

Project

Proposed Development at Glenamuck Road, Dublin 18

Report Title

Preliminary Construction & Environmental Management Plan

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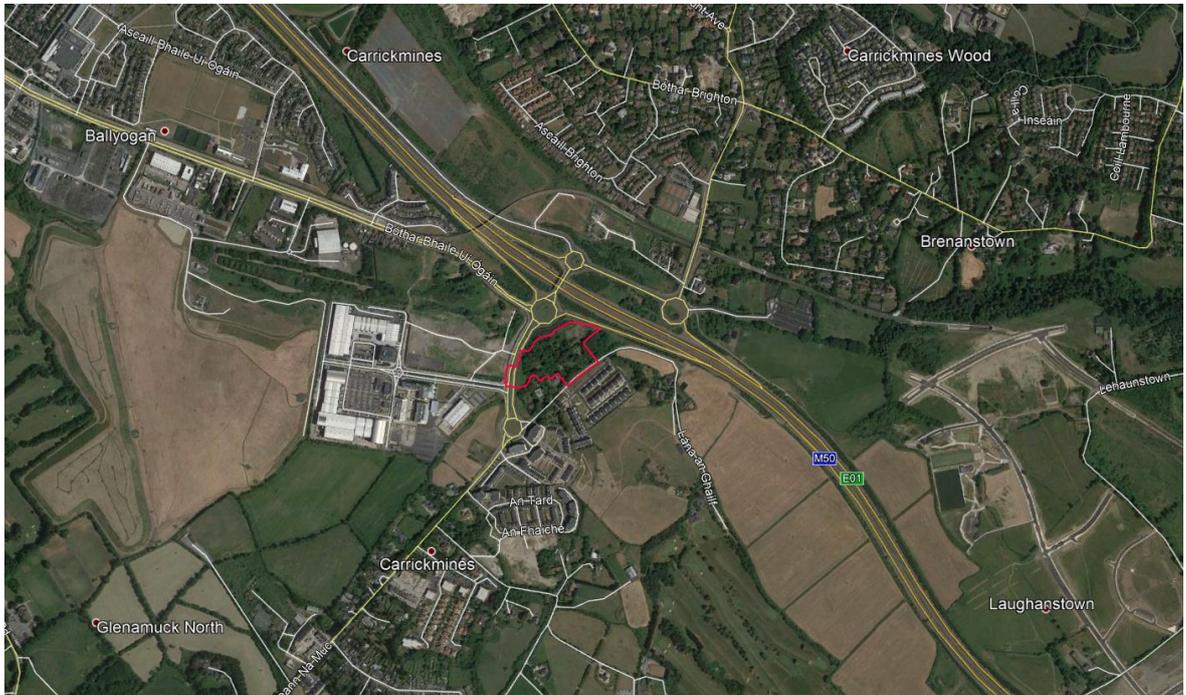
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1.0 INTRODUCTION

- 1.1 This document is an initial Preliminary Construction & Environmental Management Plan for the proposed works to develop a residential development adjacent to Glenamuck Road, Dublin 18. It includes an outline description of the proposed works and how these works will be managed for their duration. It includes details of the Preliminary Construction Management Traffic Plan, refer to section 9.
- 1.2 This project is currently at planning stage and as such input from the contractor has not been incorporated into the plan. On appointment of a contractor this preliminary document will be issued to them to be further developed into their final construction management plan for the project.
- 1.3 The outline plan seeks to demonstrate how works can be delivered in a logical, sensible and safe sequence with the incorporation of specific measures to mitigate the potential impact on people and the surrounding environment.
- 1.4 Nothing stated in this document shall supersede or be taken to replace the terms of the Contract or the detailed design description issued with the Contract tender or the conditions of planning. Similarly, the issues covered within this document may be amended or added to by the Main contractors or in accordance with their specific works proposals, sequencing and procedures.
- 1.5 When read by the contractor, this document should be read carefully in conjunction with all drawings, specifications and survey information provided.
- 1.6 Any consequences that result through failure to implement measures in this construction plan, or inadequate development of this plan by the contractor are the responsibility of the contractor and not DBFL.

