PUNCH
consulting engineers

182186 – Priorsland Cherrywood SHD

Traffic and Transport Assessment

March 2022

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PL0	Traffic and Transport Assessment	29/07/21	J. Tiernan	P. Casey	T. Murnane
PL1	Traffic and Transport Assessment	30/03/22	J. Tiernan	P. Casey	T. Murnane

Table of Contents

1.0 Non-Technical Summary

a) The development will comprise of a mixed-use Village Centre and residential development.

b) The site is a greenfield site located within the Cherrywood Strategic Development Zone, Co. Dublin. The proposed development is bounded by the M50 to the south; the LUAS Green Line to the north and currently undeveloped green fields to the east and west.

c) For the purposes of our assessment, the SDZ approved trip rates were consulted to provide an equivalent trip rate for each type of development within the proposed development site.

d) Capacity analysis was not carried out on the Cherrywood SDZ road network and surrounding local road network as it is assumed that the extensive preplanning studies and reports determined the junction and road layout to meet the anticipated traffic demand based on the prescribed zoning uses.

e) Parking spaces for residents and users of the development have been provided to meet the requirements set out in the Cherrywood Planning Scheme and the Dun Laoghaire Rathdown County Council Development Plan and recent parking amendment to the SDZ.

f) Secure cycle parking facilities have been provided within the development near the main access points to meet the requirements set out in the Dun Laoghaire Rathdown County Council Development Plan.

g) As part of the pre-planning consultation, various issues were raised by the Dun Laoghaire Rathdown County Council Roads Department regarding the timing of future potential development of the road system within the Cherrywood SDZ. The Cherrywood SDZ is divided up based on landownership and therefore relies on the planning permissions issued by Dun Laoghaire Rathdown County Council Roads for the construction of road links to facilitate access to the site. Planning permissions connecting to the proposed development access are now granted and funding in place to complete Castle St up to the proposed development. It is proposed that construction traffic (only) temporarily access the proposed development via a western route.

2.0 Introduction

PUNCH Consulting Engineers was commissioned by 1 Carrickmines Land Limited to carry out a Traffic and Transport Assessment (TTA) for a proposed development at Priorsland, Cherrywood Co, Dublin. The assessment has been carried out in accordance with the TII's Traffic and Transport Assessment Guidelines (May 2014) and makes reference to the Design Manual for Urban Roads & Streets (DMURS) and Smarter Travel – A Sustainable Transport Future (2009 – 2020). Sections from the Dun Laoghaire Rathdown County Council Development Plan (DCDP) (2016 – 2022) and the Cherrywood Planning Scheme have been used to help describe the development location and its local context.

The purpose of the report is to assess the potential impact of the whole proposed development on the existing local transport network and to ensure that the proposed site access and the existing junctions which fall within the scope of the study will have adequate capacity to carry the development traffic and the future growth in existing road traffic to the design year and beyond. An assessment of the accessibility of the site for cyclists, pedestrians and public transport users was also completed.

The development will comprise a mixed-use village centre and residential development of 443 no. units comprising 6 no. blocks (A-F) of apartments (up to 5 storeys with basement/undercroft parking) providing 402 no. apartments units (146 no. 1-beds; 218 no. 2-beds and 38 no. 3-beds), and 41 no. houses (19 no. 3-beds and 22 no. 4-beds). All apartments provided with private balconies/terraces. Provision of indoor residential facilities to serve apartment residents.

The Village Centre and non-residential elements will comprise a supermarket, local retail/retail service units, non-retail commercial units, creche, gym, community space, and offices (High Intensity Employment) use.

Provision of car/bicycle/motorcycle parking; ESB sub-stations; bin storages areas, and all associated plant areas.

Provision of the first phase of Priorsland Park (on lands within the applicant's ownership) and other public and communal open spaces.

Construction of Castle Street through the subject lands and two road bridges across the Carrickmines Stream, one to serve the future school site/ park, the second to provide pedestrian and cyclist access to the Carrickmines Luas station and future Transport Interchange to the north.

Provision of an additional pedestrian bridge to the park. Provision of an acoustic barrier along the southern/western edge of the site.

All associated site development works, landscaping, boundary treatments and services provision.

The staged development of the Cherrywood Strategic Development Zone (SDZ) has led to permission issues with accessing the proposed development from the east, i.e. via Castle Street, as approved under the Cherrywood Planning. It is therefore proposed that the construction traffic (only) temporarily access the proposed development via a western route utilising the available legal Right of Way. This temporary arrangement has a precedent approval associated with it under the previously granted permission DZ16A/0585.

We note a recent planning application DZ20A/0399 has been approved/granted by DLRCC which includes for the extension of Castle Street up to the proposed development site. As per the associated planning grant conditions, it is a requirement for the adjacent developer to complete the full extension of Castle Street to the Client's Priorsland site boundary which will alleviate any issues with access through the main Cherrywood SDZ route.

Furthermore, it is noted that Dun Laoghaire Rathdown County Council has secured funding from the Urban Regeneration and Development Fund (URDF) to deliver the 'Castle Street Link', described as the completion of Cherrywood's bus priority route to connect it to the existing Park & Ride facility at Carrickmines Luas stop.

This planning grant and the secured URDF funding allocation provides ample evidence that the delivery of the Castle Street extension can be considered imminent and that the interim construction access proposals allowed for under Section 7.2.2 of the approved amendment to the Cherrywood SDZ is readily applicable and achievable under these circumstances. Hence, we are advancing with the application for the delivery of this significant residential offering during a time of severe housing need in the area.

Once the Castle Street extension becomes viable, and is completed in its entirety, that Level 2 route would become the standard, on-going access route for the Priorsland development. Access to the Priorsland development will therefore eventually utilise the Level 2 Road access route as required under the permanent SDZ requirement. This also applies to the residential/operational traffic associated with the proposed development.

3.0 Existing Conditions

3.1 Existing Site & Site Location

The site is a greenfield site located within the Cherrywood Strategic Development Zone, Co. Dublin as shown in Figure 3.1. The proposed development is bounded by the M50 to the south; the LUAS Green Line to the north and currently undeveloped green fields to the east and west.

The site currently does not have direct highway vehicular access and relies on as series of roads primarily from Wyatville Road. The site location in relation to the wider road network is detailed in Figure 3.1. The development's original intent was to provide construction traffic access via Castle Street (and its extension into the site) within the Cherrywood SDZ. Access via this road network is reliant on consent/approval from the adjacent developer and as the roads have not yet been taken in charge and remain in private ownership this option is currently unavailable. 1 Carrickmines Land Limited has therefore sought to seek a viable alternative that will enable construction to commence and proceed until such time as there is resolution of the land and construction issues with respect to the rest of the Cherrywood SDZ extents.

The proposed development site falls within the boundary of the Dun Laoghaire Rathdown Development Plan (2016 – 2022). The design parameters for the Cherrywood Strategic Development Zone are set out in the Cherrywood Planning Scheme April 2014 document and as amended by DLRCC.

3.2 Local Road Network

The development of the SDZ road infrastructure is phased such that some sections of road infrastructure are in place but there are 'gaps' in anticipation of other links and junctions to be constructed in the future by adjoining developers. The proposed complete layout of roads is illustrated in CPS Map 4.5 prepared by DLRCC and included in Appendix A. Based on a review of the current planning consents issued and the as-constructed road network, there are gaps in the routes available to Priorsland for vehicular use.

The current layout of the existing local road network is presented in Figure 3.1. A brief description of the local road network is provided below.

