Watfore Ltd

Creamfields Housing Development

Construction Traffic Management Plan

252666-00-RPT-CTMP-SHD

Issue 2 | 17 February 2022

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 252666-00

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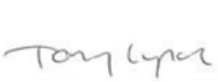
		Signature			
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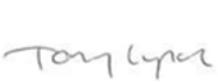
		Signature			
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Contents

1 Introduction

1.1 General

This report is an outline Construction Traffic Management Plan for the Strategic Housing Development proposed by Watfore Ltd proposed by Watfore Ltd at the former "CMP Dairies" site at Kinsale Road / Tramore Road, Cork. The Construction Traffic Management Plan (CTMP) will be further developed by the contractor, prior to the commencement of construction, to ensure that construction traffic will be managed and monitored safely and efficiently throughout the construction phase.

1.2 Purpose and Scope

This Construction Traffic Management Plan will be a key construction contract document, the implementation of which will reduce possible impacts which may occur during the construction of the proposed scheme.

The objectives of this CTMP are to:

- Outline minimum road safety measures to be implemented at the site access/egress locations and at the approaches to such access/egress locations, during the works;
- Demonstrate to the contractor and suppliers the need to adhere to the relevant guidance documentation for such works; and
- Provide the basis for the contractor to further develop the details of this CTMP.

Watfore Limited and/or the Employers Representative (ER) appointed by Watfore Limited will be responsible for ensuring that the contractor manages the construction activities 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.

In the event that the approval is granted for the proposed development, the CTMP will address the requirements of any relevant conditions, including any additional mitigation measures which are conditioned. The CTMP (updated by the contractor prior to construction to incorporate these conditions) will require approval from the Cork City Council and An Garda Síochána.

The objective of this CTMP is to ensure that the residual impacts to the public road network during the construction phase of the proposed development are minimised and that transport related activities are carried out as safely as possible and with the 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 scheme.

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 and for the removal of excavated material that is to be disposed of off-site.

This CTMP will remain a live document that will be reviewed by the contractor and updated, where necessary, throughout the construction phase.

1.3 Implementation

Key to the implementation of the CTMP is the dedication of an on-site manager (nominated by the contractor) who will supervise the implementation of the plan and regularly liaise with and update the supervising employer's representative team on the operation of the plan and any proposed improvements. All site personnel will be charged with following good practice and will be encouraged to provide feedback and suggestions for improvements. Site personnel will also be required to ensure compliance with the requirements of the site's CTMP.

1.4 Document Revision

The CTMP will be subject to on-going review throughout the construction phase of the proposed scheme, and regular auditing and site inspections.

All of the information required to further develop the CTMP will be highlighted in the specification for the construction contract. The contractor will be required to include further details and/or confirmation, as described below.

2 Proposed Construction Traffic Generation

2.1 Overview

The potential temporary impacts of the scheme on the road network are as follows:

- Temporary impacts during construction due to the excavation of materials in order to facilitate construction, and the associated movements of excavation vehicles;
- Temporary impacts associated with the importing of construction materials to the works areas, and the relevant movements of delivery and construction vehicles and construction workforce;

- Construction staff commuting to and from the construction compounds; and
- General service traffic associated with construction activities (i.e. plant deliveries, visitors, traffic between compounds and working areas, etc.)

2.2 Traffic Generation from Proposed Scheme

The level of construction traffic associated with the proposed development will vary over the course of the construction programme. It is envisaged that construction will take place in four phases, starting at the northern part of the site with phase 1 and gradually moving towards the south as the remaining construction phases commences.

Although both applications, the Strategic Housing development and the Primary Care Centre site boundaries overlap, they are separate applications and it is assumed for the purpose of this CTMP that both applications will be granted planning permission and therefore that the construction of each development will occur concurrently.

The construction phasing is the best guess now and will need to be updated after planning permission is obtained and more detail on the construction programme becomes available. The current estimation suggests that following a site enabling works period of 2-4 months, Phase 1 will take approximately 2.5 – 3.5 years to complete, Phase 2 will take approximately 2 – 2.5 years, Phase 3 will take approximately 2.5 – 3.5 years and finally, phase 4 will take 1.5 – 2.5 years. It is estimated project completions will take 3 – 6 months.

