PINNACLE
CONSULTING ENGINEERS

Belmount, Navan

Outline Construction Traffic Management Plan

November 2019

Prepared for:

Coindale Ltd.

STRUCTURAL • CIVIL • DUE DILIGENCE • ENGINEERING MASTERPLANNING
FLOOD MANAGEMENT • INFRASTRUCTURE DESIGN
PRE-DEVELOPMENT ENGINEERING • BIM • TRANSPORTATION

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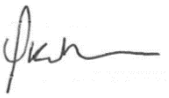
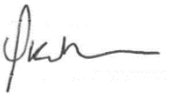
Reviewed by	James Mayer		Director	15/11/19
Approved by	James Mayer		Director	15/11/19

VERSIONS

Number	By	Date	Context
0	Ronan Kearns	11/03/19	Draft
1	Ronan Kearns	14/10/19	Updated draft
2	Ronan Kearns	20/10/19	Updated draft
3	Ronan Kearns	01/11/19	Updated draft
4	Ronan Kearns	07/11/19	Minor update
5	Ronan Kearns	11/11/19	Development Description Updated
6	Ronan Kearns	12/11/19	Minor update
7	Ronan Kearns	14/11/19	Cycle Parking Updated
8	Ronan Kearns	15/11/19	Final Issue

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CONTENT

1 INTRODUCTION

1.1 Introduction

This Construction Traffic Management Plan (CTMP) has been prepared in consultation with Coindale Ltd. It is as a key construction contract document, the implementation of which aims to reduce possible impacts which may occur during the construction of the proposed development.

The applicant is responsible for ensuring construction activities are managed in accordance with this CTMP.

Objectives and measures are also included for the management, design and construction of the project to control the traffic impacts of construction insofar as it may affect the environment, local residents and the public in the vicinity of the construction works.

1.2 Implementation

Key to the implementation of this CTMP is the dedication of on-site construction manager who will regularly liaise with and update the Client's resident engineer (RE) and associated team on all environmental and construction programming issues relating to the site. All site personnel are charged with following good practice and encouraged to provide feedback and suggestions for improvements. All site personnel are also required to ensure compliance with the requirements of the site's CTMP.

1.3 Scope

The objective of this CTMP is to ensure that the residual impacts to the public road network during the construction phase of the project which have been identified in the application documentation are minimised and that transport related activities are carried out as safely as possible and with minimum disruption to other road users.

The CTMP has also been prepared for the purpose of identifying appropriate and safe methods of access for construction traffic to the proposed development. This CTMP describes the traffic management for the transportation of construction materials, equipment and personnel along the public road network to facilitate the construction of the proposed development. Light vehicles, such as cars and vans, will be used by site operatives travelling to and from the site. Heavy Construction Vehicles (HCV) will be required to deliver general construction materials, such as concrete, to the site.

This CTMP remains a live document that will be reviewed by the contractor and expanded upon, where necessary, throughout the construction phase of the project. However, this version is considered to be wholly relevant for the expected works.

1.4 Consultation

The Applicant, and their connected companies, has an number of active construction sites. It has engaged in detail consultation with their incumbent contractors to review and sense check the measures contained in this outline CTMP.

While the measures contained in this CTMP are subject to detailed design and the appointment of a main contractor, all the pertinent issues have been reviewed by a number of contractors to ensure holistic approach has been taken with regard to the proposed CTMP measures.

2 Project Description

2.1 Introduction

The application site is located in County Meath, approximately 900m south of Navan Town Centre.

The site is bounded to the north by Academy Street; the R147 Dublin Road to the east; and residential developments to the south and east.

The lands are agricultural in nature with various access points located on Academy Street and the R147 Dublin Road. Due to the topography of the site, these accesses are steep with gradients in excess of 5%.

Figure 1:- Site Location and Local Road Network (Source: Google Earth)

2.2 Development Description

The proposed development will consist of the following:

'The proposal relates to a residential development of 544 no. dwellings on a site of c. 15.1 hectares comprising 260 no. houses (18 no. 2 bed, 207 no. 3 bed & 35 no. 4 bed) and 198 no. apartments (46 no. 1 bed, 152 no 2 bed), 30 no. duplex apartments (15 no. 2 bed & 15 no. 3 bed), and 56 no. dwellings in corner blocks (16 no. 1 bed, 24 no. 2 bed & 16 no. 3 bed) as well as the provision of two crèches (ground floor of apartment building [c. 195 sq. m] and a two storey creche in housing area [c. 443 sq. m]), Open Space of c. 2.63 hectares including playground areas; all ancillary landscape works with public lighting, planting and boundary treatments including regrading/re-profiling of site where required as well as provision of cycle paths; Provision of vehicular and pedestrian looped access through the site from 3 no. junctions located on Academy Street as well as pedestrian connection in south east of site to Dublin Road and upgrade works to junction onto the Dublin Road; along with 875 no. car parking

spaces (including 4 no. car sharing spaces) and 581 cycle spaces; Surface water attenuation measures and underground attenuation systems as well as all ancillary site development works (reprofiling of site as required) as well as connection to existing public water supply and drainage services. All site development and landscape works.'

The site has an area of 15.10Ha.

The site is currently a greenfield site and in agricultural use.

It is proposed to develop this site based on the following schedule of accommodation: -

Proposed Land Uses	
Land Use	***Size***
Houses	260
Apartments	198
Duplex	30
Corner Apartment Units	56
Total	**544**

Table 1 Proposed Land Uses

2.1 Site Access

The proposed site access points are illustrated in Figure 2 below.

Primary access to the houses will be provided off Academy Street via a priority-controlled junction at Access No. 3. The school access, Access No. 1, will be used as a secondary access.