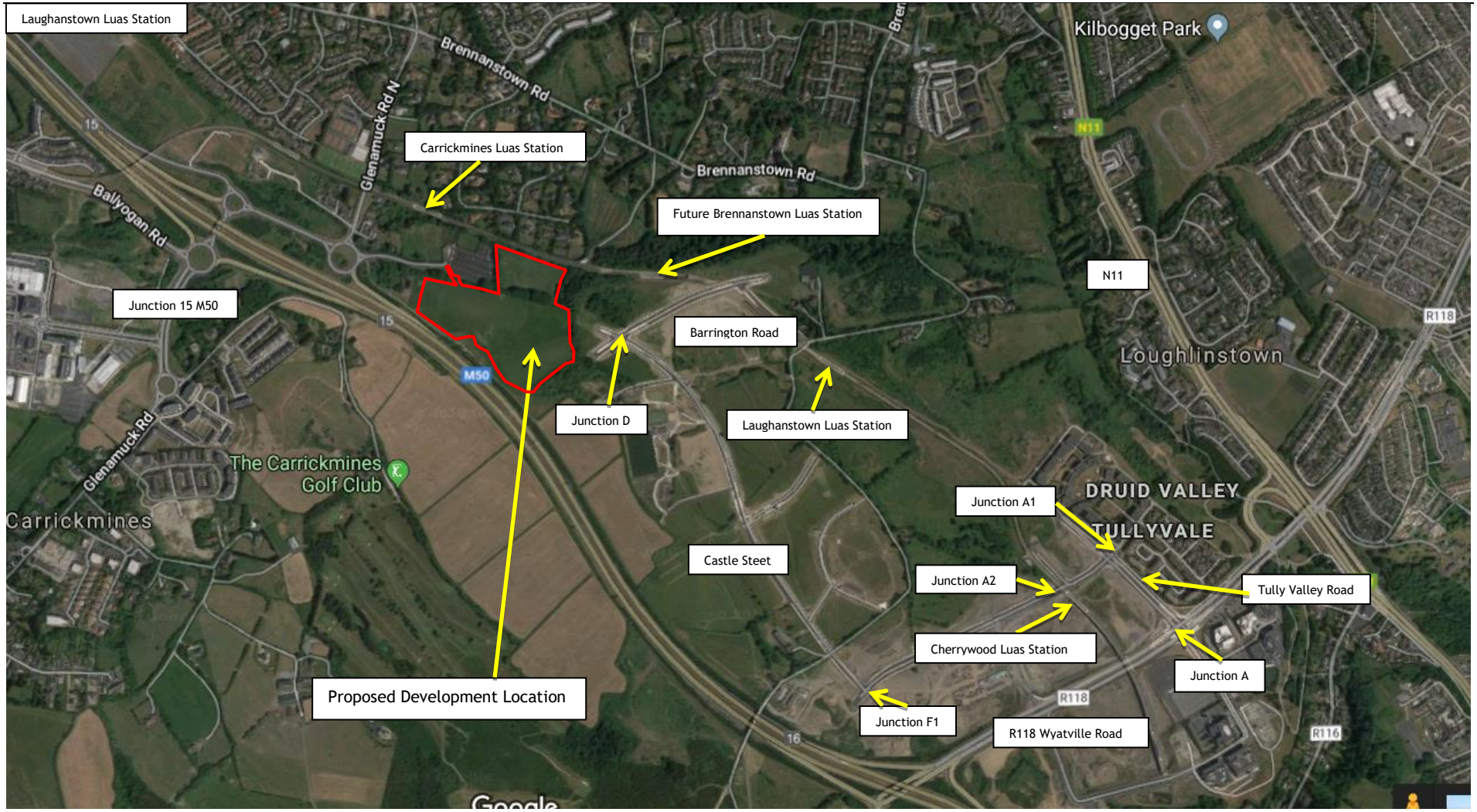


Figure 3.1 – Development Site Location Map and Surrounding Road Network © Google Map

3.2.1 M50

Two lane orbital motorway. Junction 15 (Cornelscourt / Kilternan) is located northwest of the site. To the north of M50 Junction 15, is Junction 14 (Dun Laoghaire/Stillorgan) some 3.4km away. Approximately 2.1km to the south is Junction 16 (Cherrywood/Loughlinstown). The M50 AADT in the vicinity of the site are set out in Table 3.1 below.

AVERAGE FLOWS	J14 TO J15 AADT	J15 TO J16 AADT
2020	55,869	53,097
2019	72,994	69,683
2018	72,706	69,374

Table 3.1 M50 Traffic Flows (Ref TII Traffic Counts)

3.2.2 Glenamuck Road North

Single carriageway road with cycle lanes and footpaths either side.

3.2.3 Carrickmines Station Luas Park & Ride Access Road

Single carriageway road with footpath and cycle lane on the north side to/from M50 Southbound Roundabout. The nearby Carrickmines Luas Station parking facility is accessed via a dedicated 200m access road off the M50 Southbound Roundabout to the west of the Priorsland proposed development. Refer to Figure 3.6 below for an ariel view.

Fig 3.2 – Carrickmines Station Park & Ride Facility

The car park is continuously open and contains 352 no. parking spaces; 13 disabled (blue badge) parking spaces and 4 EV charging spaces. The tariffs are low (€2.00 per day).

3.2.4 R118 Wyattville Road

Wyattville Road is a dual carriage way with a dedicated bus lane, cycleway and footpaths either side. Junction A with Tulley Valley Road is a traffic signal-controlled junction with dedicated turning lanes. Pedestrian crossing facilities are provided at Junction A.

3.2.5 Tulley Valley Road

Tulley Valley Road is a dual carriageway with a cycleway and footpath on the north side. Junction A1 is a traffic signal-controlled junction with dedicated turning lanes. Pedestrian crossing facilities are provided at Junction A1.

The remaining internal Cherrywood SDZ roadways and junctions are at various stages of completion.

3.3 Cherrywood Planning Scheme (CPS)

The Cherrywood Planning Scheme (CPS), that deals with the SDZ Planning Zone, was established in 2014. Chapter 4 Physical Infrastructure Section 4.2 Transportation of the CPS contains the strategy and objectives. A number of planning applications have already been submitted based on this document. The following planning permissions are considered the most pertinent in relation to the proposed Priorsland development:

a) DZ15A/0758 Hines CDF ICAV & William Neville & Sons 16/08/16
b) DZ16A/0587 O'Flynn Capital Partners 21/12/16
c) DZ16A/0585 Transport Infrastructure Ireland 3 Year Temporary Park & Ride 26/09/16
d) DZ17A/0114 Transport Infrastructure Ireland Permanent Park & Ride 08/02/18
e) DZ18A/0208 Tudor Homes Ltd 14/12/18
f) DZ20A/0399 Quintain Developments Ireland Ltd 25/01/21

The Cherrywood CPS requirements set out in 7.2.2 Second Growth Area: Development Areas 1, 2 and 3 deals regarding the permanent scenario. However, there is an amendment to Chapter 7 of the CPS approved by An Board Pleanala in December 2018.

The amended Section 7.2.2 of the CPS states: *'…… it is acknowledged that there may be exceptional or unforeseen circumstances beyond the reasonable control of an individual developer or the local authority, whereby a piece of infrastructure necessary to progress the development of a Growth Area cannot be provided in the short to medium term (circa 0-3 years). In such instances, there may be an appropriate alternative utilising other infrastructure as provided for under the Planning Scheme, as an interim measure to facilitate the early delivery of housing…..*

Construction Access

The Planning Scheme also identifies construction access points/routes for the Development Areas. Where any such construction accesses as identified in Chapter 6, cannot be achieved and where alternatives are proposed, the Planning Authority will consider such proposals on their merits…..'

Therefore, based on the criteria set out in 7.2.2, then the following responses are provided to address the requirements:

CPS 7.2.2. REQUIREMENTS	RESPONSE
Impact on existing residential amenity	Given lack of residential development along the proposed route the impact is imperceptible.
Road and traffic safety	As with all road layouts the potential for safety issues exists but the measures set out in this TTA, detailed design to DMURS and TII standards and if necessary, a Road Safety Audit will be undertaken then the impact is neutral.
Luas operation	Neutral impact on train operation.
Luas interface	Imperceptible impact on the car park as it will be necessary to delete some car park spaces. These deleted car park spaces would be lost in the complete development of the SDZ in any case.
Environmental impacts	This TTA does not purport to be an EIAR but as the interim construction access uses existing roads and junctions and proposed roads and bridges that were to be built in any case as permanent works then the impact is no different than for the permanent scenario. No new environmental impacts are expected nor increase in significance.
Cumulative impacts	These will be considered as part of the EIAR, particularly in relation to traffic, ecology, noise, air but again impact is short term.
The proper planning and sustainable development of the area.	The interim construction access is in compliance with the Cherrywood CPS Section 7.2.2 and will facilitate commencement of Priorsland which is a key priority of the PS.
Individual proposals must demonstrate that construction traffic will be capable of being managed appropriately and be accompanied by a Construction Management Plan to be agreed by the Planning Authority, as part of the development management process. –	This TTA sets out the basic requirements for the Construction Traffic Management Plan and the appointment of a Traffic Management Coordinator to ensure the effective management traffic during the construction stage.

Table 3.2 Responses to CPS 7.2.2 Requirements

3.3.1 Review of Cherrywood Traffic Reports

DLRCC has undertaken the following traffic studies to inter-alia evaluate the impact of the Cherrywood SDZ development on the surrounding road network:

a. The Mouchel Parkman Traffic Management Plan 2007
b. The Cherrywood Common Infrastructure Implementation Plan 2008 (DLRCC)
c. The RPS Cherrywood Traffic Study – Update Of Traffic Model 2010
d. The Cherrywood Sustainable Transport Plan (Systra April 2017)

The reports have generally concluded that the SDZ development may proceed based on the construction and improvement of certain roads within the SDZ area.

3.3.2 Smith's Land Holdings

This area of land is adjacent to the site and will in future propose to use the existing temporary Luas Park and Ride Car Park site for development. Please refer to Fig 3.3 (The existing at grade car park will be replaced by a multi-storey car park - Planning reference: DZ17A/0114). It will also use the Luas Park and Ride Access Road. This development will interface with the wider Priorsland development to facilitate the movement of pedestrians and cyclists. A bridge crossing (enabling connection to the adjoining development's road network) will be provided to enable buses also to travel along Castle Street, traverse the Carrickmines Stream and use the Carrickmines Luas Station transport interchange facilities.

In terms of road levels and the proposed Carrickmines Stream western bridge crossing connecting to the lands to the northwest, please note that the design allows for connection to the granted Multi-Storey Luas Park & Ride Car Park as per Planning Permission Ref DZ17A/0114. The proposed development facilitates this future connection and establishment of a Bus Gate and associated control of traffic in accordance with the CPS requirements. The location of this western bridge crossing point has also been informed by arboricultural requirements associated with the preserved mature tree line along Carrickmines Stream.

The development programme for these adjacent lands is unknown.

3.4 Committed Transport Proposals

3.4.1 Dun Laoghaire Rathdown County Council Development Plan (2016 – 2022)

The Dun Laoghaire Rathdown County Council Development Plan 2016 - 2022 proposes objectives and policies of which the following are considered relevant:

Section 2.2.3

An increased travel mode share for walking and cycling. This increase will be mainly related to local trips to work, schools, retail and leisure within the larger urban areas.

An increased travel mode share for public transport for work trips to the main employment zones of Sandyford, Cherrywood and Dublin City Centre and between the other larger urban centres. There may be scope to improve public transport mode share to larger urban centres along the main bus and rail corridors, particularly where this improves access and interchange between bicycle and rail.

2.2.6.3 Policy ST3: Development of Sustainable Travel and Transportation Policies

It is Council policy to promote, facilitate and cooperate with other transport agencies in securing the implementation of the transportation strategy for the County and the wider Dublin Region as set out in Department of Transport's 'Smarter Travel,

A Sustainable Transport Future 2009 -2020' and the NTA's 'Greater Dublin Area Draft Transport Strategy 2016-2035'. Effecting a modal shift from the private car to more sustainable modes of transport will be a paramount objective to be realised in the implementation of this policy.

