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Project

Kishoge/Clonburris, Lot 2, Site 4

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TRAFFIC AND TRANSPORT ASSESSMENT

KISHOGE/CLONBURRIS, LOT 2, SITE 4

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1.0 INTRODUCTION

Cronin & Sutton Consulting Engineers have been commissioned by South Dublin County Council to prepare a Traffic and Transport Assessment (TTA) for a residential planning application located within the Clonburris SDZ lands.

In preparing this report, CS Consulting has made reference to the following:

- South Dublin County Council (SDCC) Development Plan 2022-2028
- Clonburris SDZ Planning Scheme 2019
- TII Traffic and Transport Assessment Guidelines 2014
- TII Project Appraisal Guidelines 2011
- Cycle Design Manual 2023
- Design Manual for Urban Roads and Streets 2019

The objective of this report is to examine the traffic and transport implications associated with the proposed development, in terms of integration with existing traffic in the area. The report will determine the impact of the proposed development on the existing road network.

The report also examines the proposed development's vehicular access arrangements, car parking provision, site layout, and facilities for pedestrians and cyclists.

1.1 Structure of Report

As outlined above, this report seeks to establish the impact of vehicular traffic generated by the proposed development, on the Clonburris Road network under a range of future year assessment scenarios.

The structure of this report corresponds to the stages outlined above and the key tasks summarised below:

- Section 2 describes the proposed development location, the existing land use, and the development proposals.
- Section 3 provides an overview of the development site's receiving environment within the context of the Clonburris Strategic Development Zone and gives a description of the modelling previously undertaken under planning reg. ref. SDZ20A/0021.

- Section 4 outlines the local infrastructure improvements which are planned in the vicinity of the proposed development.
- Section 5 describes the traffic assessments carried out under the Clonburris SDZ and compares the proposed development to the planned infrastructure thus demonstrating the validity of the model results.
- Section 6 assesses the proposed car and bicycle parking provision for the development, with reference to the *Clonburris SDZ Planning Scheme* and to Local Authority standards.
- Section 7 examines the development's internal layout, access and servicing arrangements.
- Section 8 presents the conclusions of the report.

2.0 SITE LOCATION

The proposed development site is situated within Lot 2 Site 4 within the Clonburris Strategic Development Zone in Co. Dublin. The area enclosed by the application boundary extends to approx. 11.6ha. The subject site is located within the operational area of South Dublin County Council.



Figure 1 – Location of subject lands
(sources: EPA, OSi, OSM Contributors, Google)

The location of the subject lands is shown in **Figure 1**; their extents and environs are shown in more detail in **Figure 2**.



Figure 2 – Subject lands extents and environs
(sources: NTA, OSi, OSM Contributors, Microsoft)

The development site extends to approximately 11.6ha and is bounded to the north by the Irish Rail Railway line and to the south, east and west by lands zoned for development. The site is bisected by the permitted Southern Link Street (reg ref. SDZ20A/0021) from which vehicular, cycle and pedestrian access shall be provided.

2.1 Existing Land Use

The subject development site is currently predominantly greenfield and is partly in use as a SDCC Parks Depot. The site does not generate significant volumes of vehicular traffic.

2.2 Proposed Development

The proposed development comprises 436no. residential units in a mix of house, apartment, duplex and triplex units comprising 141no. houses (133no. 3-bedroom and 8no. 4-bedroom), 124no. apartment units (62no. 1-bedroom and 62no. 2-bedroom), 106no. duplex units (53no. 2-bedroom and 53no. 3-bedroom), 57no. triplex units (57no. 2-bedroom), 3no. age-friendly apartment units (3no. 1-bedroom), and 5no. garden apartment units (5no. 2-bedroom). Non-residential accommodation proposed (c. 1,550 m² total) includes: A childcare facility (c. 544sqm), retail unit (c. 150sqm), employment use within the existing Grange House (c. 173 sq

m) and a community building/ pavilion (c. 683 sq m) fronting Griffeen Valley Park. All associated and ancillary site development and infrastructural works including 408no. surface level car parking, 793no. bicycle parking (591no. long term and 202no. short term spaces), hard and soft landscaping and boundary treatment works, including public, communal and private open space, public lighting, substations, bin stores and foul and water services.

3.0 RECEIVING ENVIRONMENT

3.1 Clonburris SDZ Development Context

3.1.1 Road Network Development

Development of the transport infrastructure within the Clonburris SDZ is guided by the *Clonburris SDZ Planning Scheme* and the Clonburris SDZ Transport Assessment and Transport Strategy. These set out the prescribed road hierarchy for the Strategic Development Zone, as well as the form of future pedestrian and cyclist infrastructure. Figure 3 shows the road hierarchy, road naming, and junction identifiers given in the *Clonburris SDZ Planning Scheme*.

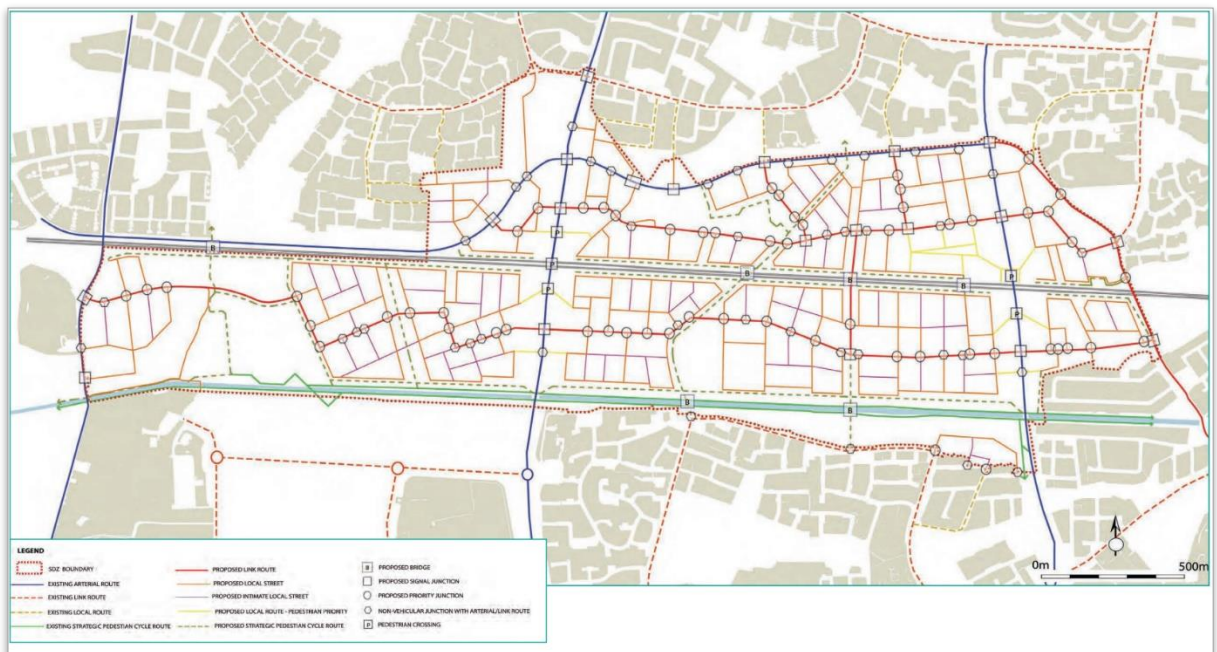


Figure 3 - Street Hierarchy and junction
(source: Clonburris SDZ Planning Scheme)

Permission for the development of the SDZ Southern Link Street has been granted under planning reg. ref. SDZ20A/0021.

