



Preliminary Construction Management Plan

Residential Development at Broomfield SHD Lands, Malahide.

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1. Introduction

Waterman Moylan in conjunction with the Developer have prepared the following Preliminary Construction Management Plan which is to accompany the SHD planning application for the implementation of the construction of a development at Broomfield, Back Road, Malahide, Co. Dublin.

The plan sets out typical arrangements and measures which may be undertaken during the construction phase of the project in order to facilitate construction of the proposed development. The purpose of this report is to summarise the possible measures to be implemented, and to guide the Contractor who will be required to develop and implement the Preliminary Construction Management Plan on site during the works.

This management plan is indicative only and should not be construed as representing the exact method or sequence in which the construction works shall be carried out.

As is normal practice, the Main Contractor for the project is responsible for the method in which the construction works are carried out and to ensure that best practices and all legal obligations including Local Authority requirements and Health and Safety legislation are complied with. The main contractor is also responsible for the design and installation of all temporary works required to complete the permanent works. The plan can be used by the Main Contractor to develop their final construction management plan. The Applicant reserves the right to deviate from the contents of this Report as the construction of the development progresses on-site. Any such deviation from this report however shall still comply with all relevant Local Authority requirements and legislation.

2. Surrounding Environs and the Proposed Site

The area of the Broomfield development lands is approximately 12.5 hectares, over 2 sites, north and south. The lands are generally greenfield in nature and are located 1.2km to the south of Malahide town centre, within the catchment of the Sluice River, via a ditch system that drains to the Hazelbrook Stream, a tributary of the Sluice.

It should be noted that there exists a small area of hardstanding paving and 2 structures on a small portion of the northern site. These were associated with the former use of part of the site as a rugby club. The clubhouse and outhouse have been vandalised in the form of fire damage and their demolition is included as part of the subject application. Furthermore, the area to the south of the former the playing pitch, has been historically infilled with inert demolition rubble.

The development entrance is from Back Road, 0.5km east of the junction between Back Road and Kinsealy Lane, Malahide Road (R107) is 1.1km to the west, and the Malahide-Donaghmede Road (R124) is 0.5km to the east of the subject site. A second site access to the south site has been provided from Kinsealy Lane via the Hazelbrook residential development, as requested by Fingal County Council.

The overall proposed development is divided into 2 sites as indicated in *Figure 1* overleaf. The north site is located between the existing Ashwood Hall residential development to the west and the Dublin-Belfast rail line to the east. To the south is agricultural land, the north is bounded by existing properties on the Back Road. The southern site is bounded by the Hazelbrook development to the west, Ashwood Hall development to the north and agricultural lands to the south and east.



Figure 1 | Site Location (Image: Google Earth)

The proposed development consists of a total of 415 residential units, comprising of 252 houses, 28 duplex units and 135 apartments, as set out in the Schedule of Accommodation in *Table 1*, below. The proposed development will also include construction of a 476m² creche, projected to cater for 15 staff and 85 children.

| Description | 1-bed | 2-bed | 3-bed | 4-bed | 5-bed | Total |
|--------------|-----------|------------|------------|-----------|-----------|------------|
| House | - | - | 192 | 48 | 12 | 252 |
| Duplex | 8 | 14 | 6 | - | - | 28 |
| Apartment | 37 | 93 | 5 | - | - | 135 |
| Total | 45 | 107 | 203 | 48 | 12 | 415 |

Table 1 | Schedule of Accommodation

3. General Site Set Up and Pre-Commencement Measures

A detailed condition survey (including photographs) will be carried out on the streets and footpaths surrounding the site. The purpose of the survey would be to record the condition of the streets and footpaths around the site prior to the works commencing.

Prior to any site works commencing, the main contractor will investigate / identify the exact location of and tag all existing services and utilities throughout the site with the assistance of the relevant Irish Water, Fingal County Council technical divisions and utility company records.

Site compound including offices and welfare facilities will be set up by the main contractor in locations to be decided, but may potentially be laid out as per the indicative layout in the figure below.