2.2.7.1 Policy ST5: Walking and Cycling

It is Council Policy to secure the development of a high quality walking and cycling network across the County in accordance with relevant Council and National policy and guidelines.

2.2.7.3 Policy ST7: County Cycle Network

It is Council policy to secure improvements to the County Cycle Network in accordance with the Dún Laoghaire-Rathdown Cycle Network Review whilst supporting the NTA on the development and implementation of the Cycle Network Plan for the Greater Dublin Area.

2.2.8.1 Policy ST11: Public Transport Improvements

It is Council policy to secure improvements to the public transport system as set out in 'Smarter Travel, A Sustainable Transport Future 2009-2020' and the NTA's 'Greater Dublin Area Draft Transport Strategy 2016-2035' by optimising existing or proposed transport corridors and interchanges and by developing new Park and Ride and taxi rank facilities at appropriate locations.

Section 8.3.10 Cherrywood SDZ Planning scheme:

Cherrywood SDZ Planning Scheme was approved by An Bord Pleanala in April 2014.

3.4.2 NTA Greater Dublin Area Transport Strategy (2016-2035)

The proposed development site is within the Outer Metropolitan Segment of the Greater Dublin Area (GDA) to which the Strategy applies. This sets out a number of GDA Corridors of which the following are relevant:

Corridor F – Arklow – Wicklow – Greystones – Bray – Cherrywood – Dundrum – Dun Laoghaire – to Dublin City Centre.

The car mode share for all trip purposes is 70%. The public transport mode share for all trip purposes is 11%.

Outside of the M50 there are significant capacity constraints on providing for further growth in radial demand on the strategic road network. On the rail network, services south of Bray operate on a single line.

Congestion on the N/M11 route is increasing, particularly around the M50/M11 merge, during the peak periods. Capacity on this route will need to be protected through appropriate demand management, in order to safeguard its strategic function. As such, the Strategy will seek to achieve an appropriate balance with the competing demands of strategic movement of high economic value and more locally based commuter traffic.

North of Bray, there is considerable scope to increase line capacity on the DART. This, along with other, bus-based options will be required to accommodate the bulk of the anticipated growth in demand within this corridor.

The existing Luas Green Line could deliver a limited increase in line capacity. Currently, the line is operating close to its maximum theoretical capacity during the peak demand periods

4.2.6 Corridor F – Arklow – Wicklow – Greystones – Bray – Cherrywood – Dundrum – Dun Laoghaire – Dublin City Centre.

Corridor F stretches from the south east business districts to Wicklow, based around the N/M11 route +and containing both the DART and Luas Green Line. The Strategic Development Zone of Cherrywood is in this corridor.

During the preparation of the Strategy, the Authority prepared a report on the South East corridor. This study primarily aimed to identify public transport options that could effectively meet the growth in travel demand to year 2035, between the South East Study Area and Dublin City Centre. A number of options to cater for transport growth were examined. This included the upgrading of the Green line to Metro standard all the way to a point in Bray. Other options included focusing on the DART and a combination of BRT and bus priority to service growth, including a BRT network linking to the upgraded Metro at Bride's Glen or Sandyford.

Given the need to accommodate expected growth in demand between segments along Corridor F, as well as from these segments to the city centre, a number of schemes are proposed. The capacity of the South Eastern rail line will be increased and through enhancements to the existing rail line, incorporating city centre signalling and extra rolling stock. DART Underground will also enable increases in capacity along this corridor. This will facilitate faster and more frequent intercity, regional and DART services to be provided on this line.

While these schemes focus on the coastal areas, the western parts of the corridor, including Cherrywood and other potential development areas, will require high capacity public transport. It is, therefore, proposed to upgrade the Luas Green Line to Metro standard from the city centre, where it will link into the new Metro North, as far as its current terminus at Bride's Glen. From this point to Bray, a new Luas line is proposed. This will provide a new north-south inland rail axis from Swords to Bray. These rail services will be supplemented by the proposed BRT on the N11 from UCD to Blanchardstown, and the core radial bus corridors on the N11, south of UCD, and on the Rock Road.

To provide for growth in vehicular trip demand and improve road safety, the N11 and M50 between Newtownmountkennedy and Sandyford (including the M11/M50 junction) will be upgraded. Additionally, Loughlinstown roundabout will be improved, while a distributor road network will be developed to service development lands at Kiltiernan / Glenamuck. Other road schemes and upgrades will also be implemented, in line with the principles for road development set out in Chapter 5.

Section 5.3 Light Rail Infrastructure states:

It is intended to further develop the light rail network in the GDA through the implementation of the following projects:

i. Green Line Capacity Enhancement - capacity enhancements to the Luas Green Line between St. Stephen's Green and Bride's Glen (in advance of Metro South) allowing longer and higher capacity trams to be brought into service on this line;

ii. Metro South - Luas Green Line Capacity Upgrade from the south city centre to Bride's Glen, completing a full north-south high-capacity high-frequency cross-city rail corridor through the central spine of the Metropolitan Area;

iii. Luas Cross City connecting St. Stephen's Green to Broombridge and intersecting with the Red Line at Abbey Street;

iv. Extension of Luas Green Line to Bray, providing a second rail alternative to this large town, connecting to the city centre and major destinations along the corridor at Cherrywood, Sandyford and Dundrum;

5.3.6 Extension of Luas Green Line to Bray

Subsequent to the Green Luas Line being upgraded to Metro in order to provide the necessary passenger capacity, the Luas line will be extended from Cherrywood to Bray Town Centre. While a decision on the final alignment has yet to be made, it is likely to run to Bray DART station via Shankill and the former golf club lands. It will provide a high frequency, high capacity link between Bray and the key employment areas of Sandyford, Dundrum and Cherrywood, in addition to connecting to the City Centre.

It is intended that a portion of the metro services commencing in Dublin Airport and Swords will run through to Bray, subject to the final design of the Cherrywood to Bray section accommodating the length of trams involved. Additionally, Luas services will operate between Bray and Broombridge / Finglas, allowing interchange with metro services to Dublin Airport and Swords.

5.5.3 Core Regional Bus Network

M11/ N11 - Serves longer distance bus from Wexford; and serves regional bus from Arklow, Wicklow and N11 corridor.

i) Green Line Capacity Enhancement - capacity enhancements to the Luas Green Line between St. Stephen's Green and Bride's Glen (in advance of Metro South) allowing longer and higher capacity trams to be brought into service on this line;

ii) Metro South - Luas Green Line Capacity Upgrade from the south city centre to Bride's Glen, completing a full north-south high-capacity high-frequency cross-city rail corridor through the central spine of the Metropolitan Area;

Section 5.5.1 Core Radial Bus Network states:

The core radial bus corridors forming the Core Bus Network for the region comprise the following relevant routes:

Dun Laoghaire – Blackrock – Ballsbridge

3.4.3 Bus Connects Corridor 13 Bray to City Centre

BusConnects Dublin is a major investment programme to improve public transport in Dublin. It aims to overhaul the current bus system in Dublin through a 10 year programme of integrated actions to deliver a more efficient, reliable and better bus system for more people.

The emerging preferred route for Core Bus Corridor No. 13 'Bray to City Centre' is available on busconnects.ie. The route is illustrated in the Bus Connects proposal under 'Route 13 Bray to City Centre Corridor Study – Public Consultation Document'.

The development site is not directly affected by this proposed scheme. The upgrade of the N11 to the north of the proposed site is included within the proposals.

3.4.4 Greater Dublin Area Cycle Network Plan

The National Transport Authority has instigated the Greater Dublin Area Cycle Network Plan to identify and determine in a consistent, clear and logical manner the following cycle networks within the GDA comprising:

- The Urban Cycle Network at the Primary, Secondary and Feeder level;

- The Inter-Urban Cycle Network linking the relevant sections of the Urban Network and including the elements of the National Cycle Network within the GDA. It shall also include linkages to key transport locations outside of urban areas such as airports and ports; and
- The Green Route Network being cycle routes developed predominately for tourist, recreational and leisure purposes.

Unlike area-based plans prepared previously by Local Authorities, this Cycle Network Plan is to be consistent across county boundaries such that there is continuity of route networks across these administrative boundaries. Section 3.7.1 Dublin South Central - Proposed Cycle Route Network advises that Route 11C, as shown in Fig 3.4 below, comprises: *Route 11C south from Goatstown Cross on Drummartin Link Road / Kilgobbin Road / Ballyogan Road to Carrickmines*