3.1.2 Local Area Model

A Southwest Dublin Local Area Model (LAM) was developed in 2018 by the National Transport Authority, to assess the future operation of the road network within and surrounding the Clonburris SDZ following full development of the Strategic Development Zone. This was developed as an extension of the National Transport Authority's Eastern Regional Model, using Saturn software.

The Southwest Dublin LAM forecasted vehicular traffic flows across the local road network in and around the Clonburris SDZ, for a range of future assessment years. The model also predicts travel to and from areas within the SDZ by other travel modes, including pedestrians, cyclists, and public transport users. Trip generation patterns within this model are derived from the predicted future development of the Clonburris SDZ lands in accordance with the provisions of the *Clonburris SDZ Planning Scheme*. Trip distribution is determined in accordance with the parameters of the NTA Eastern Regional Model with which the LAM is integrated.

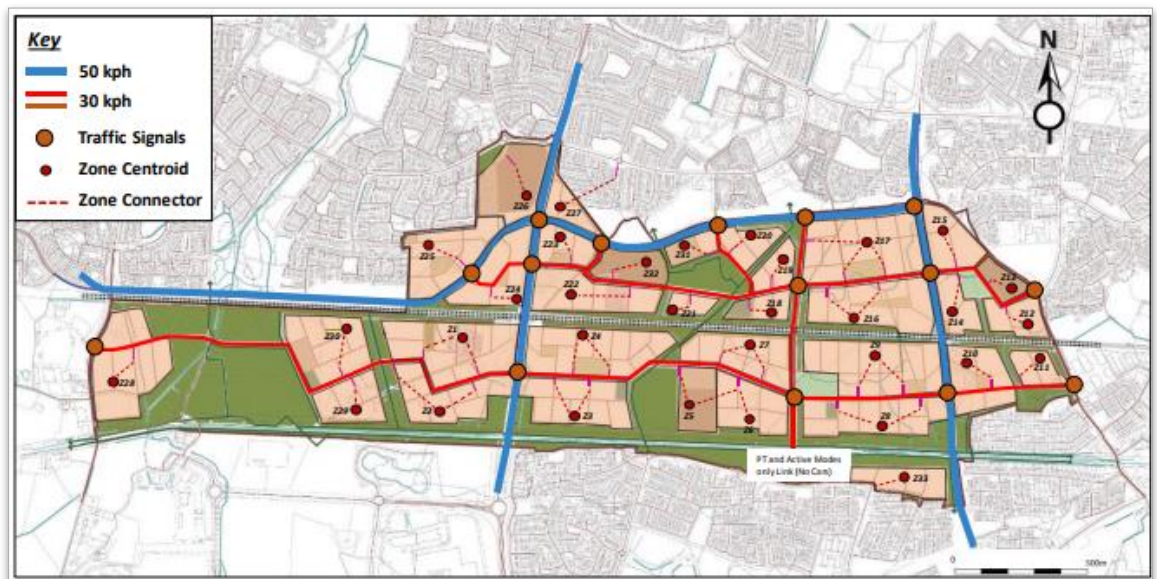


Figure 4 - Clonburris Disaggregated Zone System
(source: Southwest Dublin Local Area Model – Model Development Report)

The methodology employed in creating the Southwest Dublin LAM, as well as the area-wide outputs from this model, are described in detail in the *Southwest Dublin Local Area Model – Model Development Report* as well as the *Clonburris SDZ Planning Scheme Transport Assessment & Transport Strategy* both of which are available at clonburris.ie. The subject development is situated at the locations of Zones Z29 and Z30 as shown in Figure 4 above.

3.2 Existing Road Characteristics

3.2.1 Grange Castle Road (R136)

Near the subject development application boundary, Grange Castle Road consists of:

- A dual carriageway road consisting of three 3.0m wide lanes (including 1no. bus lane) in either direction separated by a concrete crash barrier.
- a 1.5m-wide segregated cycle track to either side of the carriageway; and
- a 1.5m-wide footpath (including lighting columns and trees) flush with the cycle track on either side.



Figure 5 – Grange Castle Road (R136)

(source: Google)

Grange Castle Road is classified as an arterial road within the *Clonburris SDZ Planning Scheme* with a speed limit of 50km/h.

3.2.2 Adamstown Avenue

Near the subject development application boundary, Adamstown Avenue consists of:

- A dual carriageway road consisting of two 3.0m wide lanes in either direction separated by a raised concrete kerbed divider.
- a 2.5m-wide segregated cycle track is present to the north of Adamstown Avenue; and
- a 1.75m-wide footpath (including lighting columns and trees) is present on both sides of Adamstown Avenue.



Figure 6 – Adamstown Avenue
(source: Google)

Adamstown Avenue is classified as an arterial road within the *Clonburris SDZ Planning Scheme* with a speed limit of 50km/h.

3.3 Nearby Committed Development

The *Clonburris SDZ Planning Scheme* provides for the progressive development of all lands within the Clonburris Strategic Development Zone. This shall naturally result in significant growth in background traffic across the local road network, which has been designed to cater for such anticipated traffic volumes.

Planning permission has been secured for the development of a number of plots within the SDZ.

As previously described, however, the Southwest Dublin Local Area Model intrinsically takes account of the future development of all lands within the Clonburris SDZ in the determination of future traffic flows on the local road network. It is therefore not necessary for the purposes of this assessment to establish the individual trip generation profiles of committed development within the SDZ, as these are already allowed for by the Southwest Dublin LAM.

4.0 LOCAL TRANSPORTATION IMPROVEMENTS

4.1 Permitted Infrastructure Application

The infrastructure required to access and service the subject development has been previously permitted under planning reg. ref. SDZ20A/0021. The description of the permitted development is as follows:

- 10 year permission for roads and drainage infrastructure works as approved under the Clonburris Strategic Development Zone Planning Scheme (2019) to form part of the public roads and drainage networks providing access and services for the future development of the southern half of the overall Strategic Development Zone (SDZ) lands;
- the roads infrastructure works are for the construction of c. 4.0km of a new road, known as Clonburris Southern Link Street, generally consisting of 7m wide single carriageway, plus on either side of the carriageway landscaped verges, 1.75m wide off-road cycle tracks and 2m wide footpath including public lighting, trees, 288 on-street car parking spaces (including 26 disabled parking spaces), pedestrian crossings, bus stops, a number of vehicular access spurs to facilitate future development of adjoining lands, a total of 8 new junctions (including 3 junctions to facilitate future road developments within the SDZ;
- 2 junctions with proposed local access roads and 3 new junctions with Hayden's Lane, Lynch's Lane and Ninth Lock Road) and alterations to 4 existing junctions on Newcastle Road (R120), Grange Castle Road (R136), Fonthill Road (R113) and also to the existing access road to Park and Ride facilities at both Kishoge Station and at Fonthill Station;
- alterations to the existing public roads Newcastle Road (R120), Hayden's Lane Access Road, Hayden's Lane, Lynch's Lane, Grange Castle Road (R136), Fonthill Road (R113) and Ninth Lock Road arising from new junctions with the Clonburris Southern Link Street consisting of reconfiguration of a c.165m long section of Newcastle Road (R120) including road widening and revisions to layout of junction with Hayden's Lane Access Road;
- incorporation of Hayden's Lane Access Road into proposed Clonburris Southern Link Street;
- provision of new junction with Hayden's Lane and Clonburris Southern Link Street;
- incorporation of a c. 26m long section of Lynch's Lane into proposed Southern Link Street and provision of a new junction with Clonburris Southern Link Street;
- reconfiguration of a c. 260m long section of Grange Castle Road, including road widening and replacement of existing roundabout with signalised junction;

reconfiguration of a c. 250m long section of Fonthill Road, including road widening and replacement of existing roundabout with signalised junction;