2.0 SITE DESCRIPTION & EXISTING CONDITIONS

2.1 The site is located at Golf Lane, Carrickmines Dublin 18. The site has an area of c. 2.56 hectares and is bound to the north by the M50 motorway, to the east by Golf Lane, to the west by Glenamuck Road, and to the south by existing residential development to the south of junction 15 of the M50 Motorway, as shown in Figure 2-1



— Site Boundary

Figure 2-1: Site Location (Site Boundary Indicative Only).

2.2 The proposed development comprises a residential development of 482 no. units (all apartments), along with ancillary residential amenities, and provision of a childcare facility, gym, and local shop. The proposed residential units comprise 31 no. studio units, 183 no. 1-bedroom units, 229 no. 2-bedroom units, and 39 no. 3-bedroom units (including 2 no. duplex type units).

The proposed development is set out in 7 no. blocks which comprise the following:

- Block A1 comprises 62. no. apartments within a part four, part six storey building, including 10 no. studio units, 7 no. 1-bedroom units, 41 no. 2 bedroom

units, and 4 no. 3-bedroom units. An ESB substation is provided at ground floor level.

- Block A2 comprises 85 no. apartments within a part four, part eight storey building, including 25 no. 1-bedroom units, 45 no. 2-bedroom units, and 15 no. 3-bedroom units.
- Block A3 comprises 79 no. apartments within a part four, part twelve storey building, including 21 no. studio units, 19 no. 1-bedroom units, 28 no. 2-bedroom units, and 11 no. 3-bedroom units.
- Block B0 comprises 150 no. apartments and resident's amenities within a part four, part eighteen, part twenty-one and part twenty-two storey building. The apartments include 76 no. 1-bedroom units, 68 no. 2-bedroom units, and 6 no. 3-bedroom units (including 2 no. duplex type units). An ESB substation, resident's concierge area (105 sq.m) and resident's amenity space (62 sq.m) are provided at ground floor level. A resident's amenity / event space is provided at the twentieth and twenty-first floor levels.
- Block B1 comprises 8 no. apartments and is four storeys in height, directly abutting Block B. The apartments include 4 no. 1-bedroom units, and 4 no. 2-bedroom units.
- Block C comprises 42 no. apartments and a local shop within a part five, part seven storey building. The apartments include 30 no. 1-bedroom units, 9 no. 2-bedroom units, and 3 no. 3-bedroom units. A local shop (154 sq.m) and an ESB substation are provided at ground floor level.
- Block D comprises 56 no. apartments, a commercial gym, resident's concierge area, resident's lounge, and a childcare facility in a part four, part seven storey building. The apartments include 22 no. 1-bedroom units, and 34 no. 2-bedroom units. The resident's concierge area (99 sq.m), resident's amenity space (292 sq.m), commercial gym (340 sq.m), and childcare facility (300 sq.m) units are located at ground floor level. The resident's lounge (292 sq.m) is located at first floor level.

Two basement levels are proposed, providing car parking spaces (299 no.), bin stores, plant rooms, bicycle parking (1,000 no. spaces), and circulation areas. A further 240 no. bicycle parking spaces and 4 no. car parking spaces are provided at ground level. The proposed development includes landscaping, boundary treatments, public, private and communal open space (including roof terraces), two cycle / pedestrian crossings

over the stream at the western side of the site, along with a new pedestrian and cycle crossing of Glenamuck Road South at the west of the site, cycle and pedestrian facilities, play facilities, and lighting. The proposed buildings include the provision of private open space in the form of balconies and winter gardens to all elevations of the proposed buildings. The development also includes vehicular, pedestrian, and cycle accesses, drop off areas, boundary treatments, services, and all associated ancillary and site development works.

3.0 CONSTRUCTION PROGRAMME, METHODOLOGY & PHASING

3.1 GENERAL

3.1.1 The project is currently at planning stage and subject to approval and detailed design. It is estimated that the works would be tendered mid in 2020 with commencement in late 2020, an estimated site programme of 24 months depending on construction phasing.

3.1.2 The proposed order of construction of key elements is as follows, however this is subject to detailed review by the Contractors at construction stage and specifics may require adjustment once the contractor has been appointed;

- Site Setup;
- Demolitions and site clearance;
- Earthworks, including cut and fill and disposal of excess material off site;
- Construction of substructure;
- Super Structure Frame to buildings in sequence;
- Roof and Façade finishes;
- Internal fit out;
- External site works and tie into Golf Lane.

