of the works, from demolition through to completion of the new works.

9.1 MONITORING WORKS SPECIALIST:

The Contractor will appoint a competent sub-contractor to be referred to as the Surveying, Instrumentation and Monitoring Subcontractor (MSC) and together with them will prepare and maintain the vibration, noise, and dust monitoring plan, for the agreement/approval of the Client, Employers Representative and the Technical Advisors.



Figure 9.1 – Flowchart for the MSC

9.2 CONDITION SCHEDULES:

The MSC will be responsible for preparing or organising the preparation of detailed condition surveys of certain adjacent buildings, walls and hardstanding areas, roads and footpaths etc. prior to the carrying out of any works on site. Extent of surveys to be agreed. These will include a schedule of condition and associated photographs.

The condition surveys shall be carried out to a level of detail, suitable to the nature and extent of conditions encountered in order to obtain an understanding of the general structural condition of any relevant property/structure and/or external environments, to act as an accurate baseline record of the condition of said buildings and areas.

The preparation of such a report, which is common practice, protects both the adjacent property owner and the developer as it records the current condition with a back-up photographic schedule.

9.3 MOVEMENT MONITORING

Movement will be monitored through a weekly survey of targets fixed to any adjoining structures (gym building and boundary wall structures) deemed within the zone of influence of the construction works.

9.4 NOISE & DUST MONITORING / CONTROL

Refer to Section 8.1 & 8.2 of this report for details.

9.5 RECORDING

The MSC will monitor and collate vibration, noise dust results in report format, on a weekly basis during critical activities. The report format is to be agreed.

10. CONCLUSION

This outline CMP has been submitted to show '1 Terenure Lands' commitment to best practice Construction Management of the proposed project. This CMP has outlined the construction management principles that will be adopted to ensure that potential health and safety issues associated with the construction processes are effectively managed, minimized and / or eliminated. The plan details the roles and responsibilities of the applicant, the site manager, project manager and site workers and how these controls are to be implemented. This outline CMP will require regular monitoring (and if necessary will be updated), throughout the construction period to ensure potential risks are adequately managed throughout the construction works.

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