- reconfiguration of a c. 125m long section on Ninth Lock Road including road widening and provision of a new junction with Clonburris Southern Link Street;
- construction of 2 local access roads, consisting of a c. 110m long road extending north from Clonburris Southern Link Street and providing access to proposed foul pumping station and generally consisting of a 6m wide single carriageway plus on either side of the carriageway 2m wide footpath including public lighting , 2 set-down parking spaces and vehicular access to proposed foul water pumping station;
- north/south Link Street (c. 240m in length) extending north from southern Link Street to the Kildare-Cork railway line and generally consisting of a 7m wide single carriageway plus on either side of the carriageway 1.3m wide landscaped verge, 1.75m wide off-road cycle lane, 2m wide footpath including public lighting and 2 vehicular access spurs to facilitate future development of adjoining lands;
- the drainage infrastructure works include 8 attenuation systems (with outfalls to Griffeen River, Kilmahuddrick Stream and existing storm sewers) including 4 ponds , 2 modular underground storage systems and 2 detention basins combined with modular underground storage systems all adjacent to proposed Clonburris Southern Link Street;
- surface water drainage culverts to existing watercourses;
- flood water compensation area adjacent to Griffeen River;
- surface water drainage and water supply trunk infrastructure within proposed road corridors;
- wastewater infrastructure including a foul pumping station and pipe network within proposed road corridors to facilitate drainage connections to future wastewater drainage infrastructure within the adjoining SDZ lands (including future Irish Water pumping station) and to connect to the existing sewer network in Cappaghmore housing estate;
- ducting for public electrical services and utilities and the diversion of existing utilities is provided for within the proposed road corridor;
- all ancillary site and development and landscape works associated with the development including hard and soft landscaping, boundary treatments, road markings and signage, enabling works and temporary construction works (including site accommodation, site compounds and temporary boundary fencing);

4.2 Clonburris Strategic Development Zone Planning Scheme

4.2.1 Pedestrians and Cyclists

The Grand Canal Green Route spans the entire southern boundary of the SDZ lands, connecting the SDZ lands to Dublin City Centre via a dedicated pedestrian and cycling infrastructure. This offers a significant opportunity to integrate internal routes within the SDZ lands with this key strategic corridor. Additionally, the Clonburris SDZ includes for the development of a linear green corridor along the Kildare/Cork Railway Line, creating an additional pedestrian and cycle route that connects seamlessly with the existing Grand Canal Green Route.

Cycling and walking will be prioritized throughout the SDZ lands by establishing an extensive network of dedicated and integrated routes for pedestrians and cyclists. All streets within the SDZ will be designed to support these movements in line with the Design Manual for Urban Roads and Streets (DMURS, 2019) guidelines.

To ensure accessibility, barriers to pedestrian or cyclist movement between residential areas shall be avoided, and existing obstacles such as the canal and railway will be mitigated through the construction of bridges. Furthermore, the Greater Dublin Area Cycle Network Plan (GDACNP), published by the National Transport Authority in January 2023, provides a strategic framework for developing a comprehensive cycling network across Dublin, Meath, Kildare, and Wicklow, further enhancing connectivity. An extract from the GDACNP is shown in Figure 7.

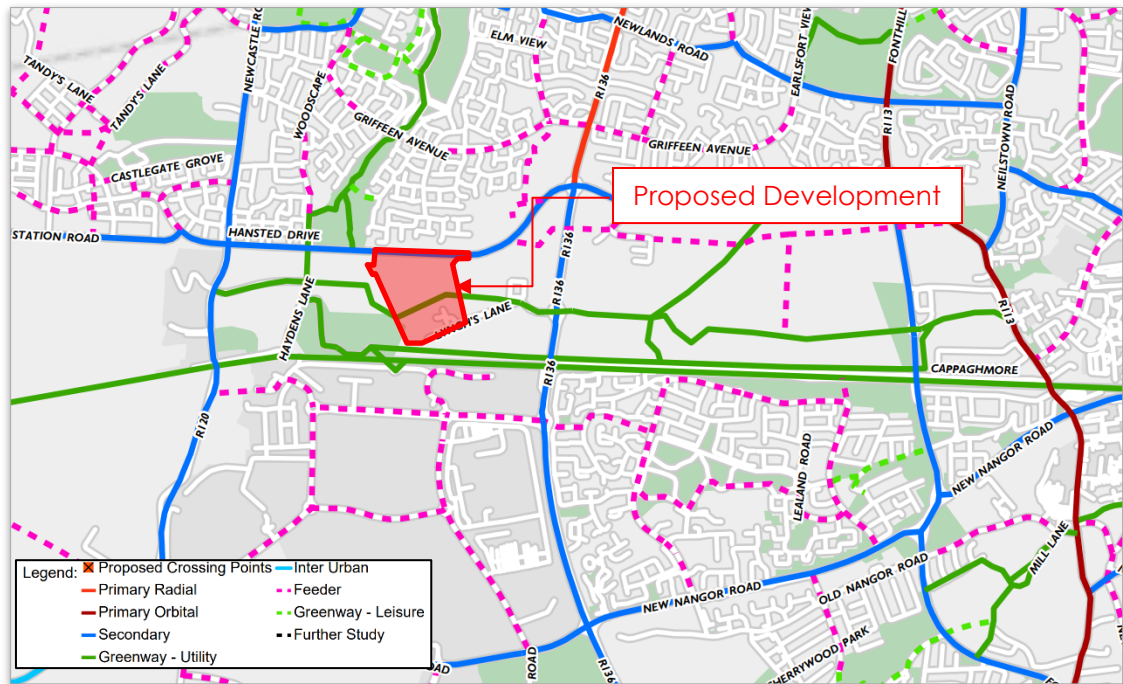


Figure 7 - Extract from Greater Dublin Area Cycle Network Plan
(source: National Transport Authority)

4.2.2 Link Streets

The primary role of Link Streets is to connect the SDZ lands by linking Arterial Streets, Urban Centres, Development Areas, local nodes, and open spaces. These streets are designed to function as the main multi-modal corridors for movement within the SDZ lands, providing for pedestrians, cyclists, public transport and private vehicles.

