

**172439 - Proposed Housing Development,
The Steeples Road, Duleek**

Outline Construction Traffic Management Plan

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1 Introduction

This report has been prepared to address the Local Authority Opinion from Meath County Council to “submit a preliminary Construction Traffic Management Plan, which should outline potential traffic generation, haulage routes etc.” in relation to a Stage 3 SHD submission for a housing Development in Duleek, County Meath.

A main Contractor has not yet been appointed to carry out the proposed works. Once appointed, it will be the responsibility of the Main Contractor to prepare and submit a detailed construction traffic management plan for submission to the local authority for approval.

The subject site is currently a greenfield site, consisting of a large green area bounded by trees on all sides. The proposed development is located along the east of The Steeples Road (also known as The Longford Road), Duleek, Co Meath.

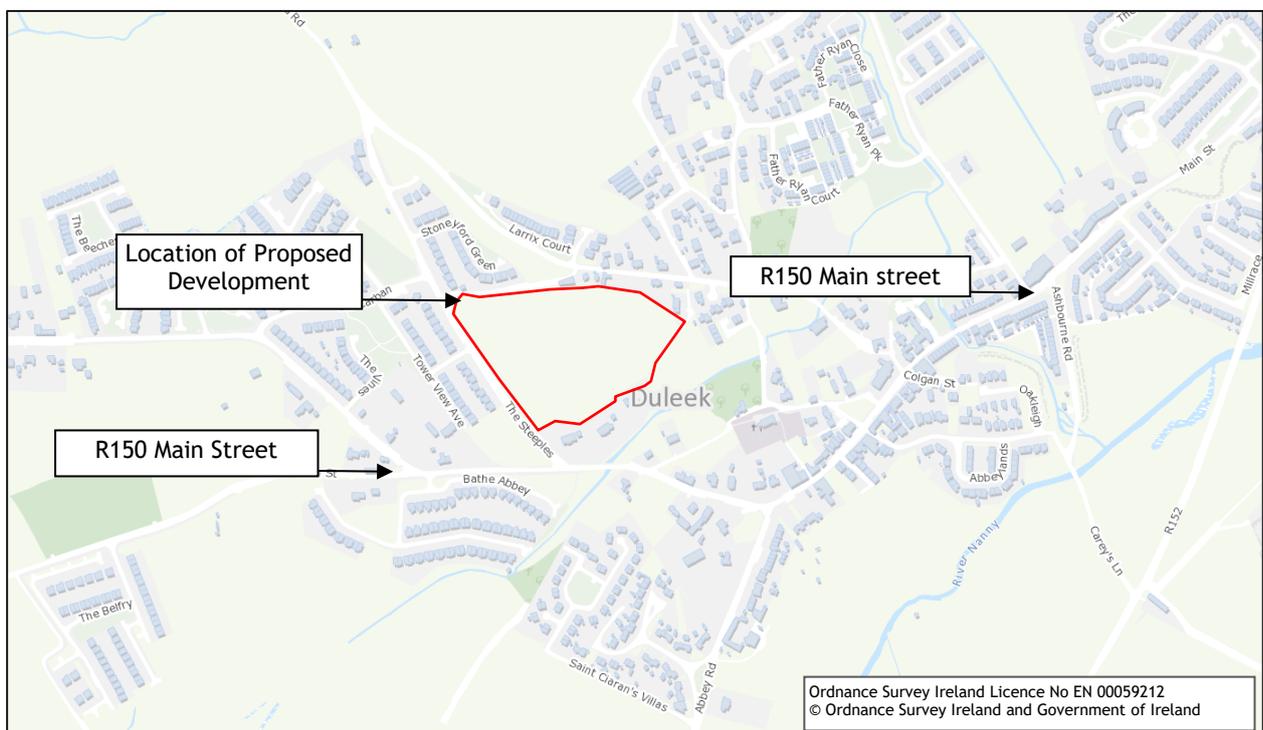


Figure 1-1: Site Location of the Proposed Development

1.1 Proposed Development

DSPL Limited, intends to apply to An Bord Pleanála for permission for a strategic housing development on a site area of 4.8ha located at Longford Road / The Steeples Road, Duleek, Co. Meath in the townland of Commons. To the north-west of the site is the Stoneyford Green residential estate, to the west, on the opposite side of Longford Road / The Steeples Road, is The Steeples residential estate, with Larrix Mews / Kennel Lane to the east/south-east.