An opening year of 2025 is assumed for Phase 1 of the development. Following this, construction will commence at Phase 2, and so forth. In 2025 therefore there will be traffic associated with first residential blocks occupied by residents and the functional primary health care facility and construction traffic associated with Phase 2.

By 2030, which corresponds to the Opening Year +5 it has been assumed that both development phases 1 and 2 will be completed and occupied and that phase 3 will be under construction. In 2040, the entire development will be in place and therefore no construction traffic associated with the development will be on the road network.

Heavy and Light Construction Vehicles

The movements of HCV’s and LCV’s to and from the site is expected to generate traffic from the following activities:

- Enabling works (piling, substructure, etc.);
- Superstructure works;
- Façade;
- Fit-Out; and
- Landscaping.

The fit-out and landscaping works are expected to be the most intensive from a construction vehicle perspective. During this time, it is estimated that approximately 250 HCV and LCV vehicles will travel to the site per week (i.e. a total of 500 two-way vehicle movements).

Assuming a 5.5 day working week, this would equate to a daily total of 46 HCV/LCV vehicles travelling to the site (a total of 92 two-way movements). Allowing for an increase to account for any miscellaneous deliveries, it is proposed to increase this figure to a total of 50 vehicles per day (i.e. 100 two-way movements). Based on experience on previous construction projects it is estimated that 33 of the 50 vehicles will be HCV's, with the remaining 17 expected to be LCV's.

Heavy vehicles are expected to have an evenly spread distribution profile starting early in the morning throughout the day towards the evening.

Assuming HGV deliveries will not occur early in the morning and late in the evening and within an 8-hour time period everyday, assuming an 8-hour work day, it is estimated that on average a total of 4 HCV's and 2 LCV's arrive and depart the site (a total of 6 vehicles) in the peak periods on the local road network. This represents 8 HCV and 4 LCV trips per hour.

At a consultation meeting with Cork City Council (CCC), the Council requested that a stress test be carried out on the construction traffic trip generation to ensure that a worst case is represented. To ensure that a robust assessment is carried out a stress test scenario will be carried out for construction traffic by assuming that there are 50% more HCVs and LCVs arriving and departing during peak hours. This therefore represent 6 HCVs and 3 LCVs arriving and departing (a total of 9 vehicles) in the peak periods on the local road network. This represents 12 HCV and 6 LCV trips per hour.

Workforce

The most intensive phase of construction for workforce numbers is also the fit-out and landscaping phases, when a total of 250 construction personnel are expected to be on site per day.

Due to the site benefiting from bus services in the vicinity and cycle connectivity, it is therefore envisaged that a proportion of the construction staff will travel to and from the site by public transport and other alternative modes. It is anticipated that approximately 25% of staff will travel by bus, by bike or on foot.

To support this, only a limited amount of parking is proposed for construction staff (to be located within the applicant's landholding). Those workers that do travel to the site by car will be encouraged to car-pool, and it is assumed that there will be an average occupancy of 1.2 persons per car.

Therefore assuming 75% of staff will travel by car and an average car occupancy of 1.2 persons per car it is estimated that a total of 156 vehicles will travel to the site on a daily basis for construction workers. Allowing a 10% increase to account for miscellaneous trips increases this to 172 vehicles per day at the site.

Construction hours are expected to be from 08:00-18:00; however, the arriving and departure of personnel on site will be managed not to coincide with peak hour traffic. This can be done by agreeing with Cork City Council that site personnel should arrive before or after peak hour traffic. The prevailing peak hours should be determined closer to the time of construction by carrying out new link counts or by reviewing traffic data collected by permanent counting stations on the N40 and the N27.Based on the above it has been assumed that between 20 to 25% (Assume 22.5%) of the construction personnel trips (38 vehicles) arrive on site during the morning peak and depart the site during the evening peak on the local road network, respectively. Allowance is also made for the off-peak direction during each peak hour period to account for instance for a contractor leaving the site during the AM peak due to unforeseen circumstances. A stress test has been carried out by adding 50% more construction traffic to the estimated traffic, to ensure that a robust assessment is carried out.