Existing roads identified as Link Streets in this Planning Scheme will be upgraded to traffic-calmed streets. These upgrades will be complemented by a network of new Link Streets, including east-west routes north and south of the railway line and a connecting north-south Link Street. This comprehensive network will ensure all Development Areas have direct and efficient access for vehicles, public transport, pedestrians, and cyclists. The subject development shall be accessed via Southern Link Street which has been permitted under planning reg. ref. SDZ20A/0021. The street hierarchy outlined within the *Clonburris SDZ Planning Scheme* is provided in Figure 8.

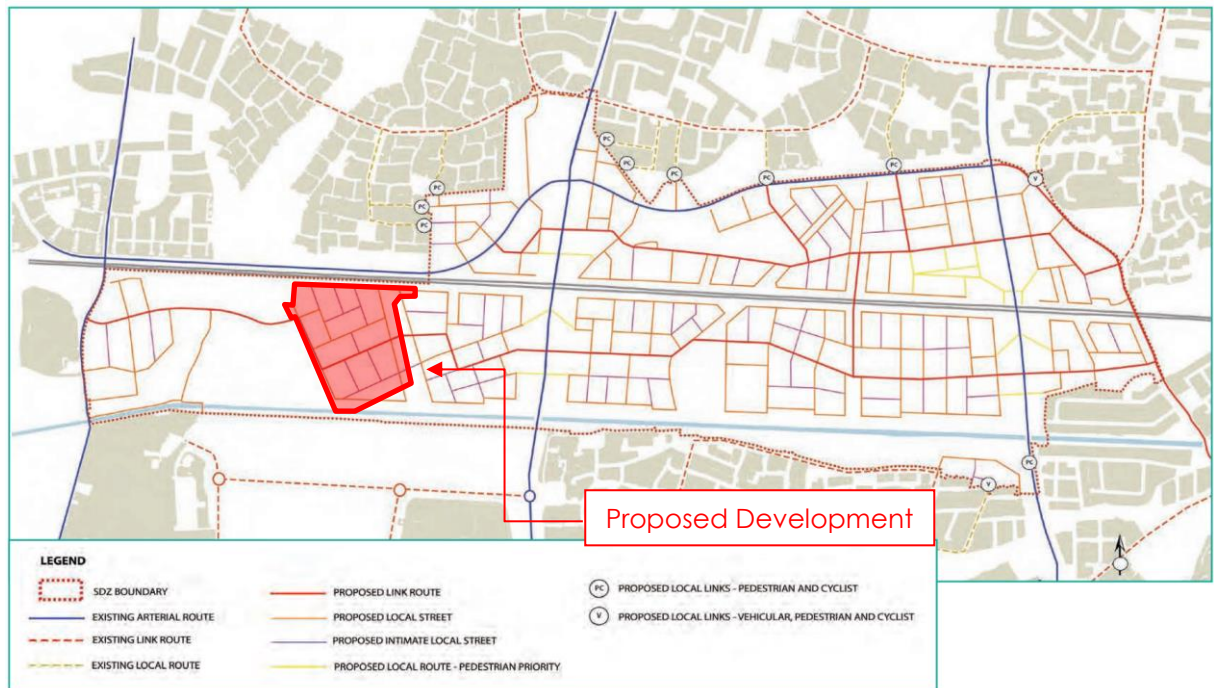


Figure 8 - Street Hierarchy
(source: Clonburris SDZ Planning Scheme)

4.2.3 Public Transport Bus

The BusConnects project, led by the National Transport Authority, aims to significantly enhance bus services across the Greater Dublin Area. The initiative focuses on high-frequency "spine routes" along the primary radial corridors to and from the city centre. The proposed development is situated within a 10-minute walk of the proposed D1 and W4 routes. The origin/destinations of these routes, as well as the typical frequency is provided in Table 1.

Route	Origin	Destination	Typical Weekday Frequency
D1	Clongriffin	Grange Castle	15 mins
W4	Blanchardstown Shopping Centre	Tallaght	30 mins

4.2.4 Public Transport Rail

The DART+ Programme is designed to enhance rail services throughout Dublin City and the Greater Dublin Area by modernizing the network and introducing electrified, more frequent, and reliable services. The project focuses on increasing capacity along key rail corridors. Additionally, the rail line between Hazelhatch & Celbridge Station and Dublin City Centre is

set to be electrified and operate at a higher frequency. The works planned are shown in Figure 9.

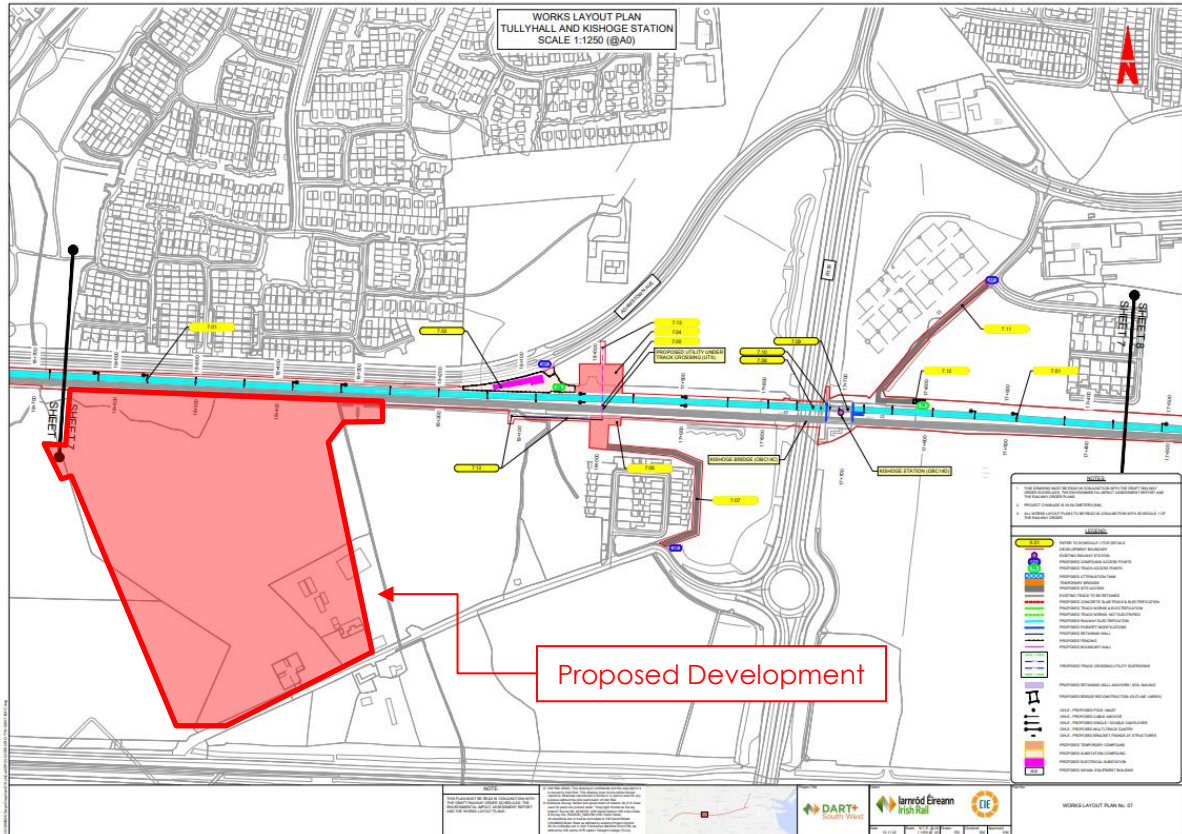


Figure 9 - Dart+ South West
(source: Irish Rail)

Upon completion, the project will expand train services from the current 12 trains per hour in each direction to 23 trains per hour, thanks to the introduction of 11 additional DART+ Southwest services. This increase will boost passenger capacity from approximately 5,000 passengers per hour per direction during peak times to about 20,000 passengers per hour per direction.