Primary access to the apartments will be provided off Academy Street via a priority-controlled junction at Access No. 2.

Access No. 4 will provide pedestrian access to bus stops located on the R147 Dublin Road.

Permeability will be provided to adjoining developments at various locations. Refer to architects' drawings for more details.

As part of the proposed development, the Dublin Road R147/Academy Street priority-controlled junction will be upgraded to a signal-controlled junction.

Figure 2:-Proposed Access – Operational Phase

2.2.1 Pedestrian/Cyclists

The proposed development includes provision of cycle paths, footpaths, verges and appropriate landscaping on either site of the access road in order to provide appropriate access for pedestrians and cycles.

Appropriately designed cycle parking facilities will be provided at each access point illustrated in Figure 2. Secure, covered bike storage will be provided for the apartment blocks and duplex units. For the houses, bike storage will be accommodated internally.

The design and layout of the proposal has been prepared so as to fully comply with the rigorous design standards and specifications applicable to this form of development. The applicant has drawn upon considerable experience in the design and implementation of such proposals.

2.3 Overview

The construction site will be organised so that, where possible, vehicles and pedestrians using site routes are segregated and can move around safely. The access routes need to be suitable for the persons or vehicles using them, in suitable positions and sufficient in number and size, this is so that incidents can be prevented by the effective management of transport operations throughout the construction process.

Pedestrians and vehicles can be kept apart by management of the following:

- **Entrances and exits** - provide separate entry and exit gateways for pedestrians and vehicles;
- **Walkways** - provide firm, level, well-drained pedestrian walkways that take a direct route where possible;
- **Crossings** - where walkways cross roadways, provide a clearly signed and lit crossing point where drivers and pedestrians can see each other clearly;
- **Visibility** - make sure drivers driving out onto public roads can see both ways along the footway before they move on to it; the existing entrance has a visibility splay to enable this
- **Obstructions** – do not block walkways so that pedestrians have to step onto the vehicle route; and Barriers - think about installing a barrier between the roadway and walkway.

Vehicle movement will need to be minimised on site due to the restricted areas in which the contractor will have to work. This can be minimised by management of the following:

- Provide car and van parking for the workforce and visitors away from the work area;
- Control entry to the work area;
- Plan storage areas so that delivery vehicles do not have to cross the site;
- People who direct vehicle movements (banksmen) must be trained and authorised to do so;
- Make sure that all drivers and pedestrians know and understand the routes and traffic rules on site;
- Use standard road signs where appropriate;
- Provide induction training for drivers, workers and visitors and send instructions out to visitors before their visit.

This management will be greatly assisted by utilising the following:

- **Banksmen** - who can be appointed to control manoeuvres and who are trained in the task;
- **Clothing** - pedestrians on site should wear high-visibility clothing as well as other relevant P.P.E.

- **Gatekeeper**- The site compound will be self-contained (areas marked 3 and 5 on Figure 3) and it is unlikely that a gate keeper be required. A site operative will be appointed to direct/summon banksmen should one be required.
- **Speed limits**- speed limits to be restricted on site for all vehicles.

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3 Envisaged Construction Traffic Generation

3.1 Introduction

There are multiple factors that influence the traffic generation as a result of construction activities. These factors include, but are not limited to:

- Market conditions
- Detailed design/final cut and fill models
- Program
- Availability of materials
- Availability of staff
- Improvements in construction methodologies i.e. the use of soil stabilisation rather than the importation of suitable material.

An estimate of the construction traffic generation is outlined in Section 3.8 of this report. In the final CTMP, the traffic generation will be calculated based upon final scheme design and construction program. Staffing levels, material deliveries and envisaged plant requirements, and the associated access and traffic and transport impacts, will be calculated based on similar project activities.

Automatic Traffic Counts were carried out to ascertain the typical existing traffic volumes currently using the roads which will be potentially impacted by the construction of the proposed development. Details of the Automatic Traffic Counts are detailed in Traffic & Transport Assessment.

3.2 Phasing

Subject to market conditions the site will be developed over 5 phases as per Figure 3.

The initial site compound and material storage yard will be located in Phase 3. Site access will be via Access No. 3.

For later phases (including Phase 5), Phase 5 will be used as the site compound and material storage with access via the Access No. 2.

It is expected that works will commence in Q2 2020 with construction taking up to 5 years (subject to market demand)