The proposed development will consist of 141 no. dwellings and a 2 storey creche (415sq.m). The residential dwellings will be comprised of 131 no. 2 storey houses and 10 no. 1 bed apartments accommodated 4 no. 2 storey buildings. The proposed houses consist of 4 no. 4 bed detached houses, 18 no. 3 & 4 bed semi-detached houses, 102 no. 3 & 4 bed terraced houses and 7 no. 2 bed terraced houses.

The proposed development provides for all associated site development works, including the provision of a roadside footpath and cyclepath along Longford Road / The Steeples Road, sub-stations, car parking, bin & bicycle storage, public and communal open spaces, hard and soft landscaping, boundary treatments and public lighting. Access to the development will be via one new vehicular entrance off Longford Road / The Steeples Road, with pedestrian / cyclist access along the northern & eastern boundaries.

The proposed works are outlined in a series of architectural drawings prepared by BKD Architects and engineering drawings prepared by PUNCH, previously supplied as part of this planning submission.

2 Construction Traffic Management

This report sets out the traffic management requirements that will apply to Contractors who are engaged in construction activities associated with the proposed residential development at The Steeples Road, Duleek, Co. Meath. The Contractor must adopt the requirements of this Outline Construction Traffic Management Plan into his own Construction Traffic Management Plan and must agree same with Meath County Council prior to commencement on site.

2.1 Construction Traffic Access to the Site

Access to the development will be by an entrance route, to be constructed, along The Steeples Road which forms the western site boundary. This route will be utilised for construction activities and act as the main route for the development in the future.

Construction related traffic will exit the site along The Steeples road and on to Main Street (R150). Construction traffic has 2 possible directions, east or west of the site (see Figure 2-4 below). East will take construction traffic towards Drogheda or the M1 where it can head north or south. West will take traffic towards Navan or the N2 where it can head north or south. The M1 and N2 are approximately 6 minutes' drive from the site. The proposed route outlined above for construction traffic is subject to agreements with Meath County Council and any associated third parties.

Refer to Figure 2-1 below for image of the existing junction of Steeples Road with the R150.



Figure 2-1: Existing Junction onto R150 - South of site (looking south) © Google Map

The management of construction traffic on the public road network around the development will be a critical part of the overall project and must be actively managed by the Contractor. The wider road network can be seen in Figure 2-4 with the main construction access route. Figure 2-5 shows the location of the site entrance/exit and an indicative location of the wheel wash facility to ensure construction vehicles do not dirty the local road network.

A flagman/temporary traffic lights are not thought to be necessary due to the existing traffic loading on the road and the clear sight lines available for emerging construction vehicles. The speed limit of the road changes from 80km/h to 50km/h where The Steeples Road merges with the Longford Road to the north. The section of the road bordering the site is set at 50km/h. A 'site access' sign (WK052) will be

located on approach to the entrance from both directions. If required due to the speed of the merging road to the north (80km/h) a distance sign (P001) can be placed 100m from the site entrance as per Chapter 8 of Temporary Traffic Measures And Signs For Roadworks (Table 8.3.1.1) to show the distance to the entrance. See extract below from Chapter 8.

<p>WK 052</p>		<p>Site Access: this sign should be used to indicate the position of a site entrance and/or exit.</p> <p>On roads with a speed limit of >80km/h, an additional sign WK 052 should be positioned 100m in advance of the entrance, with a Supplementary Plate P 001 stating the distance.</p> <p>At sites with several entrances, a supplementary colour code or numbering system may be used with this sign.</p>
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Figure 2-2: WK 052 sign requirements from Table 8.3.1.1 Chapter 8 of Temporary Traffic Measures and Signs For Roadworks

An image of the proposed site entrance/exit can be seen below in Figure 2-3. Clearance of the vegetation will be required to provide appropriate sightlines for the construction traffic emerging from the site.