Conclusion

The table below shows the estimated construction traffic during peak hours. It shows two scenarios, Scenario 1: Expected Construction Traffic and Scenario 2: Stress test, where 50% more construction traffic has been added as a worst case.

Table 1: Estimated Construction Traffic during peak hours

Assessment Scenario	HGV Trips		LGV Trips		Contractor / Workforce Trips	
	Arrival	*Departure*	*Arrival*	*Departure*	*Arrival*	*Departure*
2025 Opening Year	6	6	3	3	57	7
2025 Opening Year + 5 Years	6	6	3	3	7	57
2025 Opening Year + 15 Years	-	-	-	-	-	-

2.3 Envisaged Construction Equipment

Construction equipment and vehicles required for each construction element/operation will be delivered to site by appropriate vehicles. Specific equipment and vehicles which are deemed to be required for the proposed development by the principal contactor, suppliers and staff are to be confirmed and included in the updated CTMP, prior to the commencement of construction.

3 Matters to be Addressed in More Detail

The contractor will be required to ensure that the contents of this CTMP are further developed prior to the commencement of works. The contractor will implement monitoring measures to confirm the effectiveness of the mitigation measures outlined in the CTMP. The updated CTMP will address the following issues:

- Site/works area access and egress;
- Traffic management signage;
- Timings of material deliveries to site;
- Traffic management speed limits;
- Road cleaning;
- Vehicle cleaning;
- Road condition;
- Road closures;
- Enforcement of traffic management plan;
- Emergency procedures during construction; and
- Communication.

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

3.1 Site Access and Egress

The proposed site access locations will be identified and the contractor will provide advanced warning signs, in accordance with Department of Transport's 'Traffic Signs Manual, Chapter 8: *Temporary Traffic Measures and Signs for Roadworks* (August 2019), on the approaches to proposed site access locations, a minimum of one week prior to construction works commencing at that location.

There are two accesses proposed to the site. The first access is off Tramore Road, at the original access to the site, while the second proposed access is to add a fourth arm to the Kinsale Road / Mick Barry Road junction, providing access to the site. During discussions with CCC, it was noted that Tramore Road / Kinsale Road junction is currently operating close to capacity and it was agreed that measures should be put in place to minimise the potential traffic impact on this junction.

To this end it is proposed that construction traffic should enter and exit the development site in a one way system. Both accesses will be operational from construction phase 1 onwards.

Figure 1 shows the proposed construction traffic circulation for the site development. It is proposed that the Tramore Road access is only used for inbound construction traffic while the Kinsale Road / Mick Barry junction access

is used for outbound construction traffic. The greater majority of construction is expected to approach the site from the N40 and the N27 to the south of the development site. Some contractor vehicles and site employees are expected to approach the site from the City Centre direction.