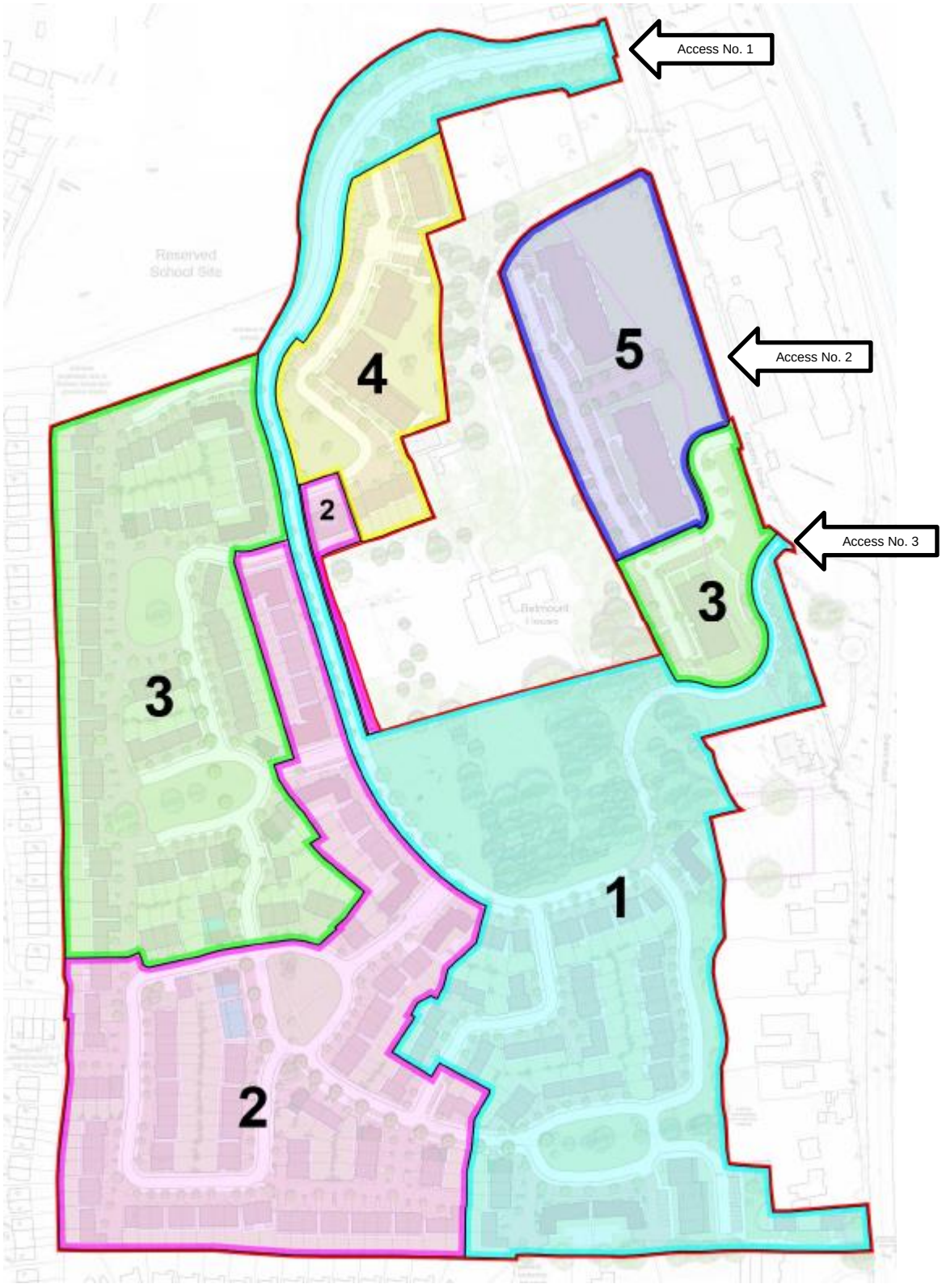

Figure 3 Proposed Phasing & Construction Traffic Access Arrangements

3.3 Days and Hours of Construction/Delivers

All deliveries will be notified to the Contractor's Project Manager/Traffic Management Co-ordinator in advance with specific times identified. These will be collated and held in a diary by the Co-ordinator

who will manage the deliveries on a daily basis. The Co-ordinator will highlight any clashes and anticipated busy periods to streamline the processing of deliveries.

On arrival at the agreed locations, drivers must wait and ring for attention in accordance to the relevant site signage. They will then be escorted to the appropriate location for unloading by the contractor's Banksmen.

Unloading will be carried out at one of the material storage areas. All deliveries, where possible, must be able to be unloaded by forklift or mechanical means.

Deliveries of materials to site will generally be between the hours of 07:00 and 19:00 Monday to Friday, and 08:00 to 14:00 on Saturdays. No deliveries will be scheduled for Sundays or Bank Holidays.

There may be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times. These will be kept to a minimum.

All access roads used by contractors will be monitored for mud and any construction materials and cleared using a shovel and broom and if required a mechanical road sweeper.

3.4 Public Transport Options for Site Operatives

Bus transport within the vicinity of the proposed development is illustrated in Figure 4.