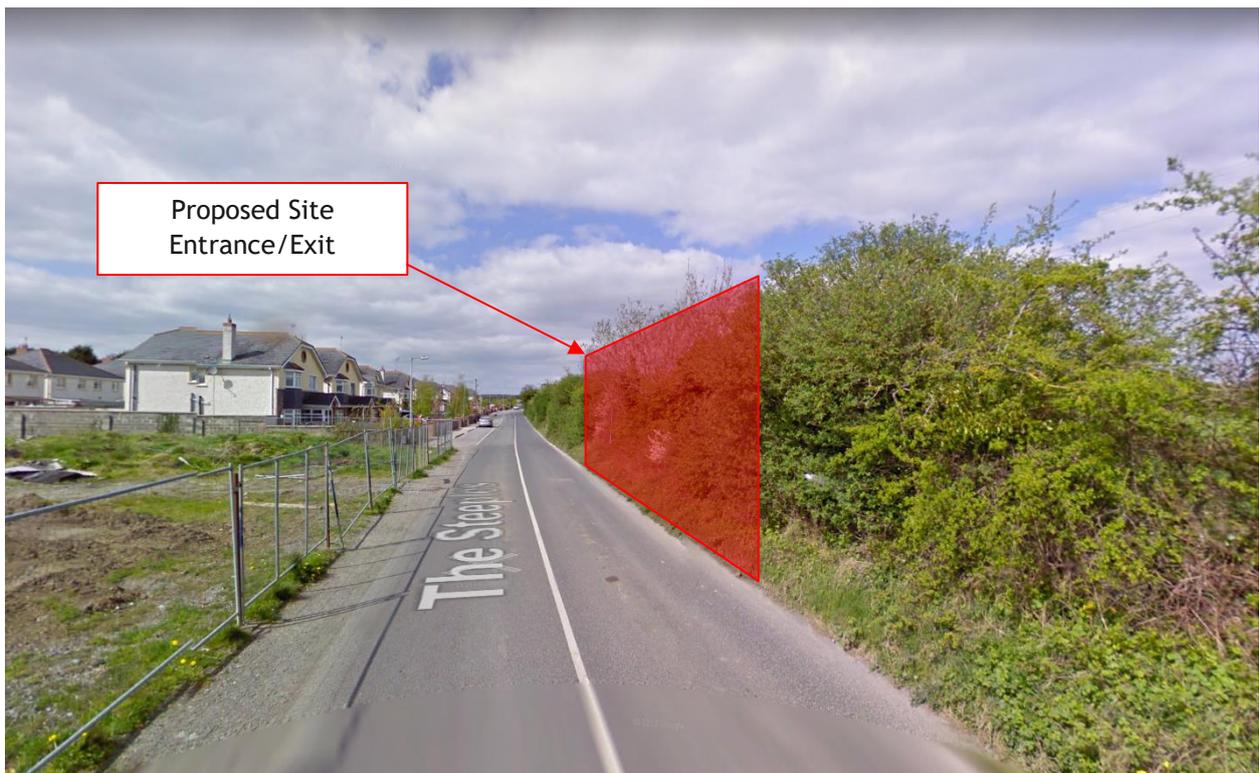


Figure 2-3: Proposed site access location (looking north) © Google Map