3.2 SITE SETUP

3.2.1 Immediately after access to the site is made and it is secure, the site compound will be established. Existing site services will be isolated including the decommissioning of any existing substations in conjunction with the ESB and the provision of a temporary builders power supply.

3.2.2 The site will be secured with hoarding on all open sides and accessible approaches. The site boundary will be established as indicated by the red-line on the planning drawings and Figure 7-2.

3.3 DEMOLITIONS & SITE CLEARANCE

- 3.3.1 It is not anticipated any full demolition will be required, as the existing buildings were historically demolished before the current ownership.
- 3.3.2 Any demolition that is required will be carried out by a competent Demolition Subcontractor in accordance with the current code for demolition and the consultant engineers specification.
- 3.3.3 The site has a fairly dense vegetation coverage which will need to be removed as part of the works, this will need to be undertaken with cognisance of the Arborist and Ecological Reports.
- 3.3.4 Existing rubble and fill from the previously demolished dwellings will be taken disposed offsite to a suitably licensed facility in accordance with the project's Construction Waste Management Plan.
- 3.3.5

3.4 EARTHWORKS

- 3.4.1 Earthworks will consist of reducing existing levels for the proposed basement structure and foundations. Suitable material such as rock will be crushed and used on site where possible. Excess material will be disposed offsite to a suitably licensed facility in accordance with the project's Construction Waste Management Plan.
- 3.4.2 As part of the earthworks phase, the fill material that is present to the north of the site that blocks the overland flood flow path will be restored to pre 2007 levels. This material will be re-used where applicable with the remainder taken off site.

3.5 SUBSTRUCTURE

- 3.5.1 The site investigation works carried out on the site indicated typically a brown sandy gravelly clay over weather granite over solid granite bedrock. The development is provided with a 2 level stepped basement which extends below ground and into the solid granite bedrock. The foundations for the development will take the form of reinforced concrete pad foundations to columns and reinforced concrete strip footings to retaining walls and load bearing walls. The concrete grade and specification will be suitable for the environment based on site testing results carried out.

3.6 SUPER STRUCTURE

- 3.6.1 The development consists of 7 block of apartments over a double basement carpark, ranging from 4 storey to 22 storey in height. The superstructure to the development includes apartment blocks supported on a reinforced concrete transfer slab at ground floor level with a reinforced concrete podium slab externally designed to support planting and access over. This ground floor structure is supported on a grid of reinforced concrete columns and walls positioned to suit the carparking layout on the levels below. Where the accommodation block extends to the height of 22 storeys, the typical column grid extends full height of the building and down to basement and foundation level.
- 3.6.2 Whilst the final decision on the form of construction is yet to be made, one form of construction up for consideration is a reinforced concrete frame system with a reinforced concrete flat slabs and reinforced concrete columns and shear core walls providing stability to the structure. The external cladding system will be supported partly off the ground floor transfer slab and also intermediate floor slabs.

4.0 WORKING HOURS

- 4.1 Working hours will be strictly in accordance with the granted planning conditions with no works on Sundays or Bank Holidays. If work is required outside of these hours, written approval will be sought by the contractor from the Local Authority.
- 4.2 It is anticipated that normal working hours may be 7am to 7pm Monday to Friday and 8am to 5pm on a Saturday. Working outside these hours will be subject to agreement with the Local Authority.
- 4.3 Deliveries of material to site will be planned to avoid high volume periods. There may be occasions where it is necessary to have deliveries within these times. The Contractor will develop, agree and submit a detailed Traffic Management Plan for the project prior to commencement.

5.0 DUST & DIRT GENERATION

5.1 The main contractor will be responsible for the coordination, implementation, and ongoing monitoring of the dust management plan. Air quality and dust generation mitigation measures are described in the following chapter and will be implemented for the project in accordance with best practice.

- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic.
- Any road that has the potential to give rise to fugitive dust will be regularly watered, as appropriate, during dry and/or windy conditions.
- Vehicles exiting the site shall make use of a wheel wash facility where appropriate, prior to entering onto public roads.
- Vehicles using site roads will have their speed restricted, and this speed restriction must be enforced rigidly. On any un-surfaced site road, this will be 20 kph, and on hard surfaced roads as site management dictates.
- Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.
- During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.
- Dust screens will be implemented at locations where there is the potential for air quality impacts on sensitive ecological receptors (i.e. within 100m of the works), such as the Golf Stream and Glenamuck North River, during the construction phase.