4.2.5 Transport Interchanges

The Kishoge and Clondalkin-Fonthill Railway stations will act as key hubs for the two planned urban centres within the SDZ lands. The subject development is situated within easy walking distance of Kishoge Railway Station. These stations will facilitate interchanges between various modes of transport, including rail, bus, car, walking, and cycling. In particular, the Clondalkin-Fonthill station holds significant potential to serve as a connection point for the planned Tallaght-Blanchardstown Core Bus Corridor, as outlined in the NTA's Transport Strategy for the Greater Dublin Area 2016-2035. A Park and Ride facility, complete with designated spaces for

disabled users, buses, taxis, and bicycles, has been developed at the Clondalkin-Fonthill station, while a similar facility has been approved for the Kishoge station under the Kildare Route Project Railway Order.

5.0 TRAFFIC IMPACT

5.1 Approach to the Traffic and Transport Assessment

The methodology for Traffic and Transport Assessments to be prepared within the Clonburris SDZ is described within the Clonburris SDZ Planning Scheme document as follows;

"TTAs will largely be required to address wider public transport, walking, and cycling network issues, rather than singularly focusing on impacts on the immediate street network. Such assessments should demonstrate that there is sufficient public transport, pedestrian, cyclist and road capacity to serve the development and should also provide a clear rationale for the proposed level of car parking having regard to existing and planned public and active transport facilities."

It should be noted that the Clonburris Transportation Assessment and Transport Strategy (2017) assesses the SDZ and its impacts on the surrounding road network using the NTA's Eastern Regional Model (ERM). Additionally, the 2017 Transportation Assessment includes detailed junction modelling for key intersections expected to experience significant impacts from the SDZ's development. This modelling ensures that Practical Reserve Capacity and Level of Service remain sufficient, and that the surrounding road network will not face significant deterioration as a result of the full development of the SDZ lands.

The proposed development forms part of the overall Clonburris SDZ and makes up only a small portion of the total SDZ provision of units. The site's proposed layout aligns with the layout specified in the SDZ planning scheme, and therefore the conclusions of the Transportation Assessment previously carried out are deemed to apply - it is concluded that there is road capacity to serve the development proposed. The subsequent sections detail the scheme's compliance with the Clonburris SDZ Planning Scheme.

5.2 Clonburris SDZ Movement Hierarchy

As described in section 3.1.1, the subject development shall be accessed in accordance with the Clonburris SDZ Movement Hierarchy. The subject development shall be accessed via the new link street which has been granted under planning reg. ref. SDZ20A/0021.

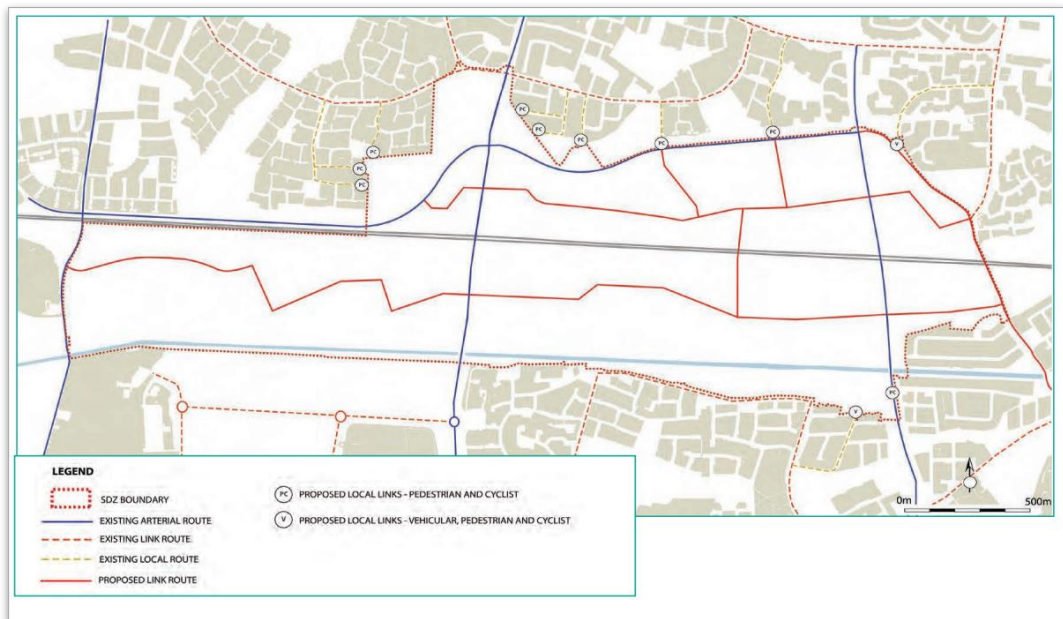


Figure 10 – Arterial and Link Streets
(source: Clonburris SDZ Planning Scheme)

The Clonburris South Link Street shall be a single carriageway road totalling 7m in width. The Link Street shall form a signalised junction with the R132 in place of the existing roundabout. Parallel parking spaces shall be provided along the road in the vicinity of the subject development. Pedestrian footpaths and cycle lanes shall be provided in either direction. A cross-section of the link street as outlined within the Clonburris SDZ Planning Scheme is provided in Figure 11.



Figure 11 – Link Street Cross-section
(source: Clonburris SDZ Planning Scheme)

6.0 PARKING

6.1 Car parking Standards

Reference has been made to the following guidelines to determine the appropriate car parking to be provided for the subject development:

- South Dublin County Development Plan 2022-2028
- Clonburris Strategic Development Zone (SDZ) Planning Scheme 2019
- Design Standards for New Apartments (Guidelines for Planning Authorities) 2022

6.1.1 Clonburris SDZ Planning Scheme 2019

The Clonburris SDZ Planning Scheme prescribes car parking standards for developments based on their “accessibility level”.