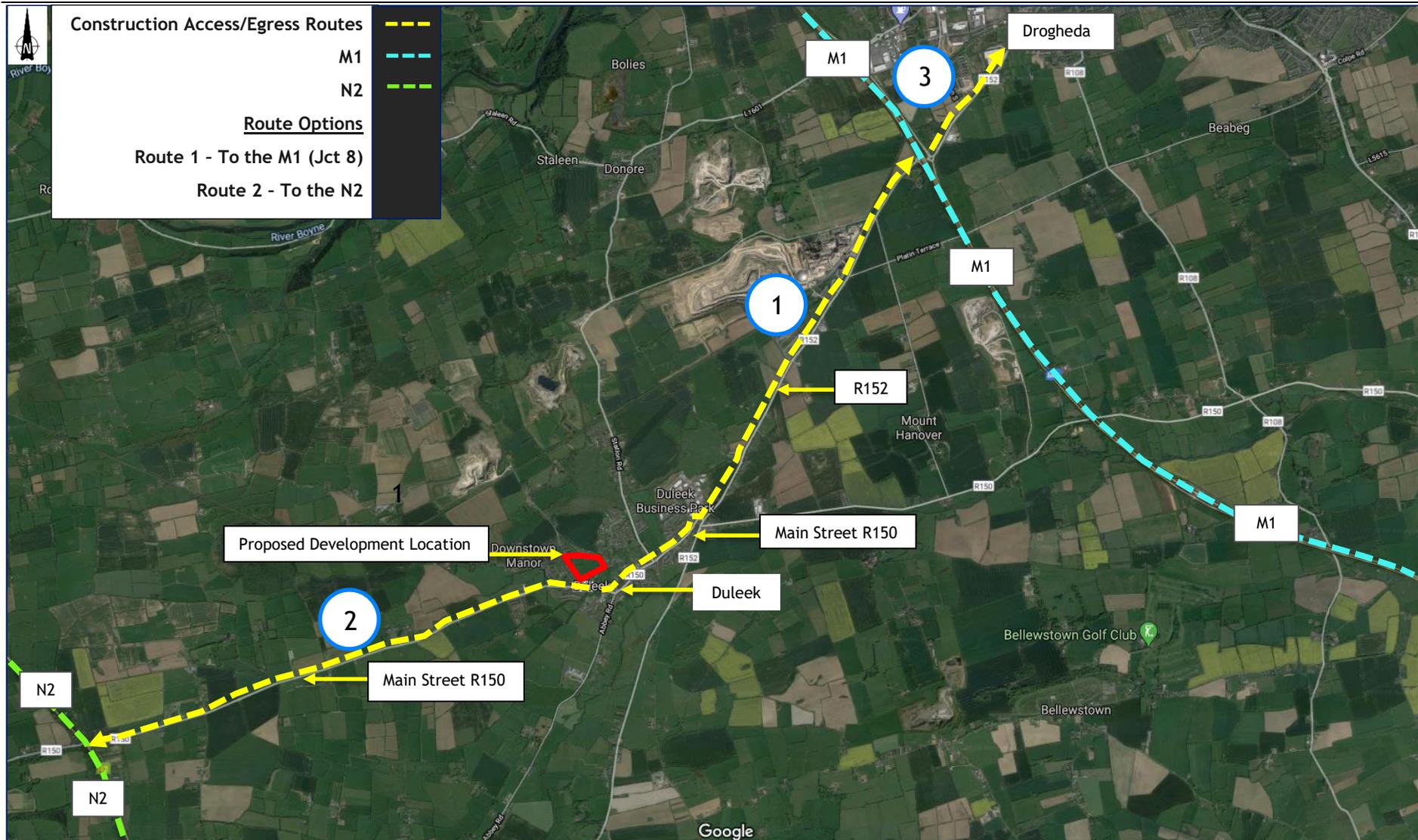


Figure 2-4: Development Site Location Map and Surrounding Road Network © Google Map