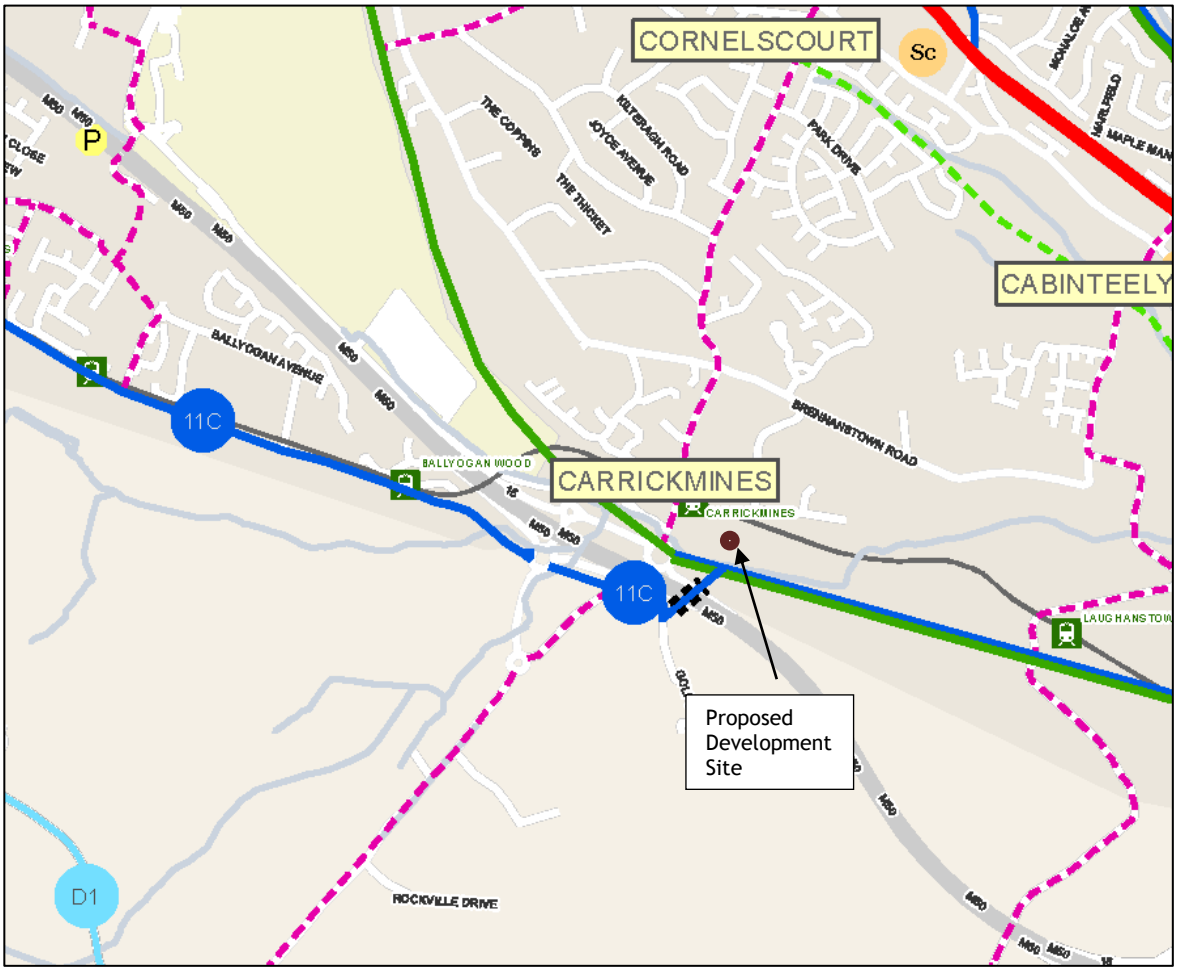


Fig 3.4 Extract from Sheet No 8 GDA Network Cycle Plan

3.4.5 Cherrywood Greenway

The Cherrywood Greenway outlined in the NTA Framework is adjacent to the proposed Priorsland development and is shown in the drawing included in Appendix C. Greenways are Green

Infrastructure and have an important transport role, in addition to their ecological role, in providing cycle and pedestrian links that is free of motorised traffic. The greenway link will form part of the public access system.

The Cherrywood Greenway network may include links to the existing roads and cycle networks and to the bus stops along the N11, (Wyattville Link Road junction and the proposed Junction Q), across the N11 and towards Shankill and Bray via Bride's Glen viaduct and / or the grounds of Loughlinstown Hospital. Links to the existing Cherrywood Road and Brides Glen Road to the south and to Brennanstown Avenue to the north may also be included. In addition, pedestrian links are to be considered in an east – west direction through Druids Glen woodland and for Cyclists and Pedestrians through the Druids Glen buffer zones.

3.5 Existing Public Transport

Refer to the Mobility Management Plan completed for the original intended planning application for more detail on public transportation available in the surrounding area.

3.5.1 Buses

There is a frequent regular bus service provision at present, between Cherrywood and Dublin City Centre and Dun Laoghaire (to the north). There are also bus services to the south of Dublin to towns such as Bray and Wicklow. However, as the SDZ is under construction, the nearest existing bus stops that can service the proposed development are some distance from the proposed site. Examples of the nearest Dublin Bus routes currently available would include:

- Route 7 Mountjoy Square to Brides Glen Luas Stop
- Route 7a Mountjoy Square to Loughlinstown
- Route 63

The nearest Air Coach (from Loughlinstown) bus route would include:

- 702 Dublin Airport to Greystones/Bray

3.5.2 Trains

The following Luas Green Line stations are the nearest:

- Carrickmines
- Laughanstown

The closest DART station is Killiney Station which provides frequent regular train services northwards into Dublin City Centre and beyond and southwards to Bray and beyond.

4.0 Proposed Development

The proposed mixed-use development comprises the construction of residential apartments and houses; retail; creche; high intensity employment and community facilities as detailed in Section 1.0 of this report. The masterplan of the proposed site is included in the information package.

Castle Street through the village will be taken in charge but the subsidiary roads Street 1 to 5 inclusive will be private.

It is proposed that the construction traffic temporarily access/exit the proposed development via a western route utilising the available legal Right of Way (itself accessed via the M50 Southbound Roundabout). This is a temporary arrangement only and has a precedent approval associated with it under the previously granted permission DZ16A/0585. This access track will be utilised for construction activities associated with construction of the western Carrickmines Stream bridge crossing to establish the proposed interim pedestrian and cyclist access to the Transport Interchange. Refer to the 'Outline Construction & Demolition Waste Management Plan'.

This interim access represents an 'alternative use of infrastructure' pursuant to the adopted amendment to the SDZ states the following in Section 7.2.2:

> *"However, it is acknowledged that there may be exceptional or unforeseen circumstances beyond the reasonable control of an individual developer or the local authority, whereby a piece of infrastructure necessary to progress the development of a Growth Area cannot be provided in the short to medium term (circa 0-3 years). In such instances, there may be an appropriate alternative utilising other infrastructure as provided for under the Planning Scheme, as an interim measure to facilitate the early delivery of housing, and early engagement with the Development Agency will be an essential prerequisite."*

Once the Castle Street extension becomes viable, and is completed in its entirety, that Level 2 route would become the standard, on-going access route for the operation of Priorsland development.

Access to the Priorsland development will therefore eventually utilise the Level 2 Road access route as required under the permanent SDZ requirement.

Regarding the certainty of delivery of Castle Street, we note a recent planning application DZ20A/0399 has been approved/granted by DLRCC which includes for the extension of Castle Street up to the proposed development site. As per the associated planning grant conditions, it is a

requirement for the adjacent developer to complete the full extension of Castle Street to the client's Priorsland site boundary which will alleviate any issues with access through the main Cherrywood SDZ route.

Furthermore, it is noted that Dun Laoghaire Rathdown County Council has secured funding from the Urban Regeneration and Development Fund (URDF) to deliver the 'Castle Street Link', described as the completion of Cherrywood's bus priority route to connect it to the future Transport Interchange at the Carrickmines Luas stop.

The Minister for Housing, Local Government and Heritage, Darragh O'Brien TD, recently announced €430 million in funding for eight regeneration projects in Dublin. The projects are being funded under 'Call 2' of the Urban Regeneration and Development Fund (URDF) as outlined in the press release of 5th March 2021: https://www.gov.ie/en/press-release/2d5d8-revitalising-dublin-obrien-announces-430-million-for-8-dublin-regeneration-projects/#

The planning grant and the secured URDF funding allocation provides ample evidence that the delivery of the Castle Street extension is imminent and that the interim access proposals allowed for under Section 7.2.2 of the approved amendment to the Cherrywood SDZ is readily applicable and achievable under these circumstances. Hence, we are advancing with the application for the delivery of this significant residential offering during a time of severe housing need in the area.

5.0 Person Trip Generation

In order to estimate the likely volumes of traffic that will be generated by the proposed development, trips rates taken from the proposed Roads and Infrastructure Phase 1 Cherrywood (Planning Application Ref: DZ15A/0758) noted in Arup's Traffic and Transportation Assessment for the RFI response were applied pro-rata to the relevant type and GFA of development. The estimated peak hour number of external person trips generated by the proposed development is shown in Table 5.1 and 5.2 below.

Residential	Calculation Factor		Trip Rate				Number of Trips			
			08.00 - 09.00		17.00 - 18.00		08.00 - 09.00		17.00 - 18.00	
Land use	No. of dwellings	GFA (m^2)	AM Arrivals	AM Departures	PM Arrivals	PM Departures	AM Arrivals	AM Departures	PM Arrivals	PM Departures
Privately Owned Apartment	402		0.098	0.525	0.41	0.147	39	211	165	59
Privately Owned House	41		0.228	0.811	0.579	0.343	9	33	24	14
Total							49	244	189	73

Table 5.1 Estimated Number of Person Trips Generated by the Residential Development

Non - Residential	Calculation Factor		Trip Rate				Number of Trips			
			08.00 - 09.00		17.00 - 18.00		08.00 - 09.00		17.00 - 18.00	
Land use	TRICS Units	GFA (m^2)	AM Arrivals	AM Departures	PM Arrivals	PM Departures	AM Arrivals	AM Departures	PM Arrivals	PM Departures
Supermarket	$100m^2$	1306	3.67	2.589	8.676	8.765	48	34	113	114
Retail	$100m^2$	715	3.67	2.589	8.676	8.765	26	19	62	63
Non-retail (Assumed Office)	$100m^2$	213	1.622	0.137	0.114	1.495	3	0	0	3
Creche	$100m^2$	513	3.96	2.887	2.408	3.013	20	15	12	15
High Intensity Employment (Office)	$100m^2$	708	1.622	0.137	0.114	1.495	11	1	1	11
Community Facilities	$10,000m^2$	252	29.651	7.171	10.659	27.132	1	0	0	1
Total Non-Residential							**110**	**69**	**189**	**207**

Table 5.2 Estimated Number of Person Trips Generated by the Non-Residential Development

In summary the estimated volume of person trips at the peak hours are assessed as:

	Number of External Trips			
	08.00 - 09.00		17.00 - 18.00	
Land use	AM Arrivals	AM Departures	PM Arrivals	PM Departures
Total Residential	49	244	189	73
Total Non-Residential	110	69	189	207
Total	**159**	**313**	**378**	**280**

Table 5.3 Total Estimated Number of Person Trips Generated by Proposed Development

The above figures are compliant with the SDZ proposed Roads and Infrastructure Phase 1 Cherrywood (Planning Application Ref: DZ15A/0758) which were noted in Arup's Traffic and Transportation Assessment for the RFI response. Modal split of these movements are discussed further in Section 8.