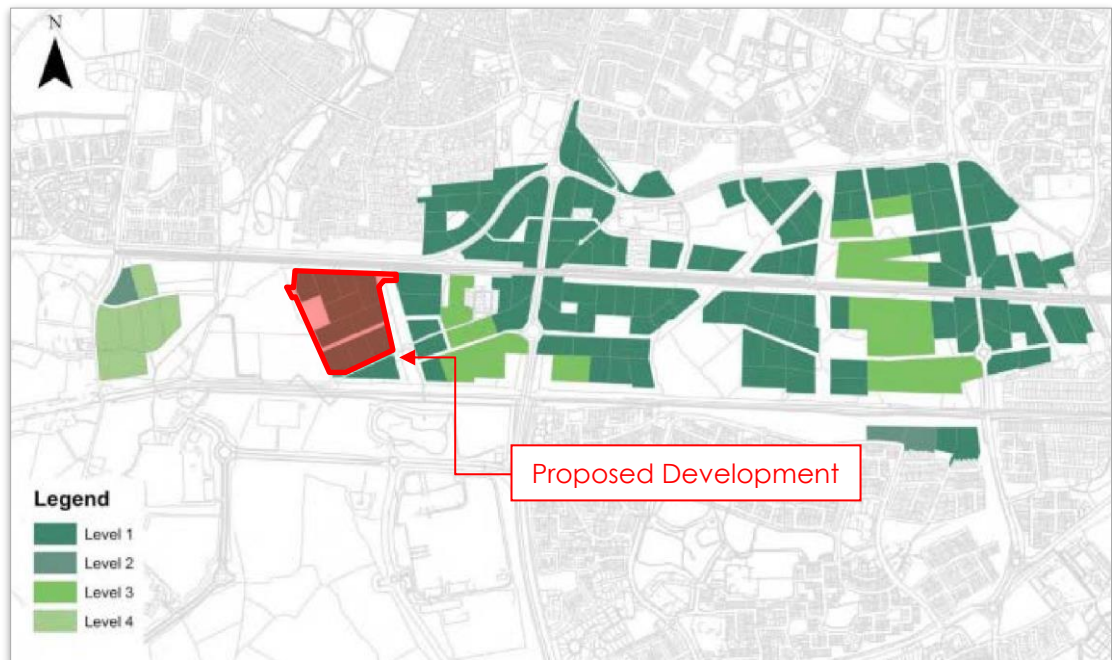


Figure 12 - Site Accessibility level
Source: (Clonburris SDZ Planning Scheme)

The *Clonburris SDZ Planning Scheme* outlines that Zone 2 parking standards as set out within the *South Dublin County Council Development Plan 2022-2028* should be applied to all development lands with an accessibility level of 1, 2 or 3.

The subject development site has been prescribed an accessibility level of 1.

6.1.2 South Dublin County Development 2022-2028

The *South Dublin County Development Plan 2022-2028* outlines maximum parking rates for developments by land-use type. Parking rates set out by the plan are divided into

two main categories depending on the proximity of the proposed development to nearby amenities or to public transport infrastructure:

- Zone 1: General rate applicable throughout the County;
- Zone 2 (Non Residential): More restrictive rates for application within town and village centres, lands zoned REGEN, and brownfield / infill sites within Dublin City and Suburbs settlement boundary within 800 metres of a train or Luas station and within 400-500 metres of a high quality bus service (including proposed services that have proceeded to construction).
- Zone 2 (Residential): More restrictive rates for application within town and village centres, lands zoned REGEN, and brownfield / infill sites within Dublin City and Suburbs settlement boundary within 400-500 metres of a high quality public transport service (includes a train station, Luas station or bus stop with a high quality service).

The parking maximum standards for the residential development within Zone 2 is shown in Table 2 below.

Table 2 – Car parking standards - Residential Development		
Dwelling Type	No. of bedrooms	Zone 2
Apartment/Duplex	1 bed	0.75 space
	2 bed	1 space
	3 bed+	1.25 space
House	1 bed	1 space
	2 bed	1.25 spaces
	3 bed +	1.5 spaces

The parking maximum standards for the relevant non-residential development land use types is provided in Table 3 below.

Table 3 – Car Parking Standards - Non-residential Development	
Land-use Type	Zone 2
Retail Convenience	1 space per 25sqm
Creche	0.5 per classroom

6.2 Car Parking Provision

The car parking provision of the proposed development has been assessed with respect to the Zone 2 standards set out in *Clonburris SDZ Planning Scheme 2019* which states that car parking should be provided in accordance with the *South Dublin County Council Development Plan 2022-2028*. The *South Dublin County Council Development Plan 2022-2028* defines the

maximum car parking provision for new residential and non-residential developments. Table 4 and Table 5 apply these standards to the proposed development.

Table 4 – Car Parking Residential Development (Zone 2)				
Dwelling Type	Maximum Standard	Quantum	Maximum Car Parking Provision	Car Parking Proposed
Apartment/Duplex	0.75 space per 1-bed	65 no.	49no. spaces	36no. spaces
	1 space per 2-bed	177no.	177no. spaces	135no. spaces
	1.25 space per 3-bed+	53no.	66no. spaces	53no. spaces
Subtotal		295no.	292no. spaces	224no. spaces
House	1 space per 1-bed	-	-	-
	1.25 spaces per 2-bed	-	-	-
	1.5 spaces per 3-bed +	141no.	212no. spaces	160no. spaces
Subtotal		141no.	212no. spaces	160no. spaces
Total		436no.	504no. spaces	384no. spaces

The residential car parking quantum proposed for the subject development has been calculated in accordance with the *Design Standards for New Apartments (Guidelines for Planning Authorities) – December 2022* which states the following in relation to the provision of car parking in new residential developments in intermediate urban locations:

“Planning authorities must consider a reduced overall car parking standard and apply an appropriate maximum car parking standard.”

In accordance with the above statement, it is proposed that car parking for the residential elements of the subject development be generally provided at a rate equivalent to approx. 0.8 of the maximum allowable car parking rates. A similar rate has been applied to the maximum allowable car parking rate for the non-residential elements of the proposed development in order to encourage sustainable use of the private car.

Table 5 – Car Parking Non-residential Development (Zone 2)				
Land Use Type	Maximum Standard	Quantum	Car Parking Required	Car Parking Proposed
Retail	1 space per 25 sqm	150sqm	6no. spaces	5no. spaces
Employment	1 space per 75 sqm	150sqm	2no. spaces	2no. spaces
Community	1 space per 50sqm	600sqm	12no. spaces	9no. spaces
Creche	0.5 spaces per classroom	20 classrooms	10no. spaces	8no. spaces
Total			30no. spaces	24no. spaces

In addition to the above quantum of residential and non-residential car parking spaces, the Southern Link Road which bisects the proposed development includes for 48no. car parking

spaces including 3no. disabled accessible spaces which shall be publicly accessible for use by visitors to the proposed development.

6.3 Disabled-Accessible Car Parking

The *South Dublin County Development Plan 2022-2028* sets out the minimum requirement for the provision of disabled-accessible parking in new developments, as a proportion of the total development car parking provision. Table 6 applies this requirement to the proposed development.

Table 6 – Accessible Car Parking Provision			
Total Proposed Car Parking Provision	Minimum Required Proportion	Accessible Spaces Required	Accessible Spaces Proposed
408no. spaces	5%	20	22

A total of 22no. disabled-accessible car parking spaces shall be provided within the development.

The Southern Link Road contains an additional 3no. disabled accessible car parking spaces which shall be publicly available for use by visitors to the proposed development.

6.4 Electric Vehicle (EV) Charging Provision

The *South Dublin County Development Plan 2022-2028* requires that new developments provide a minimum of at least 20% of the total parking spaces provided. Table 7 applies this requirement to the proposed development.

Table 7 – Electric Vehicle Car Parking Provision			
Total Proposed Car Parking Provision	Minimum Required Proportion	EV Spaces Required	EV Spaces Proposed
408no. spaces	20%	82	134

A total of 134no. car parking spaces within the proposed development shall be equipped with functional EV charging points and shall be reserved for the use of battery-powered electric vehicles.