At all times, these procedures will be strictly monitored and assessed. In the event of dust nuisance occurring outside the site boundary, movements of materials likely to raise dust would be curtailed and satisfactory procedures implemented to rectify the problem before the resumption of construction operations.

5.2 Monitoring of construction dust deposition at nearby sensitive receptors during the construction phase of the proposed development will be undertaken to ensure mitigation measures are working satisfactorily.

5.3 Demolition and construction stage traffic and embodied energy of construction materials are expected to be the dominant source of greenhouse gas emissions as a

result of the construction phase of the development. Construction vehicles, generators etc., may give rise to some CO₂ and N₂O emissions. Therefore, site-specific mitigation measures will be implemented during the construction phase of the proposed development to ensure emissions are reduced further.

In particular:

- the prevention of on-site or delivery vehicles from leaving engines idling, even over short periods.
- Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site

6.0 NOISE & VIBRATION

- 6.1 The Contractor shall ensure that the level of noise and vibration resulting from the construction of the works does not constitute a nuisance, and that noise and vibration emissions conform to the requirements of BS 5228: (2009 + A1 2014) Code of Practice for Noise and Vibration Control on Construction Sites, Part 1 and Part 2. All plant shall be adequately silenced to conform to the requirements of BS 5228.
- 6.2 Short-term vibration levels and continuous vibration guideline levels as measured in buildings shall be less than the guideline values in BS 5228.
- 6.3 If significant noise and vibration activities are to be carried out on site, the contractor will ensure that there is prior liaison with other resident / local business etc. with a view to ensuring that excess noise is not generated by the works beyond the site curtilage and that contract details are available along with agreed protocols.
- 6.4 Contractor to use the Best Management Practice and mitigation measures to prevent or minimise noise levels from the works through the provision and proper maintenance, use and operation of all machinery. Items of plant which create high noise levels should not be used on the periphery of the site. Contractor shall operate in accordance with the Safety, Health and Welfare at Work (General Application) Regulations 2007, part 5 Noise and Vibration.
- 6.5 The contractor shall appoint a designated person to manage all environmental complaints including noise. A noise complaint procedure shall be implemented in which the details of any noise related complaint are logged, investigated and where required; measures are taken to ameliorate the source of the noise complaint. A strictly enforced noise management programme shall be implemented at the site from the outset of construction activities.
- 6.6 Appropriate signage shall be erected on all access roads in the vicinity of the site to inform HGV drivers that engines shall not be left idling for prolonged periods and that the use of horns shall be banned at all times. HGV's queuing on any local or public road shall not be permitted and it shall be the responsibility of site management to ensure this policy is enforced.
- 6.7 All onsite generator units (if required) used to supply electricity to the site shall be super silenced or enclosed and located away from any receptor.
- 6.8 The principal of controlling noise at source shall be implemented at the site. Best practice mitigation techniques as specified in *BS 5228:2009+A1 2014 – Noise and*

Vibration Control on Construction and Open Sites shall be implemented during the construction phase and are detailed in this Section.

7.0 SITE SETUP

- 7.1 The existing site entrance is off Golf Lane and will also be used as the site's construction entrance. Specific control measures will be implemented to fully segregate construction traffic from external pedestrian traffic.
- 7.2 The proposed site access is detailed in Figure 7-1 and Figure 7-2. The Contractor shall provide arrangements to provide for vehicular traffic to the site with control measures where crossing the public footpath. The proposed location of the Contractor compound will be internally within the site.



Figure 7-1: Existing Golf Lane Vehicle Entrance

- 7.3 Hoardings will be painted timber hoarding circa 2.4m including supports and appropriate anchoring (Designed by Temporary Works Engineer), external lighting and Safety signage. Site hoarding will include Health and Safety warnings at appropriate intervals.
- 7.4 Site security will be provided by way of a monitored infrastructure systems such as site lighting and CCTV cameras, when deemed necessary.
- 7.5 An indicative site compound and material storage area have been indicated on Figure 7-2 and the final location of these will be subject to logistical impacts while taking cognisance of ecological and environmental mitigation measures outlined in this document and the wider planning application documentation.