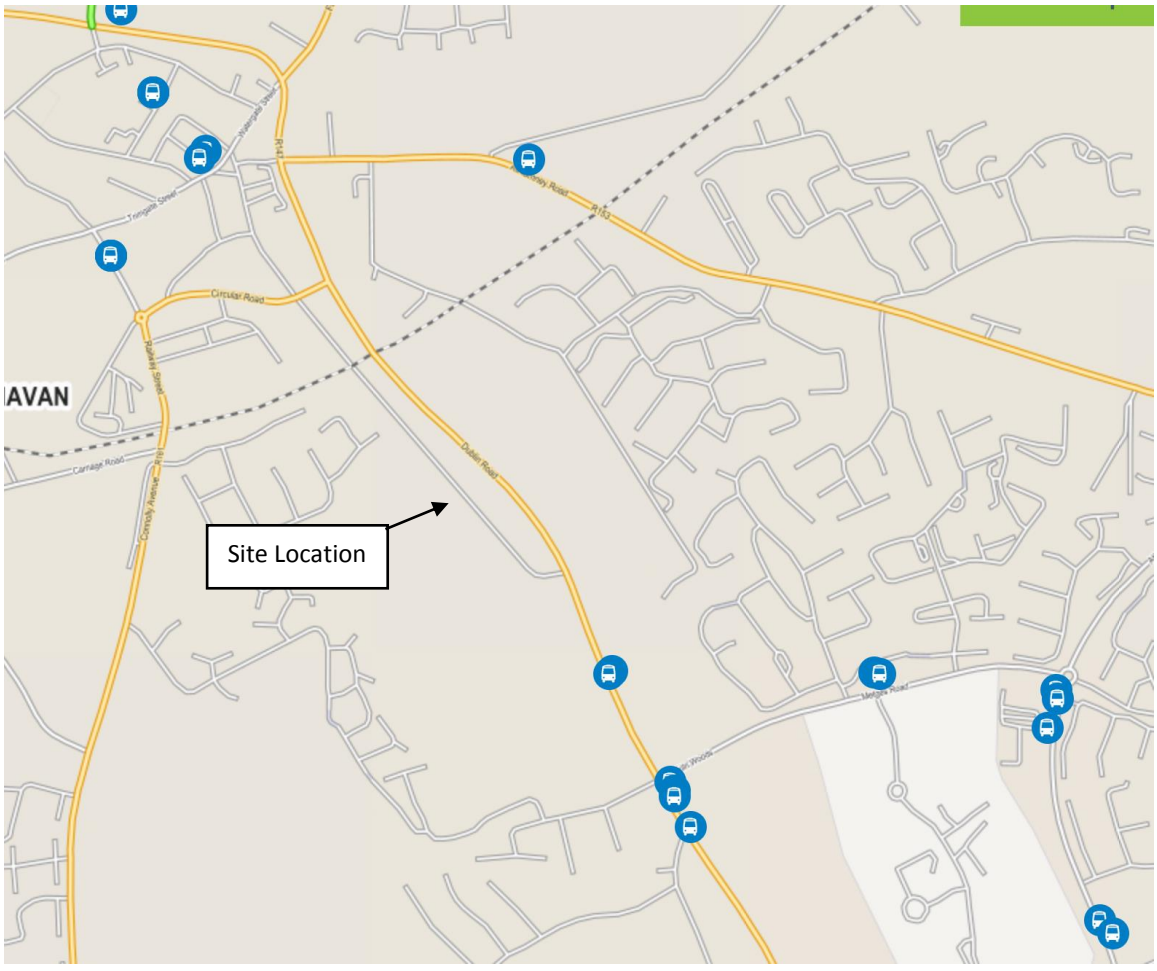

Figure 4 Bus Stop Locations (Source: TFI Transport Planner)

There are numerous bus operators providing a bus service to Navan and within walking distance to the site, with further details shown in Table 2 below.

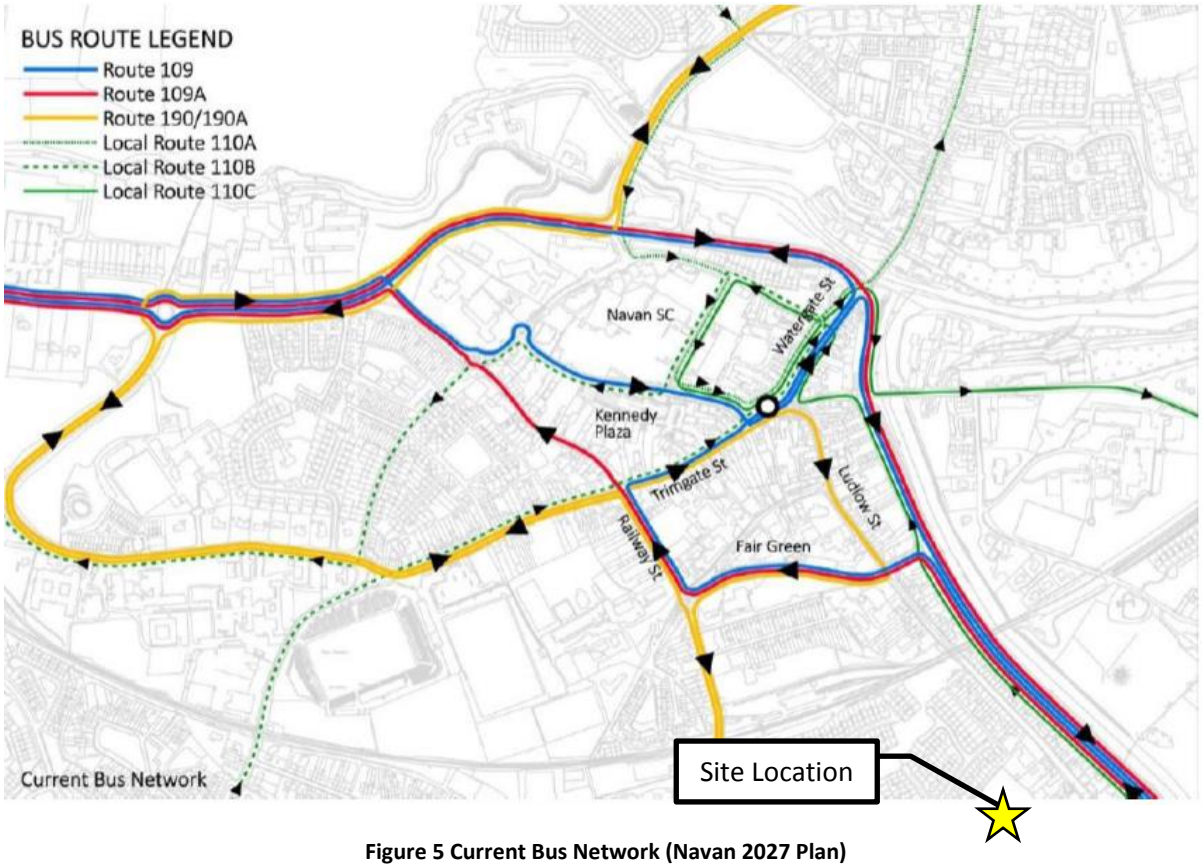

Figure 5 Current Bus Network (Navan 2027 Plan)

The nearest stop is located approximately 750m from the site which equates to 10 minutes walking time.

There is an additional concertation of services located on Market Square, including the 70, 103x,107,109,179,190 and NX, which is located between 900m and 1.5km (8-16 minutes' walk time) north of the proposed development.