The above figures do not allow for the effect of bypass traffic inherent in the Village Centre usage adjacent to residential development. This is a conservative approach showing the worst-case scenario for the proposed development.

6.0 Traffic Forecasting

6.1 Future Baseline Traffic Growth

In the absence of any specific local traffic growth information, it was assumed that baseline traffic will continue to grow at the levels recommended by the TII in the Project Appraisal Guidelines (PAG) – Unit 5.3 - Travel Demand Projections publication by the TII (October 2021). The Project Appraisal Guidelines describe three levels of transport model functionality. The static model, which reflects traffic volumes on the basis of link flows, is best suited to the proposed development. Such models do not attempt any route assignment, and hence are applicable for networks where no change in traffic flows will result from a proposed scheme. We have used figures from Table 6.1 'Link-Based Growth Rates' for the Dublin Metropolitan area.

The central growth factors from the Project Appraisal Guidelines – Unit 5.3 publication were used and are detailed below: -

- TII Link Based Growth Rates: Annual Growth Factor for 2016-2030 = 1.0162 (LVs) and 1.0295 (HVs);
- TII Link Based Growth Rates: Annual Growth Factor for 2030-2040 = 1.0051 (LVs) and 1.0136 (HVs).
- TII Link Based Growth Rates: Annual Growth Factor for 2040-2050 = 1.0044 (LVs) and 1.0162 (HVs).

The above figures have been allowed for in the SDZ Traffic and Transportation Assessment.

7.0 Construction Stage Traffic

7.1 Construction Phase

It is proposed that the construction traffic temporarily access/exit the proposed development via a western route utilising the available legal Right of Way (itself accessed via the M50 Southbound Roundabout). This is a temporary arrangement only and has a precedent approval associated with it under the previously granted permission DZ16A/0585. This access track may be utilised for construction activities associated with construction of the western Carrickmines Stream bridge crossing to establish the proposed interim pedestrian and cyclist access to the Transport Interchange. Refer to the 'Outline Construction & Demolition Waste Management Plan'.

The construction stage does not require quantitative traffic analysis, however in order to minimise disruption due to construction, wheel washing facilities will be installed at the site access during the construction stage to reduce the amount of dirt and debris carried on to the public roadway during the bulk excavation operations etc.

7.2 Construction Traffic Management Plan

The successful contractor will be required to carry out a traffic management plan for the duration of the works. This will involve consultation with the local authority and/or the Gardaí and once agreed will be adhered to for all aspects of construction that involves movement of vehicles in and out of the site.

Please note that preliminary consideration of construction and demolition traffic has been included and reflected in the 'Outline Construction and Demolition Waste Management Plan', which is included as part of the original intended planning submission.

8.0 Modal Split

8.1 Existing Modal Split

The proposed development site is located in the Greater Dublin Area within the Cherrywood SDZ. The 2016 Census was consulted and for the development site location, the area of census is shown below in Fig 8.1.

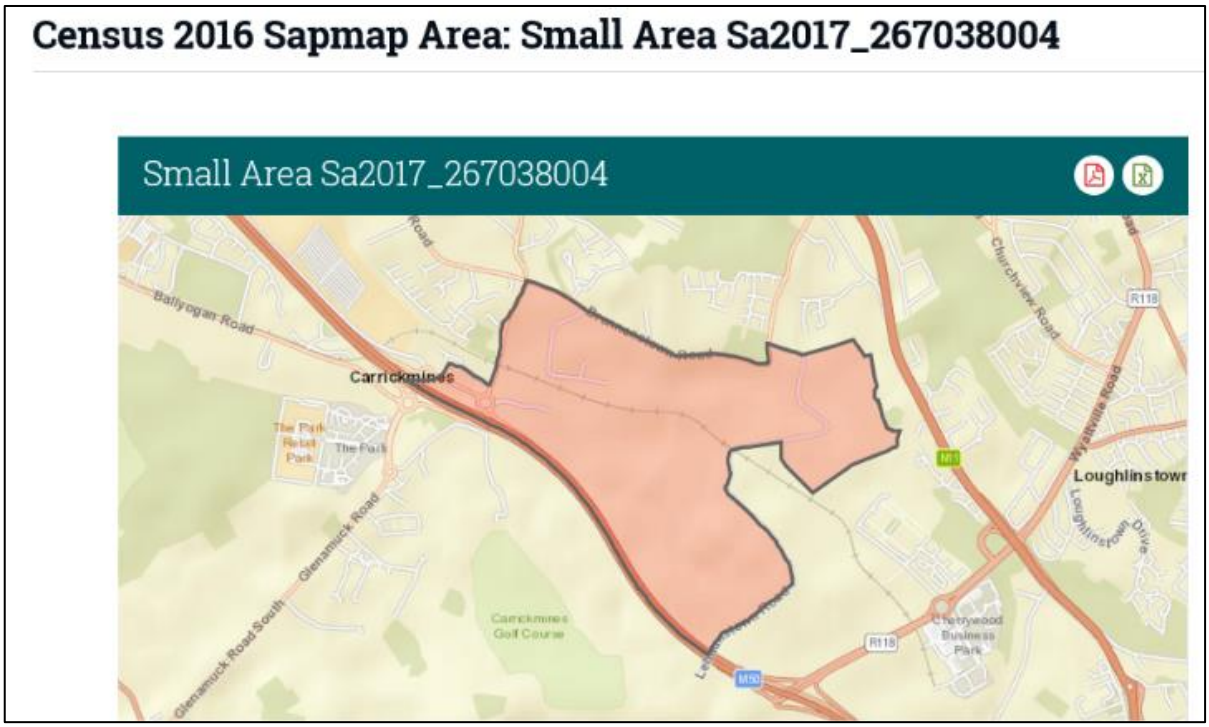


Fig 8.1 Census Small Area Map.

The 2016 census results are for a relatively undeveloped area but is indicative of the existing general modal split:

- Pedestrian 3%
- Cycle 3%
- Bus or Train (Public Transport) 19%
- Motor vehicle (Car Driver, Passenger or Van) 67%
- Other 8%

8.2 Existing measures in place to modify the existing modal split

Please refer to the preceding sections of this report:

DLRCC Development Plan (2016-2022)

NTA Greater Dublin Area Transport Strategy (2016 – 2035)

Bus Connects

Greater Dublin Area Cycle Network Plan

Cherrywood Greenway

8.3 Proposed Measures to Modify the Modal Split

The proposed modal split is described in Chapter 4 of the CPS within Table 4.1 Sustainable Travel Targets of the CPS. This table is reproduced below:

Mode Share	Mode Share	Measures
Car driver	45% of external trips 15% of internal trips 39.3 % overall	A parking strategy will be used to determine car use. Road proposals will limit private car access and prioritise walking, cycling and public transport.
Car sharer	10% of external trips 0% of internal trips 8.1 % overall	Car sharing will be promoted through mobility management planning and use of the NTA car share portal
Luas	25% of external trips 5% of internal trips 21.2% overall	Development will be phased in line with capacity enhancements to Luas
Cycling	5% of external trips 45% of internal trips 12.6% overall	A network of cycleways, covered cycling parking stands at schools, offices and Luas stops and shower and changing facilities at places of employment will promote cycling between different land uses at Cherrywood
Walking	2% of external trips 30% of internal trips 17.3% overall	A network of footpaths and pedestrian crossings between different land uses at Cherrywood
DART	1% of external trips 0% of internal trips 0.8% overall	The DART would provide connectivity not available by other modes to Northeast Dublin and Greystones.

Table 4.1 of the CPS

Table 4.1 of the CPS sets out the measures to achieve the sustainable travel targets for the whole SDZ.

There are a number of measures in place including those mentioned in Section 8.2 above and as proposed in Section 4.2.1 Sustainable Travel Targets of the CPS such as the TaxSaver Scheme (refer to the Transport for Ireland (TFI) website). Also, TFI provide a phone App and a useful website called 'Journey Planner' which can be used to easily plan routes to and from work using bus routes and other forms of Transport. It is available as a free download and is highly recommended.

The provision of infrastructure to improve connectivity via a bridge between the development site, across the Carrickmines Stream, and the area to the northwest including Carrickmines Luas station and Park and Ride facility and the adjoining 3rd party development lands. This link will be a permanent road bridge with provision for pedestrians and vehicles. For the purposes of this planning submission, the location of this proposed bridge crossing has been coordinated with the landowners to the northeast to promote a coordinated roads layout within Development Area 3 (Priorsland) as requested by DLRCC. The proposed bridge crossing arrangement allows tie-in with their proposed road details as per granted planning application DZ17A/0114. The future Brennanstown Luas station will also be near the proposed development.

The proposed development will contain retail, employment and childcare services therefore these uses would potentially reduce the demand for external trips outside of Priorsland.

9.0 Assessment and Road Impact

The impact on the local road network within the Cherrywood SDZ area has not been assessed, as the projected traffic flows were accounted for in the overall design of the development. The volume of future traffic emanating to and from the proposed development would have been calculated and included in traffic assessments approved within planning permission DZ 18A/0208.