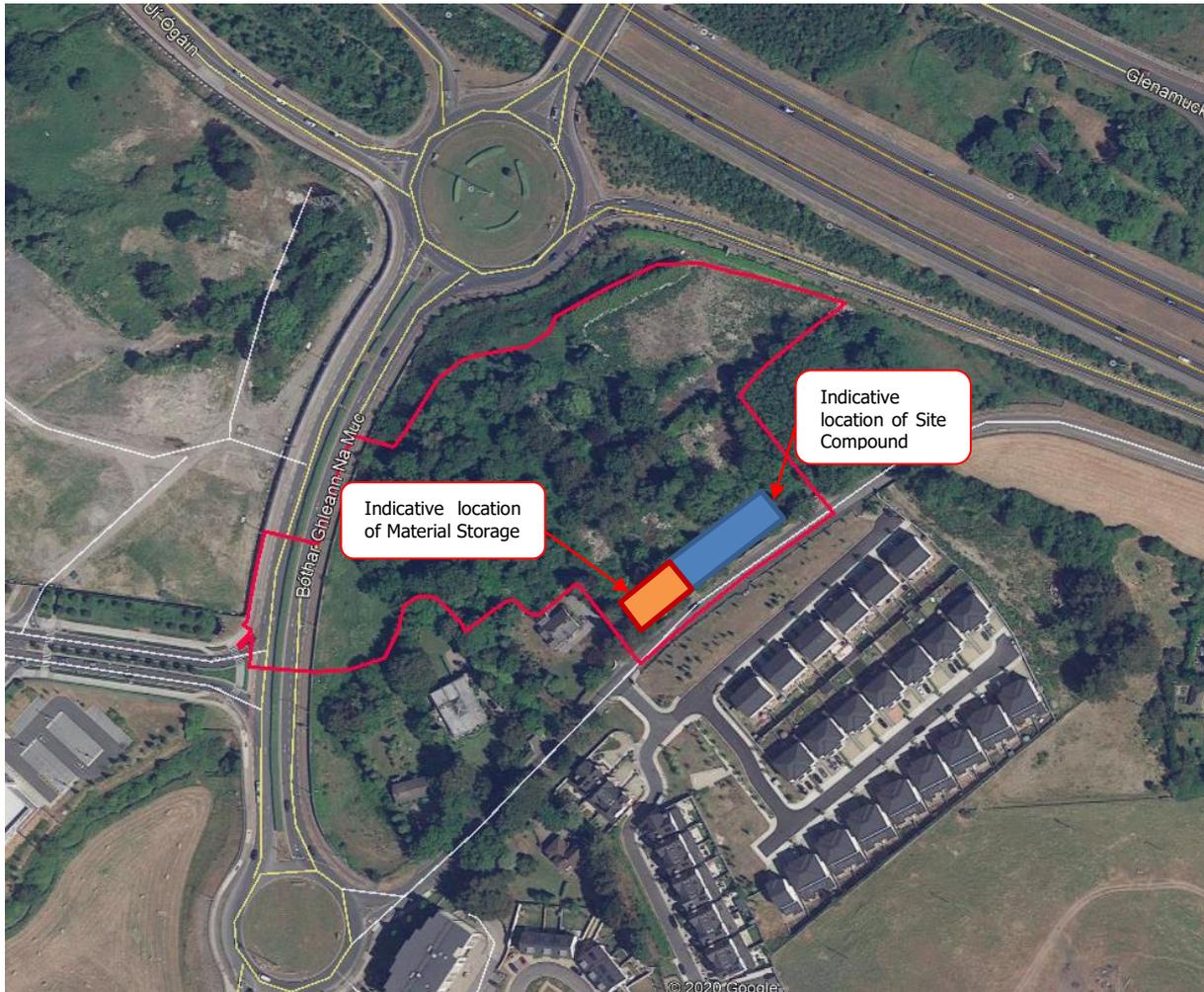


Figure 7-2: Existing & Proposed Golf Lane Vehicle Entrance Plan

8.0 POLLUTION CONTROL

- 8.1 Contamination of Watercourses and ground water is a risk during the construction phase especially in the construction of the proposed bridge of the development. Detailed construction method statements will need to be approved by the Client's design team.