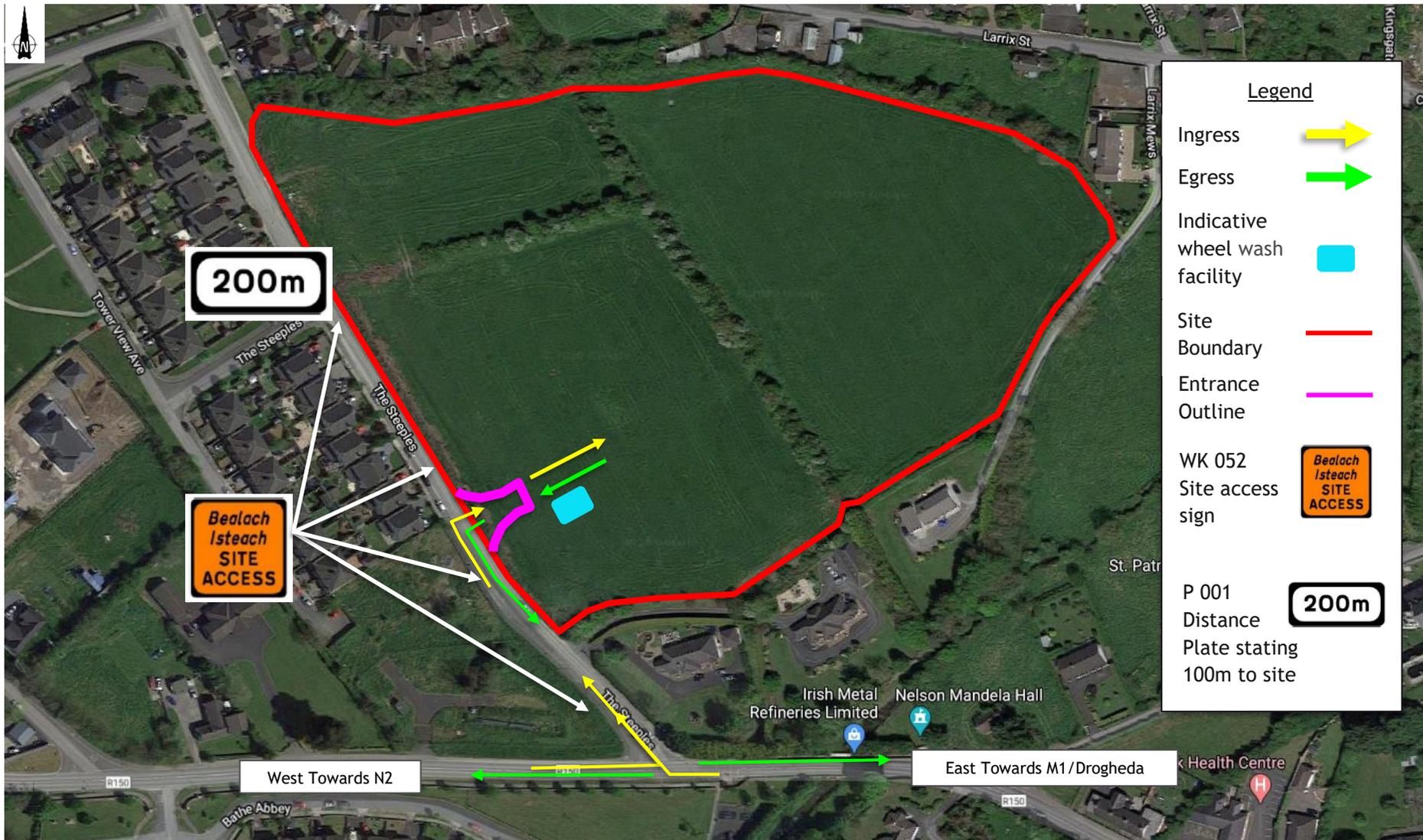


Figure 2-5: Development Site Proposed Entrance/Exit © Google Map

2.1.1 Definition of Construction Traffic

Construction traffic means the following vehicles:

- HGVs & haul trucks - i.e. vehicle with 6 tyres or more as set out in the RSA publication 'Guidelines on Maximum Weights and Dimensions of Mechanically Propelled Vehicles and Trailers, Including Manoeuvrability Criteria'
- Site machinery such as excavators, tippers, bulldozers, etc.
- Concrete trucks.

Smaller vehicles used by construction workers to access the site, such as cars and vans, are not deemed to be construction traffic.

2.2 Management of Construction Traffic around the Steeples Road Site

The Contractor is required to control the construction traffic in and around the proposed development location, with access to the site via new junction with Steeples Road. The Contractor must adhere to the following:

- Communicate clearly to all construction staff and subcontractors that they are bound by these restrictions.
- Schedule site traffic in advance to ensure that these restrictions are adhered to.
- Monitor construction traffic at key points remote from the site to check compliance.
- Details of the Contractor's management plan must be submitted to Meath County Council in advance of construction and included as part of the Construction Management Plan.
- Vehicle movements associated with ancillary, maintenance and other non-essential activities will be minimised during the peak traffic hours on the public road in the vicinity of the site. These are the hours of 8:00-9:00AM in the morning and 17:00-18:00PM in the evening.
- A special permit for moving oversized and hazardous loads will be obtained from MCC/ An Garda Síochána prior to any such movements.
- Daily construction programmes will be planned to minimise the number of disruptions to surrounding streets by staggering HGV movements to avoid site queues.
- It is envisaged that there will be provision for on-site parking, sufficient only to serve those directly involved with the works.
- Construction vehicles will follow the road hierarchy as much as practicable - i.e. construction vehicles will be directed away from local or minor streets and roads and will be required to use designated primary national and regional routes for accessing the site.
- The Contractor will appoint a Traffic Management Coordinator who will be responsible for the coordination of all traffic safety and traffic management matters. The Traffic Management Coordinator will ensure that all traffic management requirements set-out in the CTMP are met.
- In the event that multiple contractors will be working on site, overall traffic management coordination will be required. This will include a review of the individual CTMPs prepared by different Contractors and provision of guidance to ensure consistency between them. An overall CTMP for the entire site should be prepared and agreed with Meath County Council in advance of commencement of works.