All other car parking spaces within the development shall be 'future-proofed' through the inclusion of redundant cables or ducting to allow the rapid future installation of additional EV charging points, as required by the *Clonburris SDZ Planning Scheme*.

6.5 Cycle Parking Standards

Reference has been made to the following guidelines to determine the appropriate cycle parking to be provided for the subject development:

- South Dublin County Development Plan 2022-2028
- Clonburris Strategic Development Zone (SDZ) Planning Scheme 2019
- Design Standards for New Apartments (Guidelines for Planning Authorities) 2022

6.5.1 Clonburris Strategic Development Zone (SDZ) Planning Scheme 2019

The *Clonburris SDZ Planning Scheme* refers to the *South Dublin County Development Plan 2022-2028* with respect to the standards to be applied for cycle parking in new development. Reference is also made to the Clonburris SDZ Transport Assessment and Strategy.

6.5.2 South Dublin County Development Plan 2022-2028

The *South Dublin County Development Plan 2022-2028* outlines minimum bicycle parking rates for developments by land-use type. Parking rates set out by the plan are divided into two main categories:

- Long-term: These are to be designed for use by residents and employees. Such spaces should be located in a secure area that is not freely accessible to the general public.
- Short-term: These are to be designed for ease of use by the general public. Such spaces should be located in highly visible areas that are easy to access and allow for cargo bikes.

The cycle parking minimum standards for the residential and non-residential elements of the development are shown in Table 7 below.

Table 8 – Cycle Parking Standards - Residential and Non-residential Development		
Category	Long-term	Short-term
Apartments/Duplexes	1 per bedroom	1 per 2 apartments
Retail	1 per 5 staff	1 per 150sqm GFA
Employment	1 per 200sqm	1 per 150sqm
Community	1 per 5 staff	1 per 100sqm GFA
Creche	1 per 5 staff	1 per 10 children

6.6 Cycle Parking Provision

The cycle parking provision of the proposed development has been assessed with respect to standards set out in *Clonburris SDZ Planning Scheme 2019* which states that cycle parking should be provided in accordance with the *South Dublin County Council Development Plan 2022-2028*. The *South Dublin County Council Development Plan 2022-2028* defines the minimum cycle parking provision for new residential and non-residential developments. Table 9 and Table 10 apply these standards to the proposed development for long-term and short-term cycle parking respectively.

Table 9 – Long-term cycle parking				
Land-use	Minimum Standard	Quantum	Minimum Cycle Parking Spaces	Long-term Cycle Parking Proposed
Residential Cycle Parking				
1-bed apartment/ duplex	1 space per bedroom	65 no.	65no. spaces	65no. spaces
2-bed apartment/ duplex		177no.	354no. spaces	354no. spaces
3-bed apartment/ duplex		53no.	159no. spaces	159no. spaces
3-bed house	N/A	N/A	0no. spaces	0no. spaces
4-bed house		N/A	0no. spaces	0no. spaces
Subtotal		295no.	578no. spaces	578no. spaces
Non-Residential Cycle Parking				
Retail	1 per 5 staff	6 staff	1no. space	1no. space
Employment	1 per 200sqm	150sqm	1no. space	2no. space
Community	1 per 5 staff	20 staff	4no. spaces	5no. spaces
Creche	1 per 5 staff	20 staff	4no. spaces	5no. spaces
Subtotal			10no. spaces	13no. spaces
Total			588no. spaces	591no. spaces

Table 10 – Short-term cycle parking

Land-use	Minimum Standard	Quantum	Minimum Cycle Parking Spaces	Short-term Cycle Parking Proposed
Residential Cycle Parking				
1-bed apartment/ duplex	1 space per 2 units	65 no.	34no. spaces	42no. spaces
2-bed apartment/ duplex		177no.	88no. spaces	108no. spaces
3-bed apartment/ duplex		53no.	26no. spaces	32no. spaces
3-bed house	N/A	N/A	0no. spaces	0no. spaces
4-bed house		N/A	0no. spaces	0no. spaces
Subtotal		295no.	148no. spaces	182no. spaces
Non-Residential Cycle Parking				
Retail	1 per 150sqm GFA	150sqm	1no. space	1no. space
Employment	1 per 150sqm	150sqm	1no. space	1no. space
Community	1 per 100sqm GFA	600sqm	6no. spaces	6no. spaces
Creche	1 per 10 children	90 children	9no. spaces	12no. spaces
Subtotal			17no. spaces	20no. spaces
Total			165no. spaces	202no. spaces

7.0 DEVELOPMENT ACCESS AND INTERNAL LAYOUT

7.1 Internal Site Layout

The internal road layout of the proposed development consists primarily of local streets which are accessed from the permitted Southern Link Road (as granted under planning reg. ref. SDZ20A/0021). The development shall include the provision of local streets in accordance with the Clonburris SDZ Planning Scheme.

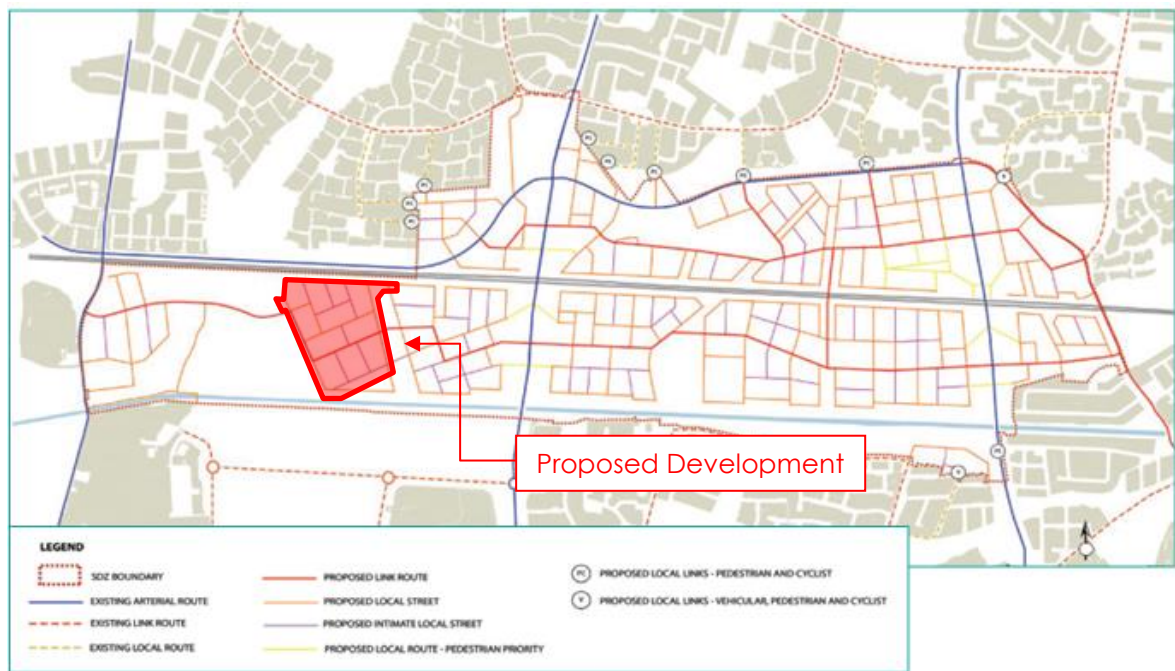


Figure 13 – Proposed Road network for Clonburris SDZ (development site highlighted)
(source: Clonburris SDZ Planning Scheme)

The proposed development has been designed with pedestrians and cyclists taking precedence over other modes of transport. Pedestrian and cyclist's connectivity is provided throughout the development with filtered permeability connections provided to the permitted Southern Link Road (reg. ref. SDZ20A/0021) at strategic locations. The proposed development has been designed to reduce traffic speeds. In this regard, where there is a straight section of road, raised table junctions/flush kerbs have been provided along the internal local streets. Furthermore, on street parking and frequent pedestrian crossing facilities are present to encourage drivers to be more aware of their surroundings and reduce driving speed. Please refer to Figure 14.