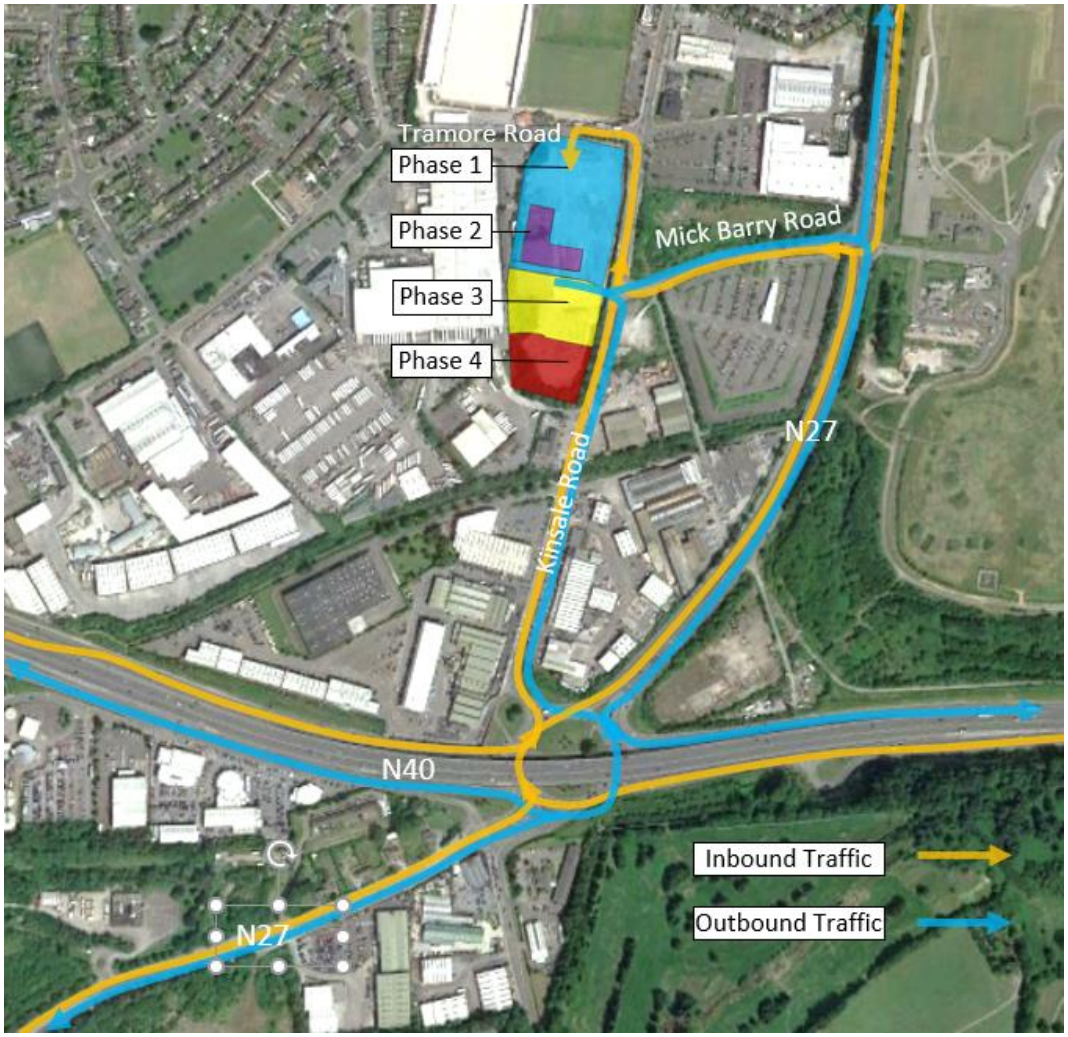

Figure 1: Construction Traffic Circulation

3.2 National Road Network

Junction 6 on the N40 and the N27 national primary routes are anticipated to be utilised as the access route for all construction activity during the construction period.

3.3 Local Road Network

The following local roads will be utilised as haul routes during the construction period:

- Mick Barry Road
- Kinsale Road

- Tramore Road

As outlined earlier in this report, Tramore Road will only be used for inbound construction traffic. This is expected to minimise the traffic impact on the road network and especially Tramore Road as this will avoid right turning movements and include only left turning movements which involves less conflict with other traffic movements. Compared to right turning traffic, left turning traffic movements has much higher capacity.

No construction traffic will be permitted to use Tramore Road approaching from the west. Although some contractors and staff may travel southbound from the City Centre towards the site and turn right onto Tramore Road, no HCV vehicles will take this route.

3.4 Traffic Management Signage

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

Proposed signage will include warning signs to provide warning to road users of the works access/egress locations and the presence of construction traffic. All signage will be provided in accordance with the Department of Transport's 'Traffic Signs Manual, Chapter 8: *Temporary Traffic Measures and Signs for Roadworks* (August 2019).

In summary, the contractor will 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.

3.5 Timings of Material Deliveries to Site

In order to reduce impacts on local communities and residents adjacent to the proposed sites:

- The contractor will liaise with the management of other construction projects in the area (if any) and the local authorities to co-ordinate deliveries;
- The contractor will schedule deliveries in such a way that construction activities and deliveries activities do not run concurrently, where practicable, 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 at each site/works area location simultaneously, resulting in build-up of traffic on road network;