2.3 Proof of Compliance with Traffic Restrictions

The Contractor will track the transit of construction traffic in the area for the duration of the works.

The Contractor will control traffic movements using the following procedure;

- Develop a restrictions and rule adherence form that all lorry drivers and site operatives will sign.
- All traffic movements to and from site to be managed by the Contractor's transport manager in accordance with these restrictions

- Appointed person located at the site entrance to issue dockets and record all traffic entering and leaving site.
- Records to be reviewed periodically by the site manager.
- Prior to any new contractors starting, all persons must sign up to restrictions and prequalification forms.
- A certified Flagman must be present to coordinate the traffic entering and leaving the site.

2.4 Construction Traffic Management Plan

2.4.1 Working Hours

The proposed hours of work on site will be 07:00 hrs to 19:00 hrs Monday to Friday and 08:00 hrs to 16:30 hrs Saturday unless otherwise specified by planning conditions. Certain tasks may need to be undertaken outside of these hours. All outside of hours work will first be agreed in writing with the Local Authority.

2.4.2 Car Parking Arrangements

Due to spatial constraints on the site, parking of construction workers vehicles will be limited within the site extents. To minimise congestion, a traffic management plan will need to be developed by the Contractor to ensure that construction workers access the site using alternative means of transport (i.e. public transport) to negate/minimise any impacts on the local network.

2.4.3 Cleaning Procedures

There is the potential for a number of emissions to the atmosphere during the various stages of the project. As the development is a greenfield site no demolition is required. Construction vehicles, generators etc., will give rise to some exhaust emissions.

Vehicular movements to and from the site will make use of existing roads. It is estimated that peak construction HGV movements will be 6 HGV's per hour. Considering the existing traffic levels in the area, the likely air quality impact associated with construction traffic is not significant.

A dust minimisation plan will be formulated for the enabling and construction phase of the project, as construction activities are likely to generate dust emissions. The potential for dust to be emitted depends on the type of activity being carried out in conjunction with environmental factors including levels of rainfall, wind speeds and wind direction. The potential for impact from dust depends on the distance to potentially sensitive locations and whether the wind can carry the dust to these locations. The majority of any dust produced will be deposited close to the potential source and any impacts from dust deposition will typically be within several hundred metres of the construction area.

In order to ensure that no dust nuisance occurs, a series of measures will be implemented.

Roads shall be regularly cleaned and maintained as appropriate. Hard surface roads shall be swept to remove mud and aggregate materials from their surface. Furthermore, any road that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and/or windy conditions.

Vehicles delivering material with dust potential both on and off the site shall be enclosed or covered with tarpaulin at all times to ensure no potential for dust emissions.

All vehicles exiting the site shall make use of a wheel wash facility, if required, prior to entering onto public roads, to ensure mud and other wastes are not tracked onto public roads. Public roads outside the site shall be regularly inspected for cleanliness and cleaned as necessary.

Material handling systems and site stockpiling of materials shall be designed and laid out to minimise exposure to wind. Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.

At all times, the procedures put in place will be strictly monitored and assessed. In the event of dust nuisance occurring outside the site boundary, satisfactory procedures will be implemented to rectify the problem.

The dust minimisation plan shall be reviewed at regular intervals during the construction phase to ensure the effectiveness of the procedures in place and to maintain the goal of minimisation of dust through the use of best practise and procedures.

2.4.4 Traffic Management Procedures / Generation

All deliveries will be booked into site at least one day before delivery. All drivers will contact the site gate man 15 minutes before arrival on site.