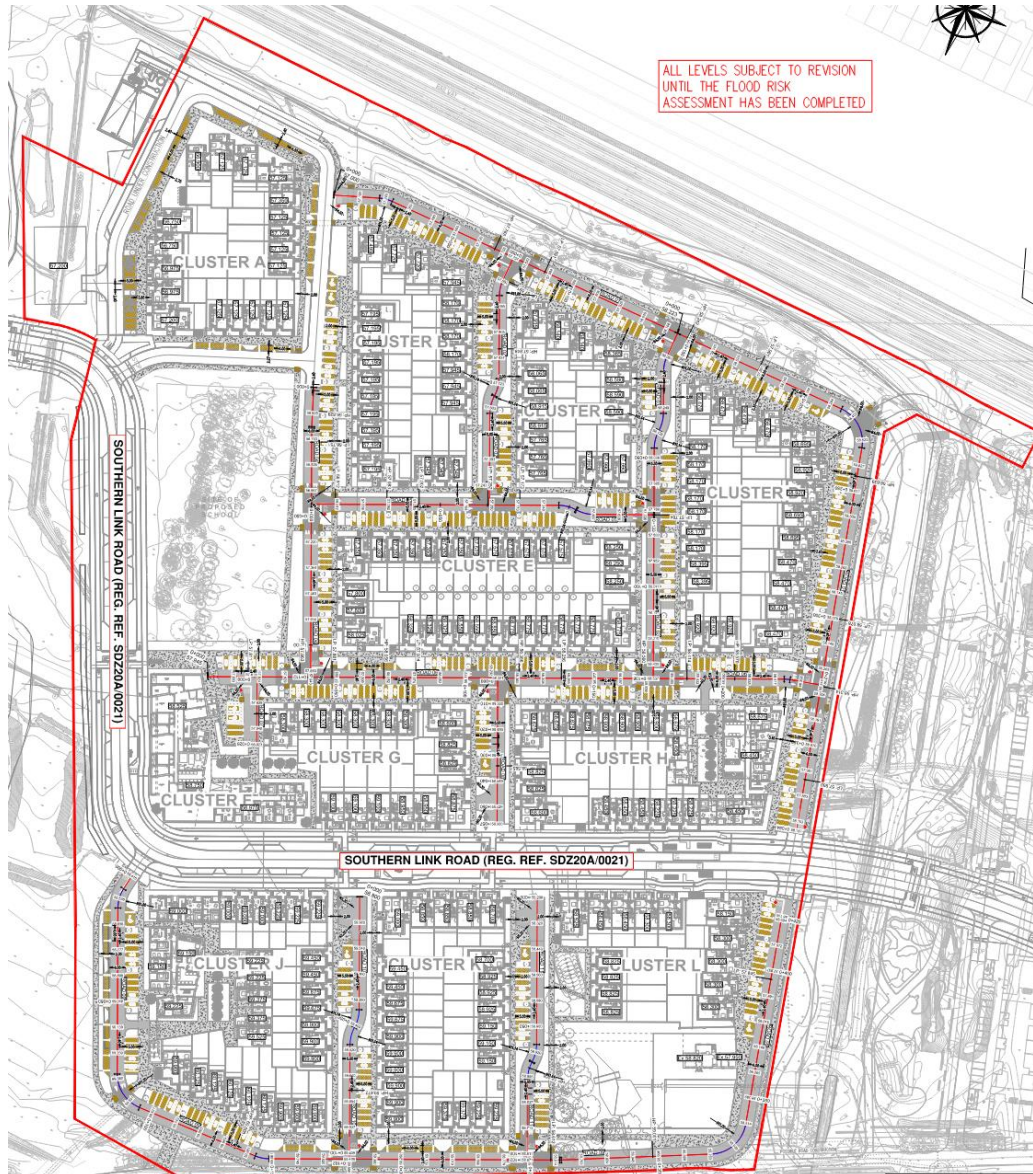


Figure 14 - Roads Layout

Clear visibility splays of 23m from a setback of 2.4m are provided at the development's internal junctions in accordance with the requirements of DMURS. Visibility splays at the development access junctions onto the Southern Link Road are permitted under planning reg. ref. SDZ20A/0021. Please refer to the following CS Consulting drawings for further details of the development's internal street network;

- **D116-CSC-XX-XX-DR-C-0011 Proposed Road Layout**
- **D116-CSC-XX-XX-DR-C-0012 Proposed Road Cross-sections**
- **D116-CSC-XX-XX-DR-C-0028 Proposed Sightlines**

7.2 Development Servicing and Waste Collection

All incoming and outgoing servicing for the development such as deliveries and waste collection, shall be conducted on the development's internal road network, avoiding obstruction of vehicular, cyclist and pedestrian traffic along the permitted Southern Link Road.

7.3 Swept Path Analysis

Swept path analyses have been carried out for both refuse vehicles and fire tender servicing the development. These analyses indicate that the development's internal layout and accesses can accommodate these movements where required. Please refer to the following CS Consulting drawings;

- **D116-CSC-XX-XX-DR-C-0016 Swept Path Analysis Fire Tender**
- **D116-CSC-XX-XX-DR-C-0017 Swept Path Analysis Refuse Vehicle**

8.0 CONCLUSION

This report examines the impact of a proposed residential development at Kishoge/Clonburris Lot 2, Site 4 in the Clonburris Strategic Development Zone on the performance of the surrounding road network, and assesses the internal road layout, car and bicycle parking provision, and cyclist and pedestrian facilities.

The main observations and conclusions of the study are as follows;

- The subject development layout and density are similar to that which has been examined within the Clonburris SDZ Transport Assessment which makes use of the South West Dublin Local Area Model (LAM) and as such, the conclusions of the LAM remain valid.
- The proposed development includes appropriate quanta of car, and bicycle parking, meeting the requirements of the *Clonburris SDZ Planning Scheme* and the *South Dublin County Development Plan 2022-2028*.
- Swept Path Analyses have been conducted for both a refuse vehicle and a fire tender servicing the development. These indicate that the design of the development accesses and its internal layout can accommodate these vehicle movements where required.
- The development site is conveniently situated with respect to existing high-quality public transport services and to Dublin City as well as local centres.

In summary, the assessment indicates that the proposed development can be supported by the surrounding road network; that appropriate quanta of car and bicycle parking are to be provided; and that the development access design and internal layout are fit for purpose and comply with the Design Manual for Urban Roads and Streets, and Clonburris Strategic Development Zone – May 2019.



CS CONSULTING

Civil, Structural & Traffic Engineering