Figure 2 | Potential Site Compound Layout

4. Site Security and Hoarding Lines

Hoarding lines and site security will be set up within the development site as required.

A detailed traffic management plan will be prepared by the Contractor and agreed with the Roads Authority prior to commencing works on the public road.

Access gates will be operated by a flagman who will divert incoming/outgoing/public vehicles/pedestrians and general traffic as necessary.

It is envisaged that CCTV will be operational on-site for the duration of the construction programme. The CCTV cameras will cover all main entry points to site and the site compound including material storage and plant parking areas. It may be required to extend the scope of this coverage should there be incidents of vandalism, theft, or attempted entry to site by unauthorised persons.

Further security measures may also be provided if required by the introduction of permanent, temporary, or intermittent static or roving security personnel patrols.

5. Construction Programme and working hours

The proposed development is likely to be constructed in two phases and includes, in broad terms, the following:-

- Site clearance, demolition, and removal of historic infill material.
- Construction and subsequent fitting out of the residential units.

There may be a practical requirement for the development to be divided into sub-phases as part of the construction programme. These will be detailed at the appropriate stage prior to construction.

Working hours for the site will be set out in the conditions of planning approval and would typically be 08.00 to 19.00 from Monday to Friday and 08.00 to 14.00 on Saturday. No Sunday or Bank Holiday work will generally be permitted. The above working hours are typical; however, special construction operations may need to be carried out outside these hours in order to minimise disruption to the surrounding area.

A detailed construction programme has not been developed at this stage. However, it is anticipated that the total construction period for the development will be approximately 36 months. Commencement is estimated to begin before the end of 2023 and will achieve completion by 2026.

On the basis that the construction period is estimated to be 36 months, typically 160 units a year could be under construction at the same time.

6. Site Office, Staff and Compound (Including Parking and Storage)

It is intended that the main site office, welfare, storage, and parking facilities will be located on the northern site, with smaller scale welfare and storage facilities also on the southern site.

Utility connections to serve the compounds will be foul water, potable water, and electricity. These temporary connections will be applied for by the Main Contractor when appointed.

The workforce is projected to be 50-60 staff on-site.

Staff vehicles, site plant, and delivery vehicles will be afforded sufficient space for parking and turning movements on-site. No parking will be permitted on the public roads.

Due to the area of the site, it is not envisaged that there will be a requirement for parking or material storage off-site.

7. Deliveries & Vehicle Movements

It is intended that deliveries to the construction site will typically be made to one main access which is expected to be the main entrance via the access road off Back Road. It is likely that the main arrival route will be from the Malahide Road (R107) as indicated in the figure below. This route offers excellent connectivity for vehicles arriving from Feltrim Quarry and Feltrim Road, the M50, the Port Tunnel & Dublin Airport.

There will no construction access permitted via the Hazelbrook estate.



Figure 3 | Site Access Route

Materials should be ordered and delivered to site on an “as needed” basis in order to prevent over supply to site. Deliveries will be managed upon arrival to the site and systems should be provided in order to avoid any queuing of delivery vehicles, for example: in the event that large concrete pours are required, which may result in congestion at the entrance to the site, the deliveries will be organised such that concrete trucks will queue at a pre-determined staging point (such that they do not cause an obstruction to general traffic in the area) and will then be called in by radio as appropriate to the site. A number of the construction traffic movements will be undertaken by heavy goods vehicles, though there will also be vehicle movements associated with the appointed contractors and their staff.

An estimate of the day-to-day traffic movements associated with the construction activities, based on experience of similar sites, projects that the number of construction related HGV movements to and from the application site will be approximately 15 arrivals and departures per day.

Similarly, the general workforce, which equates to 50-60 employees and with an allowance for shared journeys could equate to a maximum of around 25-30 arrivals and departures per day by private vehicle.

This number of construction vehicle movements is low compared to the number of trips expected to be generated by the proposed development during the operational phase. It should be noted that the majority of such vehicle movements would be undertaken outside of the traditional peak hours, and it is not considered that this level of traffic would result in any operational problems. Staff vehicles, site plant, and delivery vehicles will be afforded sufficient space for parking and turning movements on-site. No parking will be permitted on the public roads.