10.0 Cumulative Impacts

The Cherrywood SDZ planning permission granted in 2014 would have included an assessment of the traffic impacts for the whole SDZ.

As part of the planning application for the Priorsland development, an individual environmental impact assessment is submitted as part of this application.

11.0 Environmental Impact

The Cherrywood SDZ planning permission granted in 2014 would have included an assessment of the environmental impacts including traffic impacts.

An Environmental Impact Assessment Report has been prepared as part of this application.

12.0 Internal Layout

The internal road layout of the site is shown in the engineering drawings included in the information package. The site includes the proposed residential development; village centre buildings; underground car and motorcycle parking and surface level car, motorcycle and cycle parking facilities.

On entering the development, all motorists, cyclists and pedestrians will use Castle Street and then travel along the subsidiary private access roads. The cross section of Castle Street within the development is the same as the standard detail (Fig 4.4 Road and Street Cross sections) included in the CPS.

Until the connection to Castle Street can be fully established, the development will be accessed by construction vehicles only (not any residential/operational traffic) via an interim alternative access arrangement from the west, i.e. via the available legal Right of Way.

Upon release of consents to complete the Castle Street extension, these works would be advanced and completed. Once completed, the access arrangements to Priorsland would revert in full to the intended permanent SDZ access arrangements via the traffic signal-controlled crossroads type junction of Castle Street with Barrington Road (Junction D) to the east of the development site:

i. Vehicular access to Priorsland via Castle Street.
ii. Bridge over Carrickmines Stream enabling bus services to access the Transport Interchange Hub, and access to the adjoining 3rd party development lands to the north.
iii. Permanent pedestrian and cyclist access to the Transport Interchange Hub.

Castle Street through the village will also provide bus stops and on-street parking.

The proposed development will also construct a second bridge across Carrickmines Stream in order to provide access for lands to the north by motorists, cyclists and pedestrians.

There are access roads to the village centre and the residential blocks to the south of Castle Street. These access roads are also in accordance with Fig 4.4 Road and Street Cross sections of the CPS.

The architect currently advises that the fire consultant has outlined a strategy for fire tender access throughout the site, appropriate hardstanding and turning circles have been accommodated in the internal road network to facilitate the outline approach to fire appliance access to the site.

A management company will deal with private roads maintenance issues.

The outline operational waste management plan will detail how the residential apartment blocks will be serviced regarding waste disposal. The houses will make their own arrangements with refuse disposal companies.

Provision for window cleaning and routine maintenance will be made by individual householders and for the apartment blocks this will be provided as part of the building maintenance management.

Pedestrians will have access at street level to all buildings within Priorsland. There is a footpath network throughout the development site which links to the existing external network which in turn links to the surrounding developments in all directions.

Due to the limited area and nature of the development it is believed that traffic will be moving at a slow speed. Traffic management by means of road markings and signage will be supplied within the development where necessary.

13.0 Parking

13.1 Cherrywood Planning Scheme (CPS) Parking Standards

13.1.1 Car Parking Standards

The operation of the proposed development requires parking for residents, visitors and service providers. Parking standards set out in Section 4.2.10 Car Parking Standards and Section 4.2.11 Bicycle/Motorcycle Parking Standards of the CPS. Table 4.4 Minimum Residential Car Parking Standards; Table 4.5 Parking Standards for High Intensity Employment; and Table 4.6 Maximum Retail Car Parking Standards of the CPS were also consulted.

Restriction on the number of available parking spaces limits the potential impact of the development on the local road network and encourages alternative modes of transport such as walking, cycling and public transport.

13.1.2 Motorcycle Parking Standards

Section 4.2.11 of the CPS states: *Dedicated Motorcycle parking spaces shall be provided at a minimum of four or more spaces per 100 car parking spaces. The general principals, indicative layouts and requirements for welfare facilities set out for Cycling parking in the DLRCC Cycling Policy shall also apply to motorcycle parking.*

13.1.3 Bicycle Parking Standards

The CPS requires cycle parking to be in accordance with the DLRCC Development Plan or as updated. The latest update is the *DLRCC Standards for Cycle Parking and associated Cycling Facilities for New Developments January 2018.*

13.1.4 Car Parking Provision

The proposed development has provision for the number of parking spaces shown in Table 15.1 and 15.2 below.

	Apartments				Houses			Zone	No of Parking Spaces Provided*	No of Parking Spaces Required
Plot	1- Bed	2- Bed	3- Bed	Total	4- Bed	3- Bed	Total			
Plot A	30	42	0	72				Village Centre	65	65
Plot B	34	37	0	71				Village Centre	70	64
Plot C	29	35	7	71				Res 3	78	78
Plot D	11	21	13	45				Res 3	53	53
Plot E	19	54	12	85				Res 3	100	99
Plot F	23	29	6	58				Res 2	64	64
Plot G					22	19	41	Res 2	82	82
Total									512	505

Table 15.1 Residential Car Parking Spaces (*Ref: MOLA)

Use	Type	GFA (m2)	Rate	No of Parking Spaces Provided*	No of Parking Spaces Required
Retail	Supermarket	1306	1 space per 20 sqm gross floor area	65	65
	Retail	715	1 space per 50 sqm gross floor area	14	14
Non-Retail	Non-Retail	213	1 space per 100 sqm gross floor area	2	2
	Creche	513	1 per staff (10 no. staff)	10	10
High Intensity Employment		708	1 space per 100 sqm gross floor area	7	7
Community Facilities		252	1 space per 50 sqm gross floor area	5	5
Total				106	106

Table 15.2 Non-Residential Car Parking Spaces (*Ref: MOLA)

The CPS parking standards are generally used but where there is no specific use coverage, then the DLRCC Development Plan standards have been used. The proximity of the residential areas to the non-residential facilities reduces the need for car parking. Walking/cycling / public transport facilities provided will be used by residents and visitors plus the management of the car parking will as be used as tool to reduce car usage.

13.1.5 Motorcycle Parking Provision

MOLA Architects advise that the number of motorcycle parking spaces provided will be in accordance with the relevant standards of a minimum of four or more spaces per 100 car parking spaces (ref: CPS Section 4.2.11). Therefore, Table 15.1.5 sets out the requirements.

Development type	No of Motorcycle Parking Spaces Provided	No of Motorcycle Spaces Required
Residential	22	22

Non-residential	5	5
Total	27	27

Table 15.3 Motorcycle Parking Spaces

13.1.6 Bicycle Parking Requirement Residential

The standard used for the calculation of cycle parking standards is the ***DLRCC Standards for Cycle Parking and associated Cycling Facilities for New Developments January 2018***. Based on this standard refer to Table 15.4 below.

	Apartments	Houses	Total No of Parking Spaces Required	No of Parking Spaces Required	No of Parking Spaces Required
Plot	Total	Total		Short stay	Long stay
Plot A	72		86	14	72
Plot B	71		85	14	71
Plot C	71		85	14	71
Plot D	45		54	9	45
Plot E	85		102	17	85
Plot F	58		70	12	58
Plot G		41	49	8	41
Total	402	41	532	89	443

Table 15.4 Bicycle Parking Spaces Required for Residential.

13.1.7 Bicycle Parking Requirement Non-Residential

The CPS sets out the parking requirements for a number of the proposed uses but reference has also been made to the DLRCC Development Plan. Based on this standard refer to Table 15.5 below.

Use	Type	GFA (m^2)	Total No of Parking Spaces Required	No of Parking Spaces Required	No of Parking Spaces Required
				Short stay	Long stay
Retail	Supermarket	1306	20	13	7
	Retail	715	11	7	4
Non-Retail	Non-Retail	213	2	1	1
	Creche	513	12	8	4
High Intensity Employment		708	8	4	4
Community Facilities		252	10	5	5
Total			63	38	25

Table 15.5 Bicycle Parking Spaces Required for Non-Residential.

13.1.8 Bicycle Parking Provided

MOLA architects has supplied schedules of cycle parking to be provided as set out in Table 15.6 and 15.7 below.

	Apartments	Houses	Total No of Parking Spaces Provided	No of Parking Spaces Provided*	No of Parking Spaces Provided*
Plot	Total	Total		Short stay	Long stay
Plot A	72		89	15	74
Plot B	71		85	14	71
Plot C	71		85	14	71
Plot D	45		54	9	45
Plot E	85		102	17	85
Plot F	58		70	12	58
Plot G		41	49	8	41
Total	402	41	534	89	445

Table 15.6 Bicycle Parking Spaces Provided for Residential. (*Ref MOLA)

Use	Type	GFA (m^2)	Total No of Parking Spaces Provided	No of Parking Spaces Provided*	No of Parking Spaces Provided*
				Short stay	Long stay
Retail	Supermarket	1306	21	14	7
	Retail	715	12	8	4
Non-Retail	Non-Retail	213	6	4	2
	Creche	513	12	8	4
High Intensity Employment		708	10	5	5
Community Facilities		252	10	5	5
Total			71	44	27

Table 15.7 Bicycle Parking Spaces Provided for Non-Residential (*Ref MOLA)

The total cycle parking requirement is estimated to be 595 no. cycle spaces and the provision that will be provided is 605 no. Cycle Spaces.

13.2 Service and Delivery Trips

Service and delivery trips to and from the commercial development will be using Castle Street and the dedicated Service Road/ Basement Access Road. Autotrack analysis has been undertaken to ensure vehicles are able to adequately manoeuvre within the space available. It is envisaged that the majority of delivery vehicle trips will occur during off-peak times.

The residential areas will be serviced from the adjoining roads as set out on the drawings included in the information package.

14.0 Public Transport, Pedestrians/Cyclists

To ensure future transport sustainability and to endeavour to make new developments as accessible as possible to travel by other modes of transport, an assessment has been made of the proposed and existing pedestrian, cyclist and public transport facilities.