- The contractor will schedule deliveries to and from any proposed temporary construction materials storage yards or compounds such that traffic volumes on the surrounding road network are kept to a minimum;
- A construction phase programme of works will be developed by the contractor in liaison with Cork City Council, specifically taking into account potential road repair works that are included in the local authority's road works schedule;
- HGV deliveries to specific areas of the site will be suspended on the days of any major local events, etc. that have the potential to cause larger than normal traffic volumes in the overlap areas. This in particular can include events at Musgrave Park;
- The contractor will liaise with members of the local community to ensure that construction-related traffic will not conflict with sensitive events such as funerals;
- Specific construction moratoria (for example, certain busy periods) as indicated by Cork City Council will be respected and incorporated into the construction phasing programme;
- HGV deliveries will avoid passing schools at opening and closing times where it is reasonably practicable; and
- Construction activities will normally be undertaken during daylight hours for all construction stages. It is anticipated that at critical certain stages of the construction works night-time and weekend work will be required, subject to consultation with Cork City Council and An Garda Síochána.

3.6 Traffic Management Speed Limits

Adherence to posted / legal speed limits will be emphasised to all staff and suppliers and contractors during induction training. Drivers of construction vehicles and HGVs will be advised that vehicular speeds in sensitive locations, such as local community areas, will be restricted to appropriate levels.

3.7 Road Cleaning

It will be a requirement of the works contract that the contractor carry out periodic road sweeping/cleaning operations to remove any scheme related dirt and material deposited on the road network by construction / delivery vehicles. Road sweepers will dispose of material following sweeping of road network, to a licensed waste facility.

3.8 Vehicle Cleaning

It will be a requirement of the works contract that the contractor will provide dry or wet wheel washing facilities where appropriate, and any other necessary measures to remove mud and organic material from vehicles exiting sites or works areas.

3.9 Road Condition

The contractor will ensure that:

- Loads of materials leaving each site will be evaluated and covered if considered necessary to minimise potential dust impacts during transportation.
- The hauliers will take all reasonable measures while transporting waste or any other materials likely to cause fugitive losses 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 routes as required.
- In addition, the contractor will, in conjunction and through agreement with Cork City Council:
    - Undertake additional inspections and reviews of the roads forming the haul routes prior to the construction phase to record the condition of these roads at that particular time; and
    - Such surveys will comprise, any recording or documentation processes as determined necessary by Cork City Council.
- Where requested by Cork City Council prior to the commencement of construction operations, pavement condition surveys will also be carried out along roads forming part of the haul routes. 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 scheme, 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 Cork City Council 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 scheme, the surveys carried out at pre-construction phase will be repeated and a comparison of the pre and post construction surveys carried out.

3.10 Enforcement of Traffic Management Plan

All project staff and material suppliers will be required to adhere to the CTMP. The contractor will agree and implement monitoring measures to confirm the effectiveness of the CTMP and compliance will be monitored by the supervising employer's representative. Regular inspections / spot checks will also be carried out to ensure that all project staff, material suppliers and hauliers follow the measures specified in the CTMP.

3.11 Emergency Procedures During Construction

The contractor will ensure that unobstructed access is provided for all emergency vehicles along all routes and site accesses.

The contractor will provide to Cork City Council and the emergency services, the contact details of the contractor's personnel responsible for construction traffic management.

In the case of an emergency which occurs off site all construction traffic will be notified of the incident and location.

3.12 Communication

The contractor will ensure that close communication with Cork City Council and the emergency services is maintained throughout the construction phase. Such communications will include:

- Submissions of proposed detailed traffic management measures for comment and approval,
- Ongoing reporting relating to the condition of the road network and updates to construction programming,
- 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 will also ensure that the local community is informed of proposed traffic management measures in advance of their implementation. Such information will be disseminated by posting advertisements in local newspapers and delivering leaflets to houses in the affected areas. Such information will contain the contractor's 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 Conclusions

This CTMP 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 CTMP will be further developed by the contractor following consultation with An Garda Síochána and Cork City Council.

The Employer representative will be responsible for ensuring that the contractor manages the construction activities in accordance with this CTMP and will ensure that any conditions of planning are incorporated into the site specific CTMP.

4.1 Monitoring

The implementation of the CTMP will be monitored by the contractor and employer's representative. Regular inspections / spot checks will be carried out to ensure that all project staff, material suppliers and hauliers follow the measures specified in the CTMP.