Care will be taken to ensure existing pedestrian routes are suitably maintained as necessary during the construction period, and temporary car parking is provided within the site for contractor’s vehicles.

It is proposed that a Construction Management Plan (CMP) would be prepared by the appointed contractor in order to minimise the potential impact of the construction phase of the proposed development on the safety and amenity of other users of the public road. The CMP will consider the following aspects:

- Minimise the volume of material removed from site by optimising the cut to fill requirements within the site;
- Segregation of waste material produced during the construction process to minimise the contamination or reusable fill material resulting from excavation on the site;
- Wheel wash to be provided for vehicles leaving the site when earthworks are being carried out during winter periods;
- Ensure that deliveries to the site and removal of spoil material from this site are restricted to off peak periods where possible and practicable.
- Optimise routes to be used by heavy vehicles and detail construction traffic forecast;
- Determine the working hours of the site;
- Facilities for loading and unloading and;
- Facilities to parking cars and other vehicles.

Set procedures and designated wash-out areas will be provided, or alternatively vehicle wash-out will be prohibited if a suitable wash-out area is not identified.

All delivery vehicles will be co-ordinated by the flagman on duty at the relevant access gate.

There is adequate space to accommodate on-site parking during the construction programme.

The main contractor will be required to schedule delivery of materials strictly on a daily basis. If necessary, the main contractor will be required to provide a secure material staging compound remote from the site, in which to temporarily store materials from suppliers, until such time as these can be accommodated on site.

8. Traffic Management

A detailed Traffic Management Plan will be prepared by the Contractor and agreed with the Roads Authority prior to commencing works on the public road.

9. Dust and Dirt Control

Nuisance dust emissions from construction activities are a common and well recognised problem. Fine particles from these sources are recognised as a potential significant cause of pollution.

The main contractor will be required to demonstrate that both nuisance dust and fine particle emissions from the site is adequately controlled and are within acceptable limits.

Dust and fine particle generation from construction and demolition activities on the site can be substantially reduced through carefully selected mitigation techniques and effective management. Once particles are airborne it is very difficult to prevent them from dispersing into the surrounding area. The most effective technique is to control dust at source and prevent it from becoming airborne, since suppression is virtually impossible once it has become airborne.

Further details on the techniques and methods that may be incorporated to mitigate against dust dispersal are included in full in the Preliminary Construction, Demolition and Waste Management Plan, submitted under a separate cover.

10. Site Plant and Cranage

The Main Contractor when appointed shall review measures and formulate method statements for plant and personal working at heights and in the vicinity of overhead cables that are yet to be undergrounded.

It should be further noted that due to the site's location and proximity to the flight paths of the runways of Dublin Airport that there may be restrictions to be considered in regard to permitted heights, for example those of tower cranes.

11. Demolition and Historic Infill Material

There are existing structures on site to be demolished. There is also a historic infill area containing inert material located on a section of the northern site.

Full details on the requirements for these items are included in the Preliminary Construction Demolition and Waste Management Plan, submitted under a separate cover.

12. Noise Assessment and Control Measures

The contractor is to meet the requirements of the Air Quality Monitoring and Noise Control Unit's Good Practice Guide for Construction and Demolition.

This Guide has been produced with reference to the London Good Practice Guide: Noise and Vibration Control for Demolition and Construction produced by the London Authorities Noise Action Forum, July 2016.

The Construction Demolition and Waste Management Plan, submitted under a separate cover, outlines risk assessment and mitigation measures which will reduce the impact of sound and vibration disturbance to the site staff and persons in the general vicinity of the site. These mitigation measures apply to vehicles/plant, demolition, foundation/groundworks and general site works.

13. General Health & Safety

The main contractor, upon appointment, will be required to prepare and develop Safety Files, plans, and arrangements on site, including but not limited to:

- Environmental, Emergency and Accident Procedures
- Risk Assessments
- Method statements, including from 3rd party contractors
- Manage and maintain the Safety File
- Produce and maintain the Construction Stage Safety Plan.