14.1 Pedestrians

The proposed development provides a new footpath network within the development and connection to the external footpath network. There is an extensive proposed footpath network in all directions on leaving the site which will provide safe passage for all users to and from the development.

There will be a pedestrian link from the development to the nearby Carrickmines Luas Station and from there linkage to the adjacent retail, commercial and residential settlements.

Signalised pedestrian crossings are located at the major external interchanges in the vicinity of the development. As the potential for pedestrian trips to and from the development is high, it is important that the development is properly integrated into the existing footpath network. Please refer to the architectural layouts for proposed internal pedestrian marked footways.

14.2 Cyclists

There are cycle lanes proposed along Castle Street which it is expected that all cyclists will use to access/depart the development. Cycle parking has been located in the various building blocks and the underground basement. Visitor cycle parking is provided at surface level of the buildings and will generally compose the Sheffield Cycle Stand. Long term cycle parking will be secure i.e. in private houses or shared cages/buildings with fob/keypad access. It is proposed to provide 605 no. cycle spaces in total. This provision satisfies the Cherrywood Planning Scheme (CPS); DLRCC Development Plan (2016-2022) and DLRCC Standards for Cycle Parking and associated Cycling Facilities for New Developments (January 2018) requirements.

The CPS and DLRCC Development Plan lay out several objectives which will improve facilities for cyclists and in-turn increase the likelihood of using the bicycle as a legitimate alternative to the motor vehicle.

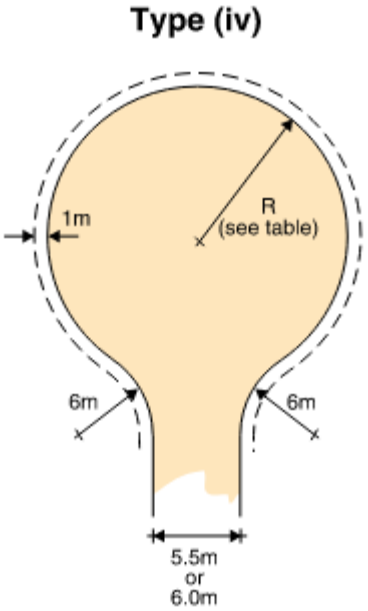
14.3 Public Transport

The Carrickmines Luas Station is nearby and is within 10 minutes walking distance of the village centre. The proposed Brennanstown Luas station is near and when this proposed station is fully developed and open will provide another Luas station within approximately 10 minutes walking distance of the village centre.

There are currently no bus services directly serving the development site. Castle Street will provide the required road infrastructure to facilitate bus services both within and outside the development site. The nearest existing bus stops are currently on Wyattville Road, the N11 and Glenamuck Road.

There are currently no bus services directly serving the development site. Castle Street will provide the required road infrastructure to facilitate bus services both within and outside the development site. The nearest existing bus stops are currently on Wyattville Road, the N11 and Glenamuck Road.

A bus turn-around facility has been detailed at the western end of Castle Street in accordance with the 'Recommendations for Site Development Works for Housing Areas' which outlines the various standard geometry options for residential turning bays. See relevant extracts below. Please note that a radius of R = 11m (i.e. the maximum) has been used in our planning submission. Swept path analysis has been prepared demonstrating adequate bus turning manoeuvres.



Value of R which permits turning without reversing	
Vehicle Type	R metres
Private Car	6
Fire Engine	9
Refuse Vehicle	10
Furniture Removal	11

1m clearance for vehicle overhang shown dashed

Fig 14.1 Turning Head extract from 'Recommendations for Site Development Works for Housing Areas'

It is further noted that DAPT instructed the installation of a temporary bus turning facility at the end of Castle Street. The proposals include for the provision of two bus stops (one westbound, one eastbound) corresponding with the Village Centre location.

It is approximately 6.50km from the proposed development to Killiney DART Station which is the nearest DART station.

The above will provide ease of access to/from the development via public transport available to the residents and the public throughout the day at regular intervals.

15.0 Access for People with Disabilities

Parking facilities for disabled users will be provided within the development in line with the DLRCC Development Plan. All pedestrian crossings and footpaths within the development site and site entrance will be designed to the Technical Guidance Document M of the Building Regulations.

16.0 Summary and Conclusion

i. The development will comprise a mixed-use Village Centre and residential development

ii. The site is a greenfield site located within the Cherrywood Strategic Development Zone, Co. Dublin.

iii. Capacity analysis was not carried out on the Cherrywood SDZ road network and surrounding local road network as it is partly under construction, partly in planning and some areas are yet to be finally confirmed. It is assumed that the extensive preplanning studies and reports determined the junction and road layout to meet the anticipated traffic demand based on the prescribed zoning uses.

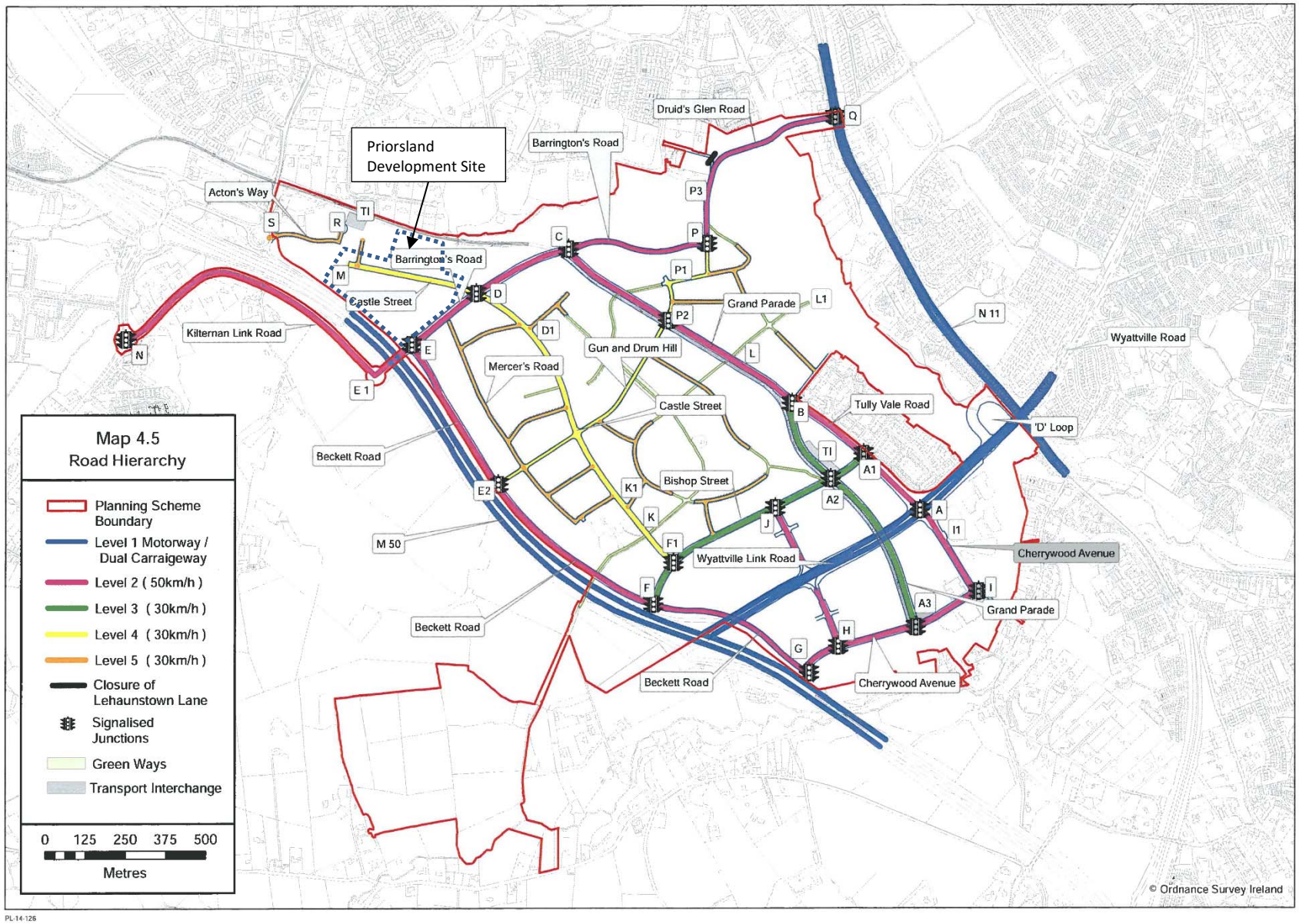
iv. For the purposes of our assessment, the SDZ approved trip rates were consulted to provide an equivalent trip rate for each type of development within the proposed development site.

v. Parking spaces for residents and users of the development have been provided to meet the requirements set out in the Cherrywood Planning Scheme and the DLRCC Development Plan.

vi. Secure cycle parking facilities have been provided within the development near the main access points to meet the requirements set out in the DLRCC Development Plan.