Construction traffic will arrive along The Steeples Road via Main Street (R150), prior to entering the proposed development site. Refer to defined construction/demolition traffic route in section 2.1 of this report. All deliveries will be off-loaded without delay by the most appropriate method and escorted off site.

The site gate man will be responsible for ensuring that there is no conflict between pedestrians and vehicles entering/ exiting the site. In addition, temporary markings will be painted on the footpath either side of the site entrance to alert pedestrians.

It is predicted that there will be as many as 80 personnel on site during peak construction activity. Accounting for car sharing, there could be in the order of 40 vehicles arriving and departing the site every day during peak construction activity. It is envisaged that working hours on site will be 07:00 hrs to 19:00 hrs Monday to Friday and 08:00 hrs to 16:30 hrs Saturday, therefore the peak movements in and out of the site should occur outside of the AM/PM rush hour traffic.

The volume of HGV movements per day will vary according to the different stages of construction.

Site Fill Works:

For a rigid HGV hauling material to the site, it will typically take 15 mins from when the rigid arrives at the site entrance, travels to the unloading area, empties its load and leaves the site.

The worst-case scenario is site grading works with an estimated average of 6 HGV's per hour predicted during peak activity. It is envisaged that HGV movements will be undertaken outside of AM/ PM rush hour traffic.

2.4.5 Traffic management - Internal Site Extents

Contractor / subcontractor / supplier parking is not permitted on any local access routes. Vehicles must be parked within approved designated areas within the site extents. To minimise congestion, a traffic management plan will need to be developed by the Contractor to ensure that construction workers access the site using alternative means of transport (i.e. public transport) to negate impacts on the local network.

No unloading or blockages of access routes, including emergency vehicle access routes. Such vehicles will be immediately requested to move to avoid impeding works.

In accordance with this CTMP, the Contractor must appoint a Traffic Management Coordinator responsible for the management of traffic management related activities on site.

The Contractor must carry out an auto-track analysis to ensure that adequate turning space is available. The auto-track must demonstrate how construction vehicles will go in and out of the site. Contractors

must eliminate where possible the necessity for reversing of any construction or supply chain vehicle onsite.

Contractor is to note requirement for traffic management.

2.4.6 Traffic management coordination meetings

Monthly logistics coordination will be undertaken where the traffic management strategy, traffic management coordination (and implementation of any required temporary traffic management schemes) will be discussed and agreed.

2.4.7 Construction Access Road required behaviours

The Contractor must adhere to established traffic management measures specified in the Construction Traffic Management Plan including:

- Queuing procedures outside the site for vehicles seeking to enter the site to prevent back-up onto the local road network;
- Sign-in requirements;
- Visual PPE checks;
- Arrangements for infrequent visitors, e.g. project team, client visitors;
- Compliance to sign-in requirements, use of turnstiles and/or swipe cards; and
- Collaborate with any required security searches of vehicles entering or exiting.

All Contractors will be deemed to have inspected and examined the site and its surroundings at tender stage and to have satisfied itself as to the nature and means of access to the site.

In the event of a Contractor not being satisfied with the permitted access routes to and from the site, the Contractor is obliged to provide for all expenses and charges for temporary way-leaves and temporary truck/vehicle holding areas in connection with different access arrangements to the site. Any amendments must be to the satisfaction of Meath County Council.

2.4.8 Loading/Unloading locations

Vehicles must be loaded and unloaded within the site area (i.e. access routes, site compound set-up and loading areas to be developed and agreed with the Contractor). Contractors are not permitted to carry out loading or unloading on the public roadway. This approach reduces the risk to the public, reduces congestion, and minimises disruption and risk to any passing vehicles on the highway. All deliveries and collections should be overseen and managed for the Contractor by a nominated competent person.

Contractors must consider and explain how to manage the impacts on cyclists, pedestrians, other road users, and any affected roadway infrastructure.

2.4.9 Emergency Access

Access for emergency vehicles via the primary haul roads must be maintained at all times.

2.4.10 Asset Protection

The Contractor must take care to avoid damage to roads, footpaths, grass margins, and other surfaces and all walls including protected walls, structures including protected structures and the associated curtilage, trees, lighting fixtures and all other street furniture within or outside of the overall site. They shall be liable for the cost of repairing / replacing all such damage caused by its operations to the satisfaction of Meath County Council.