No.	Route	Service		Mon-Fri	Sat	Sun
NX	Wilton Terrace – Navan Mercy Convent	Wilton	First	05:40	06:02	07:00
			Last	23:12	23:10	23:30
		Navan	First	06:05	06:00	07:00
			Last	22:30	00:35	00:55
		Frequency		20 Mins	30 Mins	60 mins
179	Market Street, Cootehill - UCD	Troytown Navan	First	06:23	6:23	6:23
			Last	16:08	10:03	19:28
		UCD	First	13:00	16:35	16:35
			Last	18:10	16:35	16:35
		Frequency		Up to 9/day	Up to 1/day	Up to 1/day
109	Busáras - Virginia	Busáras	First	06:45	06:45	15:5
			Last	23:45	22:45	17:45
		Navan	First	05:32	05:29	7:27
			Last	21:29	19:27	21:29
		Frequency		Up to 14/day	Up to 17/day	Up to 3/day
109a	Busáras - Kells (Opp Business Park)	Dublin	First	02:46	02:46	02:46
			Last	23:15	23:15	23:15
		Navan	First	05:32	05:32	05:32
			Last	23:05	23:05	23:05
		Frequency		Up to 24/day	Up to 24/day	Up to 24/day
109x	Busáras - Cavan Bus Station	Dublin	First	07:15	07:15	09:15
			Last	21:15	21:15	21:15
		Navan	First	05:58	06:20	08:45
			Last	22:05	22:05	22:05
		Frequency		Up to 9/day	Up to 7/day	Up to 6/day
110a/b/c	Navan (Shopping Centre) - Navan (Shopping Centre)	Navan (Shopping Centre)	First	07:45	-	-
			Last	18:15	-	-
		Frequency		Up to 16/day	-	-
190/a	Drogheda - Navan - Trim	Navan	First	07:00	07:00	08:12
			Last	21:20	21:20	20:20
		Frequency		Up to 15/day	Up to 15/day	Up to 12/day

Table 2 Local Bus Services

3.5 Car pooling

For staff that chooses to travel to site using cars or other motorised vehicle a vehicle a pooling system will be put in operation by the contractor. Such measures shall be adopted in order to reduce traffic levels on the local road networks.

3.6 Construction Parking

Parking of construction staff vehicles on the public road network will not be permitted.

All construction traffic will access the site via the Access illustrated in Figure 3. Car parking will be provided for worker who travel to site using a car in or adjacent to the site compounds, as described in Section 3.2 and illustrated in Figure 3.

This car park will be temporary in nature and will be created by laying of a temporary surface for vehicles.

This number of construction vehicle movements is considered to be relatively low compared to the wider road network.

3.7 Haul Route

Materials such as steel and concrete required in the construction of the proposed development are likely to be sourced from manufacturers that are not situated within the immediate vicinity of the proposed development. Accordingly, a temporary construction material storage yard will be the source destination from which construction traffic, particularly for steel deliveries, will be generated.

The total number of vehicular traffic movements between site location will be determined by the contractor based on the phasing of the proposed development. The use of local roads will be minimised as much as possible, particularly to avoid / minimise the encountering of narrow road widths, poor visibility and unsuitable bearing capacities.

Vehicles will access the road network from the temporary construction material storage yard using the R147 Dublin Road via the M3. Return trips will be via the same route. All routes are subject to the agreement of Meath County Council and alternative routes maybe considered.