Identified risks include spillages into water courses and unprotected ground, allowing pollutants to enter watercourses or ground water. The measures proposed to be put in place to mitigate this risk would be the use of exclusion zones where practicable and exclusion of construction vehicles from areas near the stream. Exclusion zones would be defined by erecting a 1m high barrier along the watercourse formed by steel road pins supporting an orange PVC barrier with warning signs appropriately fixed at regular intervals.

- 8.2 Sediment and Erosion – Similar to the above, adjacent watercourses/groundwater need to be protected from sedimentation and erosion due to direct surface water runoff generated onsite during the construction phase. To prevent this from occurring surface water discharge from site will be managed and controlled for the duration of the construction works until the permanently attenuated surface water drainage system of the proposed site is complete.

A temporary drainage system shall be installed prior to the commencement of the construction works to collect surface water runoff by the site during construction.

- 8.3 Accidental Spills and Leaks – All oils, fuels, paints and other chemicals will be stored in a secure bunded construction hardstand area. Refuelling and servicing of construction machinery will take place in a designated hardstand area which is also remote from any surface water features e.g. Golf Stream (when not possible to carry out such activities off site). A response procedure will be put in place to deal with any accidental pollution events and spillage kits will be available and construction staff will be familiar with the emergency procedures and use of the equipment.

- 8.4 Concrete – Concrete batching will take place off site, wash down and wash out of concrete trucks will take place off site and any excess concrete is not to be disposed

off on site. Pumped concrete will be monitored to ensure there is no accidental discharge. Mixer washings are not to be discharged into surface water drains.

- 8.5 Disposal of Wastewater from Site – Discharge from any vehicle wheel wash areas is to be directed to on-site settlement tanks/ponds, debris and sediment captured by vehicle wheel washes are to be disposed off-site at a licensed facility.

Foul drainage discharge from the construction compound will be tankered off site to a licensed facility until a connection to the public foul drainage network has been established.

- 8.6 Bedrock excavation works will be required to accommodate the development proposals which may result in the exposure of bedrock to various elements including weather and construction traffic. The measures proposed to be put in place to mitigate the impacts of this on the bedrock include minimising the volume and frequency of construction traffic on the bedrock; and minimising the duration for which the bedrock is exposed.

9.0 BIODIVERSITY

9.1 This chapter will look at the mitigation measures that will be employed by the contractor during to the construction phase to mitigate the risk to biodiversity as much as practically possible. The full Environment Impact Assessment should be read in conjunction with this document.

9.2 Retention and Protection of Vegetation during Construction

Any vegetation (including trees, hedgerows or treelines, or areas of woodland adjacent to, or within, the proposed development boundary) which is to be retained shall be afforded adequate protection during the construction phase in accordance with the Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, During and Post Construction of National Road Schemes (National Roads Authority, 2006b), as follows:

- All trees along the proposed development boundary that are to be retained, both within and adjacent to the proposed development boundary (where the root protection area of the tree extends into the proposed development boundary), will be fenced off at the outset of works and for the duration of construction to avoid structural damage to the trunk, branches or root systems of the trees. Temporary fencing will be erected at a sufficient distance from the tree so as to enclose the Root Protection Area (RPA) of the tree. The RPA will be defined based upon the recommendation of a qualified arborist.
- here fencing is not feasible due to insufficient space, protection for the tree/hedgerow will be afforded by wrapping hessian sacking (or suitable equivalent) around the trunk of the tree and strapping stout buffer timbers around it.
- The area within the RPA will not be used for vehicle parking or the storage of materials (including soils, oils and chemicals). The storage of hazardous materials (e.g. hydrocarbons) or concrete washout areas will not be undertaken within 10m of any retained trees, hedgerows and treelines.
- A qualified arborist shall assess the condition of, and advise on any repair works necessary to, any trees which are to be retained or that lie outside of the proposed development boundary but whose RPA is impacted by the works. Any remedial works required will be carried out by a qualified arborist.
- A buffer zone of at least 5m will be maintained between construction works and any retained hedgerows to ensure that the root protection areas are not damaged.