Contractors must take precautions to ensure against spillage of diesel fuel, contaminated water or solvents. Any damage so caused shall be made good by the offending Contractor at its own expense. There may also be repercussions relating to planning conditions for which the Contractor will be liable.

Contractors must prohibit the use of tracked plant on road surfaces outside of the site unless suitably approved protective measures are taken to safeguard the integrity of surfaces.

The Contractors Construction Management Plan must include specifications regarding the quality of temporary reinstatements and the timelines for permanent reinstatements of roads and pavements affected by the works.

2.4.11 Noise

There is no published Irish guidance relating to the maximum permissible noise level that may be generated during the construction phase of a project. Local authorities normally control construction activities by imposing limits on the hours of operation and consider at their discretion noise limits.

In the absence of specific noise limits, appropriate criteria relating to permissible construction noise levels for a development of this scale will be agreed with Meath County Council as part of the planning conditions and will indicate the maximum permissible noise levels at adjacent properties during construction and any related time constraints with regard hours of operation. The majority of the construction activity is expected to occur during normal working hours.

2.4.12 Vibration

There are two varieties of criteria for vibration: those dealing with human comfort and those dealing with cosmetic or structural damage to buildings. In both instances, it is appropriate to consider the magnitude of vibration in terms of Peak Particle Velocity (PPV).

It is acknowledged that humans are particularly sensitive to vibration stimuli and that any perception of vibration may lead to concern. In the case of road traffic, vibration is perceptible at around 0.5 mm/s and may become disturbing or annoying at higher magnitudes. However, higher levels of vibration are typically tolerated for single events or events of short duration. For example, piling is typically tolerated at vibration levels up to 5mm/s. This guidance is applicable to the daytime only; it is unreasonable to expect people to be tolerant of such activities during the night.

Guidance relevant to acceptable vibration within buildings is contained in the following documents:

- British Standard BS 7385 -2:1993: Evaluation and measurement for vibration in buildings. Guide to damage levels from ground borne vibration, and;
- British Standard BS 5228-2:2009: Code of practice for noise and vibration control on construction and open sites

2.4.13 Noise and Vibration Mitigating Measures

Due to the nature of the activities undertaken on a construction site, there is naturally potential for generation of significant levels of noise. A variety of items of plant may be in use, such as pneumatic breakers, excavators, lifting equipment, dumper trucks, compressors and generators. The flow of vehicular traffic to and from a construction site is also a potential source of relatively high noise levels.

The potential for vibration at neighbouring sensitive locations during construction is typically limited to demolition works, excavation works and lorry movements on uneven road surfaces.

With regard to construction activities, reference will be made to BS 5228-1:2009: Noise control on construction and open sites, which offers detailed guidance on the control of noise and vibration from demolition and construction activities. In particular, it is proposed that various practices be adopted during construction, including:

- limiting the hours during which site activities likely to create high levels of noise or vibration are permitted;
- establishing channels of communication between the contractor/developer, Local Authority and residents;
- appointing a site representative responsible for matters relating to noise and vibration;
- monitoring typical levels of noise and vibration during critical periods and at sensitive locations;
- all site access roads will be kept even, to mitigate the potential for vibration from lorries;
- Construction of 2.4m high hoarding.

Furthermore, it is envisaged that a variety of practicable noise control measures will be employed. These may include:

- selection of plant with low inherent potential for generation of noise and/ or vibration;
- erection of barriers as necessary around noisy processes and items such as generators heavy mechanical plant or high duty compressors;
- placing of noisy / vibratory plant as far away from sensitive properties as permitted by site constraints and the use of vibration isolated support structures where necessary.

During the construction phase of the project there will be some small impact on nearby properties due to noise emissions from the site traffic and other activities. However, given that the construction phase of the project is temporary in nature, it is expected that the various noise sources will not be excessively intrusive. Furthermore, the application of binding noise limits and hours of operation, along with implementation of appropriate noise and vibration control measures, will ensure that noise and vibration impact is kept to a minimum.

It is highly recommended that appropriate dilapidation records for the site and surrounding area are documented prior to the commencement of construction/demolition activities.