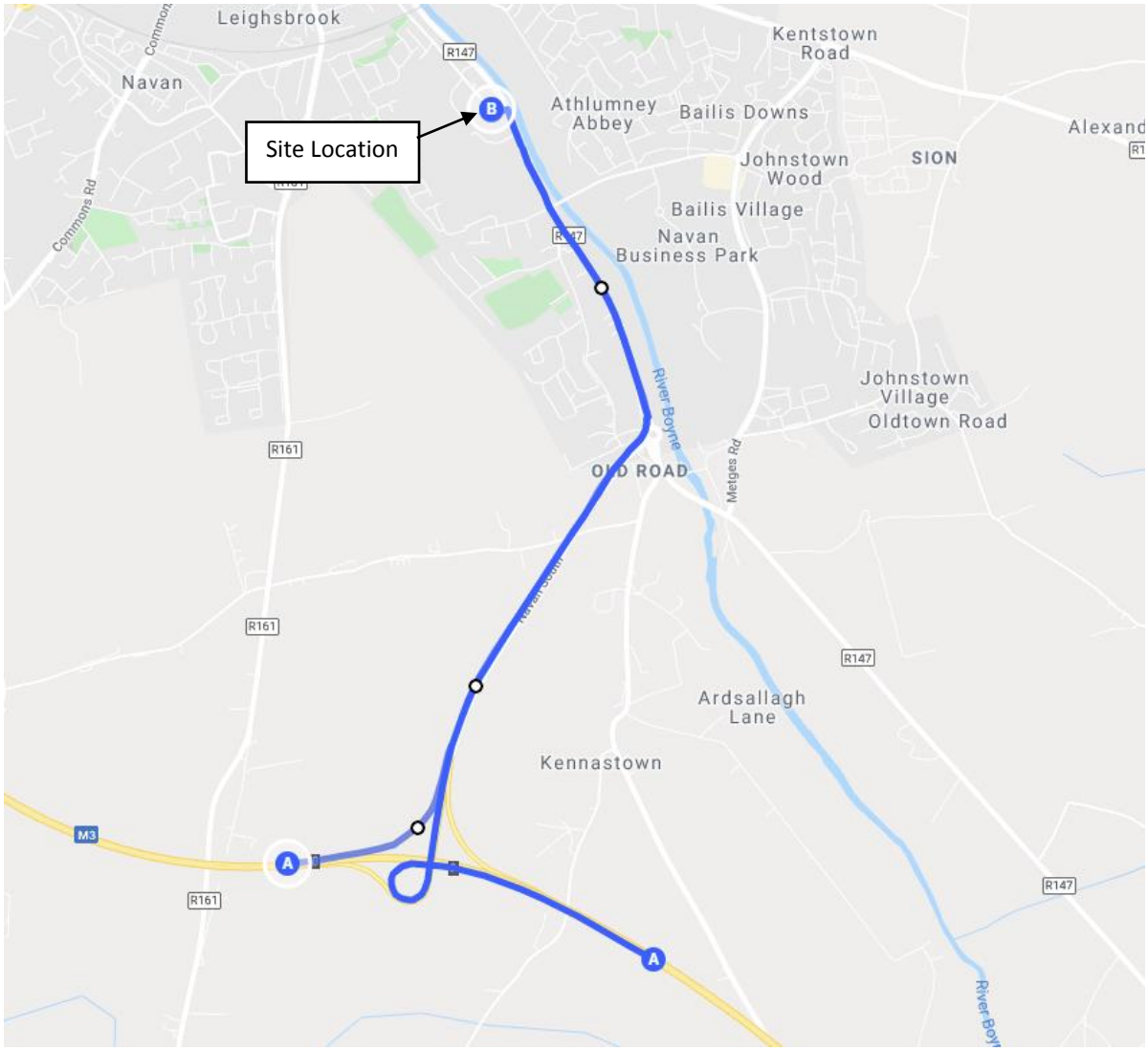

Figure 6 Haul Route to Site

Arrivals and departures to the proposed temporary construction material storage yard are to be carried out in as few vehicle movements as possible in order to minimise potential impacts on the road network.

3.8 Traffic Generation

3.8.1 General

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 this level of traffic would result in any operational problems on the local road network.

Care will be taken to ensure existing pedestrian and cycling routes are suitably maintained or appropriately diverted as necessary during the construction period, and temporary car parking is provided within the site for contractor's vehicles. It is likely that construction will have a negligible impact on pedestrian and cycle infrastructure.

The envisaged traffic generated during the construction of the yard will depend the phasing of the construction which will be determined by the Client. It is anticipated there will not be any likely significant

effects as a result of the construction of the yard when compared to the operational traffic volumes during the construction of the proposed development.

The majority of traffic generated delivering materials during the project are envisaged to occur during the following construction elements:

- Site clearance
- Laying of internal road
- Concrete and steel and other material deliveries to site during the construction of structures

For the construction of the proposed development it will be necessary to transport the construction materials, equipment and personnel to and from the work sites.

This includes (but is not limited to):

- Establishing the construction site compounds;
- The removal of surplus soil material, suitable surplus excavated material for reuse and unsuitable excavated material, which will be taken offsite to a site permitted for deposition;
- The importation of suitable soil material where required;
- The importation of relevant construction materials and equipment ;
- The exportation of C&D Waste and C&D Waste Demolition;
- Transportation of workers to and from the site;

3.8.2 Site Clearance, Proposed Material Deliveries Temporary Construction Material Storage Yard, Construction

The construction of the temporary construction material storage yard has the potential to generate traffic associated with its construction. It is estimated that construction of this will start in Q2 2020.

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.

A cut and fill model has been produced by Cronin Sutton Consulting Engineers which estimates that there will be a net export (net cut) of 22,088m3 from the site. This equates to c. 740 HGV trips.

Whilst it is not possible at this stage to accurately identify the day to day traffic movements associated with the construction activities, based on experience of similar sites it is considered that the number of construction related heavy goods vehicle movements to and from the application site will be approximately 15 arrivals and departures during the first 2-3 months of works and decreasing to 3 to 5 thereafter.

Similarly, the general workforce is unlikely to exceed c.50 in number, which with an allowance for shared journeys could equate to a maximum of around 30-40 arrivals and departures per day.

3.8.3 Construction Workers

At the peak of construction, it is anticipated that there will be a requirement for approximately c.80 construction workers. This will vary over the lifetime of the project.

Again, 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.

Arrivals and departures to the sites are to be carried out in as few vehicle movements as possible to minimise parking requirements and potential impacts on the local road network. The impact will be significantly less than the operational impact of the constructed development.

4 Construction Traffic Management Plan

4.1 Introduction

This section outlines the content of the final Construction Traffic Management Plan (CTMP) which shall be prepared prior to construction of the proposed development. It shall be a requirement of the contract that, prior to construction, the appointed contractor shall liaise with the relevant authorities including the Transport Infrastructure Ireland (TII), Local Authorities and Emergency Services for the purpose of finalising the CTMP, which will encompass all aspects of this outline Construction Traffic Management Plan.

The CTMP shall be termed a 'Live Document', such that any changes to construction programme or operations can be incorporated into the CTMP.

The contractor will be contractually required to ensure that the elements of this outline CTMP shall be incorporated into the final CTMP. The contractor shall also agree and implement monitoring measures to confirm the effectiveness of the mitigation measures outlined in the CTMP. On finalisation of the CTMP, the contractor shall adopt the plan and associated monitoring measures. The final CTMP shall address the following issues (including all aspects identified in this outline CTMP):

- Site Access & Egress;
- Traffic Management Signage;
- Routing of Construction Traffic / Road Closures;
- Timings of Material Deliveries to Site;
- Traffic Management Speed Limits;
- Road Cleaning;
- Road Condition;
- Road Closures;
- Enforcement of Construction Traffic Management Plan
- Details of Working Hours and Days;
- Details of Emergency plan;
- Communication;
- Construction Methodologies; and
- Particular Construction Impacts

These items are explained in detail in the remainder of this section of the report.