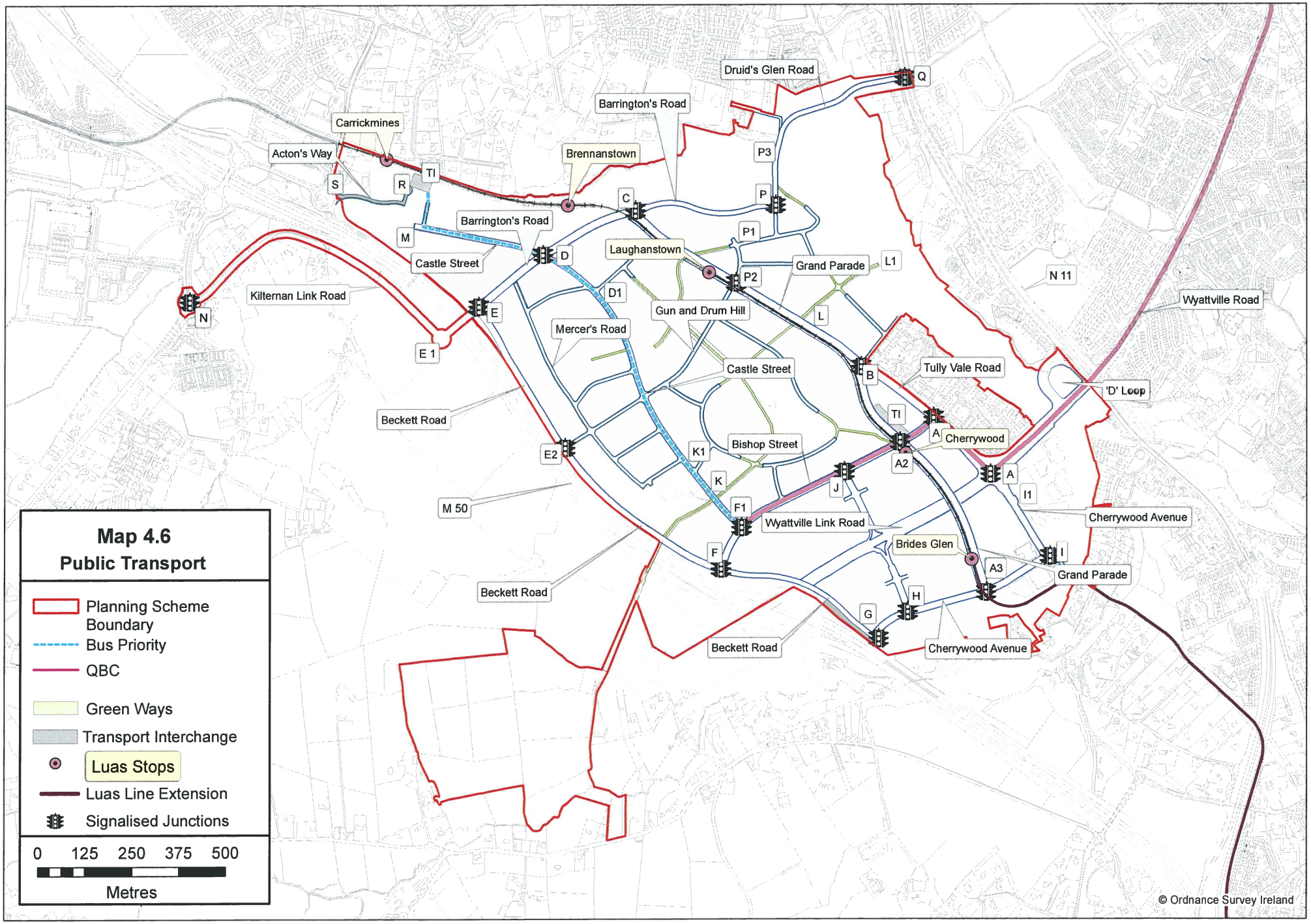
vii. As part of the pre-planning consultation, various issues were raised by the Dun Laoghaire Rathdown County Council Roads Department regarding the timing of future potential development of the road system within the Cherrywood SDZ. The Cherrywood SDZ is divided up based on landownership and therefore relies on the planning permissions issued by Dun Laoghaire Rathdown County Council Roads for the construction of road links to facilitate access to the site. Planning permissions connecting to the proposed development access are now granted and funding in place to complete Castle St up to the proposed development. It is proposed that construction traffic (only) temporarily access the proposed development via a western route.

APPENDIX A CPS Map 4.5



Map 4.5 Road Hierarchy Extract from DLRCC Planning scheme Chapter 4 Physical Infrastructure April 2014

APPENDIX B CPS Map 4.6


Druid's Glen Road
Barrington's Road
Carrickmines
Acton's Way
Brennanstown
Barrington's Road
Castle Street
Laughanstown
Grand Parade
Kilternan Link Road
Gun and Drum Hill
Mercer's Road
Castle Street
Tully Vale Road
'D' Loop
Beckett Road
Bishop Street
Cherrywood
Wyattville Road
N 11
M 50
Wyattville Link Road
Brides Glen
Cherrywood Avenue
Grand Parade
Beckett Road
Cherrywood Avenue
Beckett Road
Map 4.6
Public Transport
Planning Scheme Boundary
Bus Priority
QBC
Green Ways
Transport Interchange
Luas Stops
Luas Line Extension
Signalised Junctions
0 125 250 375 500
Metres
© Ordnance Survey Ireland

PL-14-127

APPENDIX C Cherrywood Greenway Map

PRIORSLAND
SITE LOCATION

Map - PL-18-713

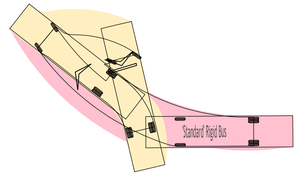
- Project Site Boundary
- Walkway / Cycleway
- Green Infrastructure

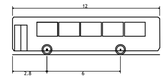
APPENDIX D Autotrack Vehicle Swept Paths

AUTOTRACK LEGEND

VEHICLE MOVING FORWARD

VEHICLE IN REVERSE





'Standard' Rigid Bus	
Overall Length	12.000m
Overall Width	2.550m
Overall Body Height	3.069m
Min Body Ground Clearance	0.309m
Track Width	2.350m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	10.771m

COLOUR DRAWING ☒

Date Drawn:	
Drawn By:	IB Skoric
Date Issued:	2021-02-23
Issued By:	IBS

Rev	Amendment	By	Date
PR0	PRELIMINARY ISSUE	IBS	2022/03/28

Client:

1 CARRICKMINES LANDS LTD.

Job: PRIORSLAND CHERRYWOOD SHD

Title: VEHICLE SWEPT PATH - BUS - PERMANENT PROPOSAL

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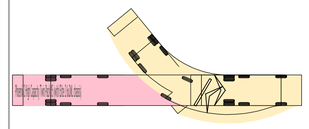
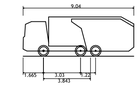
Stage:	PRELIMINARY
Scale @ A1:	1:500
Technician Check:	IBS
Engineer Check:	MCD
Approved:	PC
Drawing No:	182-186-AT01
Rev:	PR0

AUTOTRACK LEGEND

VEHICLE MOVING FORWARD

VEHICLE IN REVERSE





Phoenix 2 High Capacity Twin Pack 15 (with Elite 2 6x2ML chassis)

Overall Length	9.040m
Overall Width	2.500m
Overall Body Height	3.205m
Min Body Ground Clearance	0.410m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	7.800m

COLOUR DRAWING ☒

Date Drawn:	
Drawn By:	IB Skoric
Date Issued:	
Issued By:	IBS

Rev	Amendment	By	Date
PR0	PRELIMINARY ISSUE	IBS	2022/03/28

Client:

1 CARRICKMINES LANDS LTD.

Job: PRIORSLAND CHERRYWOOD SHD

Title: VEHICLE SWEPT PATHS - REFUSE VEHICLE - PERMANENT PROPOSAL

PUNCH consulting engineers
Dublin|Limerick|Cork|Galway|Glasgow
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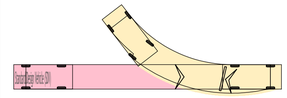
Stage: PLANNING	
Scale @ A1: 1:500	
Technician Check: IBS	
Engineer Check: MCD	
Approved: PC	
Drawing No: 182-186-AT02	Rev: PL0

AUTOTRACK LEGEND

VEHICLE MOVING FORWARD

VEHICLE IN REVERSE



Standard Design Vehicle (SDV)	
Overall Length	4.800m
Overall Width	2.000m
Overall Body Height	1.950m
Min Body Ground Clearance	0.100m
Track Width	2.000m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	6.000m

COLOUR DRAWING ☒

Date Drawn:	
Drawn By:	IB Skoric
Date Issued:	
Issued By:	IBS

Rev	Amendment	By	Date
PR0	PRELIMINARY ISSUE	IBS	2022/03/28

Client:

1 CARRICKMINES LANDS LTD.

Job: PRIORSLAND CHERRYWOOD SHD

Title: VEHICLE SWEPT PATHS - STANDARD DESIGN VEHICLE - PERMANENT PROPOSAL

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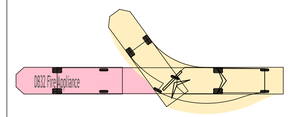
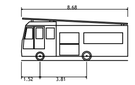
Stage:	PLANNING
Scale @ A1:	1:250
Technician Check:	IBS
Engineer Check:	MCD
Approved:	PC
Drawing No:	182-186-AT03
Rev:	PL0

AUTOTRACK LEGEND

VEHICLE MOVING FORWARD

VEHICLE IN REVERSE





D832 Fire Appliance	
Overall Length	8.680m
Overall Width	2.180m
Overall Body Height	3.452m
Min Body Ground Clearance	0.337m
Max Track Width	2.121m
Lock-to-lock time	6.00s
Curb-to-Curb Turning Radius	7.910m

COLOUR DRAWING ☒

Date Drawn:	
Drawn By:	IB Skoric
Date Issued:	
Issued By:	IBS

Rev	Amendment	By	Date
PR0	PRELIMINARY ISSUE	IBS	2022/03/28

Client:

1 CARRICKMINES LANDS LTD.

Job: PRIORSLAND CHERRYWOOD SHD

Title: VEHICLE SWEPT PATHS - FIRE TENDER - PERMANENT PROPOSAL

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Stage: PLANNING	
Scale @ A1: 1:250	
Technician Check: IBS	
Engineer Check: MCD	
Approved: PC	
Drawing No: 182-186-AT04	Rev: PL0