9.3 Habitat Enhancement

The following relatively simple measures will be recommended to be undertaken to enhance the biodiversity value of the proposed development:

- The use of herbicides in the maintenance of landscaping will be avoided, thus allowing a greater diversity of species to become established within existing habitats.
- Where practical, a low-intensity mowing regime will be adopted in areas of open space/ amenity, in order to enhance the habitats potential to support a range of pollinator species.

9.4 Protection Measures for Bats

The following mitigation measures are proposed in relation to the felling of any mature trees on site. All mature trees on site were identified as being potentially suitable for roosting bats. Bats could occupy suitable roosting features at any time prior to the commencement of works. Therefore, there is an inherent risk that bats could be affected by the proposed felling works. The following mitigation procedures will be followed:

- In the unlikely event that roosting bats are found on the site during works, the works will immediately cease in that area and the local NPWS Conservation Ranger will be contacted. If bats are found to be roosting on the site, a derogation licence will be required from the NPWS and appropriate alternative roosting sites will be provided in the form of bat boxes. The bats will be removed by hand by a suitably qualified and licenced bat surveyor, under licence from the NPWS.
- Trees which have potential to support roosting bats, will be felled during the periods April-May or September – October, as during this period bats are capable of flight and may avoid the risks from tree felling if proper measures are undertaken, but are also neither breeding nor in hibernation.
- Trees with potential to support roosting bats will be felled in one of the following two methodologies, depending on the potential roost features identified, and an ecologist must be present during felling of these trees:
 - Trees will be section felled and the felled parts left in situ on the ground for a period of 24 hours. This should allow any bats present to escape or bats extracted by a licenced bat worker and placed in bat boxes to be erected on site.

- Trees will be felled using heavy plant to push over the tree. In order to ensure the optimum warning for any roosting bats that may still be present, the tree will be pushed lightly two to three times, with a pause of approximately 30 seconds between each nudge to allow bats to become active. The tree will then be pushed to the ground slowly and should remain in place until it is inspected by a bat specialist.

The project ecologist will determine which of the above felling methodologies is most suitable for each tree with potential to support roosting bats. All other trees on site (i.e. those which are not identified as having potential to support roosting bats) can be felled in the usual manner.

- Where remedial works (e.g. pruning of limbs or removal of dense ivy) is to be undertaken to trees deemed to be suitable for bats (e.g. all mature trees on site), the affected sections of the tree will be checked by a bat specialist (using endoscope under a separate derogation licence held by that individual) for potential roost features before removal. For limbs containing potential roost features high in the tree canopy, this will necessitate the rigging and lowering of the limb to the ground (with the potential roost feature intact) for inspection by the bat specialist before it is cut up or mulched. If bats are found to be present, they will be removed by a bat specialist licenced to handle bats and released in the area in the evening following capture.

9.5 Protection Measures for Otters

Whilst it is not envisaged that there will be any requirement for night-time working during construction, the following measure is proposed as a precautionary measure, to protect otter from artificial lighting during the construction phase of the proposed development:

- Night-time working, and installation of associated artificial lighting, will not be permitted within the vicinity of the Golf Stream on site;
- Flood lighting of the proposed development site, particularly in the vicinity of the Golf Stream, will not be permitted;
- Artificial lighting to accommodate night-time working in other areas of the site will be designed in a manner which is sensitive to the potential presence of nocturnal wildlife and will endeavour to maintain baseline light levels in sensitive areas.

9.6 Protection Measures for Badgers

The mitigation measures described below follow the recommendations set out in the Guidelines for the Treatment of Badgers during the Construction of National Road Schemes (National Roads Authority, 2006c). These guidelines set out the best practice approach in considering and mitigating impacts on badgers during construction works.