4.2 Site Access and Egress

For early phases, site access will be provided via Access No. 3 on Academy Street. These will coincide with the future development access. For later phases, construction access will be provided via Access No. 1 on Academy Street.

Access to the site will be gated. The gate will be set back off the external road network to ensure that vehicles entering the site can do so without causing an obstruction on the main carriageway.

The contractor shall provide advanced warning signs, in accordance with Chapter 8 of the Department of the Environment's Traffic Signs Manual 2010, on the approach to proposed site access locations a minimum of one week prior to construction works commencing at the site.

There will be heras fencing secured to a minimum height of 2 metres alongside the construction compound areas or solid panel hoarding in areas with high/low viewing panels to help reduce unauthorised access to the constriction compound.

This fence will be checked daily and maintained as necessary and it will be the responsibility of the Site Manager to open and lock the gates each working day to ensure the site is not left open and unattended at any time

Access to the construction site will be only be to authorised persons. During afterhours, security will be employed by the main contractors to ensure no unauthorised access.

Where possible, construction traffic and non-construction traffic will be separated for all modes of transport. Where the construction programme requires mixing of traffic, additional temporary traffic management measures will be put in place.

4.2.1 National Road Network

Access to the site along the National Road Network will be via the M3. It is anticipated that the majority of construction related traffic will travel along the M3 at which point construction traffic will enter the regional/local road network i.e. R147 Dublin Road.

4.2.2 Regional & Local Road Network

The majority of access / egress to proposed sites shall be facilitated from the local road networks. To mitigate against possible restrictions in visibility requirements, it is proposed that the contractor shall use a safe system of permanent flag men for the control of traffic during all access / egress operations at each site location, if required.

There will be two number proposed accesses will be utilised along the following national routes:

- Proposed primary residents' access from Academy Street; and
- Proposed primary school access from Academy Street.

The contractor shall utilise a safe system of permanent flag men for the control of traffic during all access / egress operations at each site location outlined above.

The proposed Access from Academy Street will be used for works traveling via public transport.

4.2.3 Construction Material Storage Yard

As noted previously, it is proposed to construct a temporary construction material storage yard. The location of the temporary construction storage yard access will be confirmed in the final CTMP.

Access to the temporary construction storage will be in the location of the proposed development access i.e. via Academy Street. The contractor will insure that is a visibility splay is appropriate for the local speed limit.

4.3 Traffic Management Signage

The contractor shall undertake consultation with the relevant authorities for the purpose of identifying and agreeing signage requirements. Such signage shall be installed prior to works commencing on site.

Proposed signage may include warning signs to provide warning to road users of the works access / egress locations and the presence of construction traffic. All signage shall be provided in accordance with the Department of Transport's Traffic Signs Manual, Chapter 8 – Temporary Traffic Measures and Signs for Roadworks.

In summary, the contractor will be required to ensure that the following elements are implemented:

- Consultation with the relevant authorities for the purpose of identifying and agreeing signage requirements;
- Provision of temporary signage indicating site access route and locations for contractors and associated suppliers; and
- Provision of general information signage to inform road users and local communities of the nature and locations of the works, including project contact details.

4.4 Routing of Construction Traffic

As outlined above, a temporary construction material storage yard will be utilised for the proposed development. Deliveries to the temporary construction material storage will be permitted to access the road network using the Dublin Road via the M3.

Traffic leaving the storage yard will turn right onto the R147 Dublin Road then turn left/right towards the M3.

It is envisaged that construction works traveling to the site will do so via the primary road network i.e. M3 with access to Academy Street via the R147 Dublin Road

The use of local roads will be minimised as much as possible, particularly to avoid / minimise the encountering of narrow road widths, poor visibility and unsuitable bearing capacities.

4.5 Programming

In order to reduce impacts on local communities and residents adjacent to the proposed sites, it is proposed that:

- The contractor will be required to liaise with the management of other construction projects and the Local Authorities to co-ordinate deliveries.
- The contractor will be required to schedule deliveries in such a way that construction activities and deliveries activities do not run concurrently e.g. avoiding pouring of concrete on the same day as material deliveries in order to reduce the possibility of numbers of construction delivery vehicles arriving on site simultaneously, resulting in build-up of traffic on road network.
- The contractor will be required to schedule deliveries to and from the proposed temporary construction materials storage yard such that traffic volumes on the surrounding road network are kept to a minimum.
- HGV deliveries to the development site will be suspended on the days of any major event in the area that have the potential to cause larger than normal traffic volumes.
- The contractor will be required to interact with members of the local community to ensure that deliveries will not conflict with sensitive events such as funerals.
- HGV deliveries will avoid passing schools at opening and closing times where it is reasonably practicable.
- Deliveries of materials to site will generally be between the hours of 07:00 and 19:00 Monday to Friday, and 08:00 to 14:00 on Saturdays. No delivers will be scheduled for Sundays or Bank Holidays. There may be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times.

The construction period for the proposed development is anticipated to be approximately 3-5 years from the commencement of the site works. This is subject to change and dependent on market conditions.

4.6 Recommended Traffic Management Speed Limits

Adherence to posted / legal speed limits will be emphasised to all staff / suppliers and contractors during induction training.

Drivers of construction vehicles / HGVs will be advised that vehicular movements in locations, such as local community areas, shall be restricted to 50 km/h. Special speed limits of 30 km/h shall be implemented for construction traffic in sensitive areas such as school locations. Such recommended speed limits will only apply to construction traffic and shall not apply to general traffic. It is not proposed to signpost such speed limits in the interest of clarity for local road users.

4.7 Road Cleaning

It shall be a requirement of the works contract that the contractor will be required to carry out road sweeping operations to remove any project related dirt and material deposited on the road network by construction / delivery vehicles. All material collected will be disposed to a licensed waste facility.