MCORM Architects have been appointed as PSDP (Project Supervisor Design Phase).

The Main Contractor upon appointment, will nominate a suitably qualified person to act as Project Supervisor Construction Stage (PSCS).

14. Runoff Pollution and Sediment Control

14.1 Runoff Pollution Control

Significant quantities of waste and potential pollutants can be generated during construction. Controls must be put in place to prevent these pollutants from washing into the local storm water system during storm events.

The site has drainage ditches on some boundaries which are tributaries of Hazelbrook Stream which outfalls to the Sluice River which in turn ultimately outfalls to Baldoyle Bay. The southern boundary of the south site is formed by Hazelbrook Stream itself. Baldoyle Bay has been designated as an SPA (Special Protection Area) by the NPWS (National Park and Wildlife Service) and Local authority, under the RAMSAR Convention. It was declared a Statutory Nature Reserve in 1988 and supports several habitats as listed in the EU Habitats Directive.

The Inland Fisheries Ireland document: Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Waters 2006, outlines the following areas to be considered for the protection of adjacent water courses during the construction stage

1. Damage to the aquatic and associated riparian habitat due to loss of vegetation, damage to banks & changes in watercourse morphology & hydrology.
2. Pollution of waters due to construction materials.
3. Introduction of non-native species such as plants, algae, fish & shellfish.
4. Interference to the movement of aquatic life.
5. Timing of in-stream works on seasonal salmonid activity.
6. Temporary crossing structures in waters.
7. Permanent crossing structures in waters.
8. Construction impacts such as cast in-situ concrete, sediment laden surface water, hydrocarbon leaks & water abstraction. (Also discussed in section 12.2)

In consideration of the above list the following methods listed, but not limited to, will be implemented on site as appropriate:

1. Fuels, oils, greases, and hydraulic fluids will be stored in bunded compounds well away from the watercourse/ditches. Refuelling of machinery, etc., will be carried out in bunded areas.
2. Runoff from machine service and concrete mixing areas will not enter the watercourse.
3. Stockpile areas for sands and gravel will be kept to minimum size, well away from the watercourse.
4. Runoff from the above will only be routed to the watercourse via suitably designed and sited settlement ponds/filter channels.
5. Settlement ponds will be inspected daily and maintained regularly.
6. Temporary crossings will be designed to the criteria laid down for permanent works.

7. Watercourse banks will be left intact if possible. If they have to be disturbed, all practicable measures should be taken to prevent soils from entering the watercourses.

The proposed development site will require the installation of outfall headwalls to the local ditch network and 1 No. to the Hazelbrook Stream, and further headwalls as part of the installation of proposed culverts to the local ditch network. Works will only be carried out only during dry weather. The precast headwall will be constructed “in the dry” and isolated from the watercourse using sandbags. The headwall will be installed on cement blinding (50mm minimum) on well compacted clean hardcore (300mm minimum). Ready mix concrete will be brought to the site and no concrete batching will occur at the headwall location. The cement will be allowed to fully cure before the removal of the sandbag bund. Under no circumstances will concrete-contaminated water or effluent be permitted to escape to the river.

| Source | Action |
|------------------|---|
| Detergents | Use of detergents should be carried out in designated areas draining to the foul sewer. |
| Fuel/Oil | Fuel/oil stores must be located away from the site drainage system and the edge of watercourses. |
| Fuel/Oil | Ensure adequate measures are identified to prevent or contain any spillage such as creating a fall away from any drainage grid or blocking drainage points. |
| | Prevent oil pollution by <ul style="list-style-type: none"> • Suitable bunded storage of fuel/oil, and use of drip trays under plant, and • An oil separator, and/or • On-site spill-kit • Commercially available absorbent granules, pads, or booms. |
| Material Storage | Store drums, oil, and chemicals on an impervious base and within a secured bund. |
| | Ensure topsoil and/or spoil heaps are located at least 10m away from water courses. Consider seeding them or covering with a tarpaulin to prevent silty runoff and losses due to wind. |
| Leaks and Spills | Storage facilities are to be checked on a regular basis to ensure any leaks or drips are fixed to prevent loss and pollution. |
| | Ensure appropriate spill response equipment is located near to the material in case of containment failure or material spills, and ensure site staff know how to use it. |