As badger could potentially establish new setts in the future within the Zol of the proposed development, a pre-construction check of all suitable habitat within the proposed development boundary will be required within 12 months of any construction works commencing. Any new badger setts present will be afforded protection in line with the requirements set out in the TII/NRA guidance document as follows:

- Badger setts will be clearly marked and the extent of bounds prohibited for vehicles clearly marked by fencing and signage
- No heavy machinery shall be used within 30m of badger setts; lighter machinery (generally wheeled vehicles) shall not be used within 20m of a sett entrance; light work, such as digging by hand or scrub clearance shall not take place within 10m of sett entrances
- During the breeding season (December to June inclusive), none of the above works shall be undertaken within 50m of active setts, nor blasting or pile driving within 150m of active setts
- Works can be undertaken within these zones following consultation with, the approval of and, if required, under the supervision of a badger ecologist

9.7 Protection Measures for Breeding Birds

Where feasible, vegetation (e.g. hedgerows, trees, scrub and grassland) will not be removed, between the 1st March and the 31st August, to avoid direct impacts on nesting birds. Where the construction programme does not allow this seasonal restriction to be observed, then these areas will be inspected by a suitably qualified ecologist for the presence of breeding birds prior to clearance. Areas found not to contain nests will be cleared within 3 days of the nest survey, otherwise repeat surveys will be required.

10.0 CONSTRUCTION TRAFFIC

10.1 GENERAL SITE ACCESS / EGRESS

10.1.1 The site will be accessed from the existing Site entrance from Golf Lane for the Demolition and Excavation works and Traffic volumes are not anticipated to be significant. Warning signage will be provided for pedestrians and other road users on all approaches in accordance with Chapter 8 of the Traffic Signs Manual and the Contractor's Traffic Management Plan.

10.1.2 As part of the Construction Stage Safety Plan for the works a Traffic Management Plan (TMP) will be prepared in accordance with the principles outlined below and held on site. It shall comply at all times 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;
- Any additional requirements detailed in the Design Manual for Roads and Bridges & Design Manual for Urban Roads & Streets (DMURS)

10.1.3 During the construction of the proposed infrastructure works, suitable excavated material that can be reused for construction and fill activities will be retained on site where possible. Any unsuitable material or unusable material will be disposed offsite to a suitably licensed landfill facility in accordance with the regulations for same and the project Construction Waste Management Plan.

10.1.4 Construction traffic will consist of the following categories:

- Private vehicles owned and driven by site construction and supervisory staff.
- Excavation plant, dumper trucks and materials delivery vehicles involved in site development works.

10.2 STAFF AND PARKING

10.2.1 The site is readily accessible by public transport with Dublin Bus services and Luas stops all within nearby walking distance. On-site employees will generally arrive before 07:00, thus avoiding the morning peak hour traffic. Construction employees will generally depart after 17:00. It should be noted that a large proportion of construction workers may arrive in shared transport.

10.2.2 Construction traffic will not be permitted to park on the public roads or within the general area outside the main site.

10.2.3 No construction vehicle stacking will occur on public roads or at adjacent lands.

10.3 ON SITE ACCOMODATION

10.3.1 Facilities will be provided by the contractor within the confines of the site hoarding as follows:

- Adequate materials drop-off and storage area;
- Set down areas for trucks;
- Dedicated staff parking and visitor parking;
- Staff welfare facilities i.e. toilets etc.

10.4 CONSTRUCTION ACTIVITIES

10.4.1 The most onerous construction period with regards to traffic generation is expected to be HGVs during the following work elements:

- Demolition and Excavation stage where waste and soil is removed from site;
- Bringing construction materials to site;
- Bringing concrete to site for Sub and Superstructure.

10.5 MINIMISATION OF MOVEMENT AND IMPACT

10.5.1 Construction vehicle movements and their impact will be minimised through:

- Consolidation of delivery loads to / from the site and management of large deliveries on site to occur outside of peak periods;
- Use of precast / prefabricated materials where possible;
- “Cut” materials generated by the construction works to be re-used onsite where possible, through various works;
- Adequate storage space on site to be provided;
- The design of the works has involved an element of minimising the quantity of material to be removed from site by way of cut and fill balance;
- Scheduling of movements to outside peak traffic times and school pick-up / drop-off times.

10.6 PUBLIC ROADS

10.6.1 The following measures will be taken to ensure that the site and surroundings are kept clean and tidy:

- A regular programme of site tidying to be established to ensure a safe and orderly site;
- Mud spillages on roads and footpaths outside the site to be cleaned regularly and will not be allowed to accumulate;
- Wheel-wash facilities or similar will be provided for vehicles exiting the site if deemed appropriate or when significant vehicle movements are planned (e.g. disposal of topsoil from site);
- Dedicated road sweeper will be put in place if site conditions require.