4.8 Road Condition

The extent of the heavy vehicle traffic movements and the nature of the payload may create problems of:

- Fugitive losses from wheels, trailers or tailgates; and
- Localised areas of subgrade and wearing surface failure.

The contractors shall ensure that:

- Loads of materials leaving each site will be evaluated and covered if considered necessary to minimise potential dust impacts during transportation.
- The transportation contractor shall take all reasonable measures while transporting waste or any other materials likely to cause fugitive loses from a vehicle during transportation to and from site, including but not limited to:
    - Covering of all waste or material with suitably secured tarpaulin/ covers to prevent loss; and
    - Utilisation of enclosed units to prevent loss.
- The roads forming part of the haul routes will be monitored visually throughout the construction period and a truck mounted vacuum mechanical sweeper will be assigned to roads along the haul route as required.

In addition, the contractor shall, in conjunction with the local authority:

- Undertake additional inspections and reviews of the roads forming the haul routes one month prior to the construction phase to record the condition of these roads at that particular time.
- Such surveys shall comprise, as a minimum, a review of video footage taken at that time, which shall confirm the condition of the road corridor immediately prior to commencement of construction. This shall include video footage of the road wearing course, the appearance and condition of boundary treatments and the condition of any overhead services that will be crossed. Visual inspections and photographic surveys will be undertaken of bridges and culverts that are along the haul roads.
- Where requested by the local authority prior to the commencement of construction operations, pavement condition surveys will also be carried along roads forming part of the haul route. These will record the baseline structural condition of the road being surveyed immediately prior to construction.

- Throughout the course of the construction of the proposed development, on-going visual inspections and monitoring of the haul roads will be undertaken to ensure any damage caused by construction traffic is recorded and that the relevant local authority is notified. Arrangements will be made to repair any such damage to an appropriate standard in a timely manner such that any disruption is minimised.

Upon completion of the construction of the proposed development, the surveys carried out at preconstruction phase shall be repeated and a comparison of the pre and post construction surveys carried out. Where such comparative assessments identify a section of road as having been damaged or as having deteriorated as a result of construction traffic, the road will be repaired to the preconstruction standard or better.

4.9 Road Closures

During the course of the works, it is not envisaged that road closures will be required for any extended period of time. Temporary or partial road closures maybe required to facilitate utility connections such as watermain, foul water, surface water etc.

Should works be required on the external road network, road opening licences will be sought from the Local Authority via the Road Management Office.

In areas where existing carriageways are narrow, it is envisaged that Traffic Management measures such as temporary traffic lights will be utilised to facilitate traffic.

4.10 Enforcement of Construction Traffic Management Plan

All project staff and material suppliers will be required to adhere to the final CTMP. As outlined above, the contractor shall agree and implement monitoring measures to confirm the effectiveness of the CTMP.

4.11 Details of Working Hours and Days

Deliveries of materials to site will generally be between the hours of 07:00 and 19:00 Monday to Friday, and 08:00 to 14:00 on Saturdays. No deliveries will be scheduled for Sundays or Bank Holidays.

There may be occasions where it is necessary to make certain deliveries outside these times, for example, where large loads are limited to road usage outside peak times.

All access roads used by contractors will be monitored for mud and any construction materials and cleared using a shovel and broom and if required a mechanical road sweeper.

4.12 Emergency Procedures During Construction

The contractor shall ensure that unobstructed access is provided to all emergency vehicles along all routes and site accesses. The contractor shall provide to the local authorities and emergency services, contact details of the contractor's personnel responsible for construction traffic management. In the case of an emergency the following procedure shall be followed:

- Emergency Services will be contacted immediately by dialling 112;
- Exact details of the emergency / incident will be given by the caller to the emergency line operator to allow them to assess the situation and respond in an adequate manner;
- The emergency will then be reported to the Site Team Supervisors and the Safety Officer; All construction traffic shall be notified of the incident (where such occurs off site);
- Where required, appointed site first aiders will attend the emergency immediately; and
- The Safety Officer will ensure that the emergency services are en route.

4.13 Communication

The contractor shall ensure that close communication with the relevant local authorities and the emergency services shall be maintained throughout the construction phase. Such communications shall include:

- Submissions of proposed traffic management measures for comment and approval;
- On-going reporting relating to the condition of the road network and updates to construction programming; and
- Information relating to local and community events that could conflict with proposed traffic management measures and construction traffic in order to implement alternative measures to avoid such conflicts.

The contractor shall also ensure that the local community is informed of proposed traffic management measures in advance of their implementation. Such information shall be disseminated by posting advertisements in local newspapers and delivering leaflets to houses in the affected areas. Such information shall contain contact information for members of the public to obtain additional information and to provide additional knowledge such as local events, sports fixtures etc. which may conflict with proposed traffic management measures.

4.14 Particular Construction Impacts

No particular impacts have been identified at this stage. This will be reviewed at detailed design stage and gain upon appointment of a main contractor.

5 Conclusion

5.1 Conclusion

This Construction Traffic Management Plan will form part of the construction contract and is designed to reduce possible impacts which may occur during the construction of the proposed development.

The outline Construction Traffic Management Plan shall be used by the appointed contractor as a basis for the preparation of a final Construction Traffic Management Plan and shall detail, at a minimum, the items detailed in this outline Construction Traffic Management Plan and any subsequent requirements of the local authorities.

The Client shall be responsible for ensuring that the contractor manages the construction activities in accordance with this outline Construction Traffic Management Plan and shall ensure that any conditions of planning are incorporated into the final Construction Traffic Management Plan prepared by the appointed works contractor.

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