| | |
|--------------------------------|---|
| | Adequate stocks of absorbent materials, such as sand or commercially available spill kits and booms should be available at all times. |
| Litter | Provide waste bins on-site as appropriate. |
| Construction Vehicles | Provide vehicle wheel washing. |
| Concrete, Cement and Bentonite | Washout of these materials should be carried out in a designated, impermeable contained area. The washout water itself should be disposed of off-site, or discharged to the foul sewer if authorised. |

Table 2 | Pollution Protection Measures

The Site Investigation report for the area of the historic infill material, and the rest of the site are included as appendices to the Preliminary, Construction, Demolition and waste management Plan, and has included analysis of water samples obtained from the ditch serving the area of the historic infill. No sign of contamination has been identified, and given the material contained within the historic infill has been categorised as non-hazardous, no adverse effects are expected by any potential runoff that may occur during its removal. Further details on this are contained within the EIAR, Chapter 7.

14.2 Sediment Control

Construction runoff is heavily laden with silt which can block road gullies and reduce the hydraulic capacity in pipes and watercourses, contributing to ponding and flooding. Continued development without appropriate controls will ultimately keep maintenance costs elevated, whether that be in cleaning gullies, jetting pipes, or dredging. Sediment control plans can be implemented on-site to mitigate these issues.

Sediment basins and traps should be installed before any major site grading takes place. Additional sediment traps and silt fences should be installed as grading takes place to keep sediment contained on site at appropriate locations.

Key runoff-control measures should be located in conjunction with sediment traps to divert water from planned undisturbed areas away from the traps and sediment-laden water into the traps. Diversions should be installed above the areas to be disturbed before any grading operations. Any perimeter drains should be installed with stable outlets before opening major areas for development.

During grading operations temporary diversions, slope drains, and inlet and outlet protection installed in a timely manner can be very effective in controlling erosion and sediment build up.

The main run-off conveyance system with inlet and outlet protection measures should be installed early and used to convey stormwater run-off through the development site without creating gullies or channels. Install inlet protection for storm drains as soon as the drain is functional to trap sediment on site in shallow pools and to allow the flood flows to enter the storm drainage system safely. Install outlet protection at the same time as the conveyance system to prevent damage to the receiving watercourse.

During the final stages of construction unstable sediment from sediment basins and traps should be removed and if possible incorporated into the topsoil, not just spread on the surface.

14.2.1 Sediment Control Measures

Sediment entrapment facilities are necessary to reduce sediment discharges to downstream properties and receiving waters. All run-off leaving a disturbed area should pass through a sediment entrapment facility before it exits the site and flows downstream.

Straw Bales:

Straw bales can be placed at the base of a slope to act as a sediment barrier. These are not recommended for use within a swale or channel. Straw bales are temporary in nature and may perform for only a period of weeks or months. Proper installation and maintenance is necessary to ensure their performance.

Silt Fencing

A silt fence is made of a woven synthetic material, geotextile, and acts to filter run-off. Silt fencing can be placed as a temporary barrier along the contour at the base of a disturbed area, but is not recommended for use in a channel or swale. The material is durable and will last for more than one season if properly installed and maintained. Silt fencing is not intended to be used as a perimeter fence or in area of concentrated flow. If concentrated flow conditions exist, a more robust filter should be considered.

Silt Barriers

Silt barriers can also be temporarily installed in any road gullies of partially constructed roads to prevent sediment movement into downstream drainage systems or SUDS components.

When the catchment area is greater than that allowed for straw bale barriers or silt fences, runoff should be collected in diversion drains and routed through temporary sediment basins.

Diversion Drains

Diversion drains are simple linear ditches, often with an earth bund, for channelling water to a desired location. If the drains are being eroded, they can be lined with geotextile fabric or large stones or boulders.

UK and Ireland Office Locations

