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TECHNICAL NOTE 200165-TN-002

Subject: DMURS Design Compliance Statement

Produced by: MMK

Project: Residential Development at Stepside, Co. Dublin

Checked by: BM

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1.0 INTRODUCTION

- 1.1.1 It is DBFL's opinion that the proposed development layout is consistent with both the principles and guidance outlined within the Design Manual for Urban Roads and Streets (DMURS) 2019. The scheme proposals are the outcome of an integrated design approach that incorporates traditional road design along with elements of urban design and landscaping to create lower traffic speeds and thereby facilitate a safer road environment for more vulnerable road users. DBFL along with the wider design team have interrogated the DMURS principles to ensure that the final layout provides for a package of self-regulating design measures providing a high quality layout to accommodate all road users.
- 1.1.2 The proposals incorporate a hierarchy of streets which are firmly set within the context of the local receiving environment. The existing road network in the local area includes Arterial Links such as the Ballyogan Road corridor to the north and an emerging 'Link' street Clay Farm Loop Road (CFLR) which has been partially constructed as part of the Clay Farm development to the north and will be extended as part of the subject scheme.
- 1.1.3 The movement function and design of the internal street network has sought to respect the different levels of motorised traffic whilst optimising access to/from public transport and prioritising the movement of a higher number of pedestrians. In parallel, the adopted DMURS design philosophy has sought to consider the context / place status of each residential local street in terms of level of connectivity provided, quality of the proposed design, level of pedestrian activity and vulnerable users requirements whilst identifying appropriate 'transition' solutions between different street types.

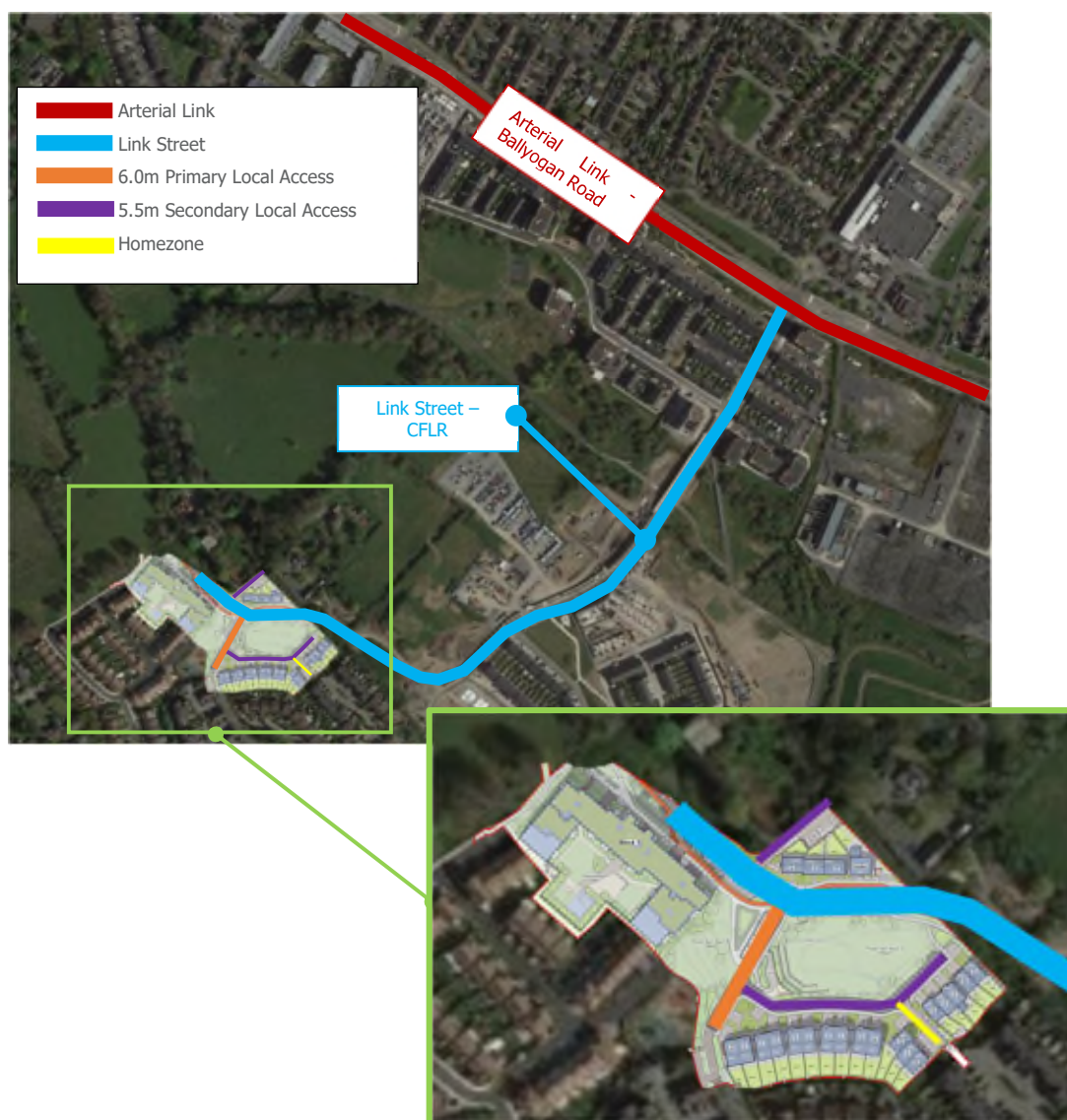


Figure 1: Road Hierarchy

2.0 PERMEABILITY & LEGIBILITY

2.1.1 As part of the design and development of the street network, pedestrian linkages were prioritised around the development to link the existing and the future amenities in the area. **Figure 2** below shows the proposed and potential external linkages which could be facilitated by the development.

2.1.2 The subject development is proposed to be accessed at the following 'all modes' and 'cycle / pedestrian only (filtered permeability)' permeable links:-



- 1) Cycle / Pedestrian link to existing Stepside development;
- 2) Cycle / Pedestrian / emergency link to existing Stepside development;
- 3) All modes link with Clay Farm & Ballyogan Road via the CFLR;
- 4) Potential future link with lands to the west.

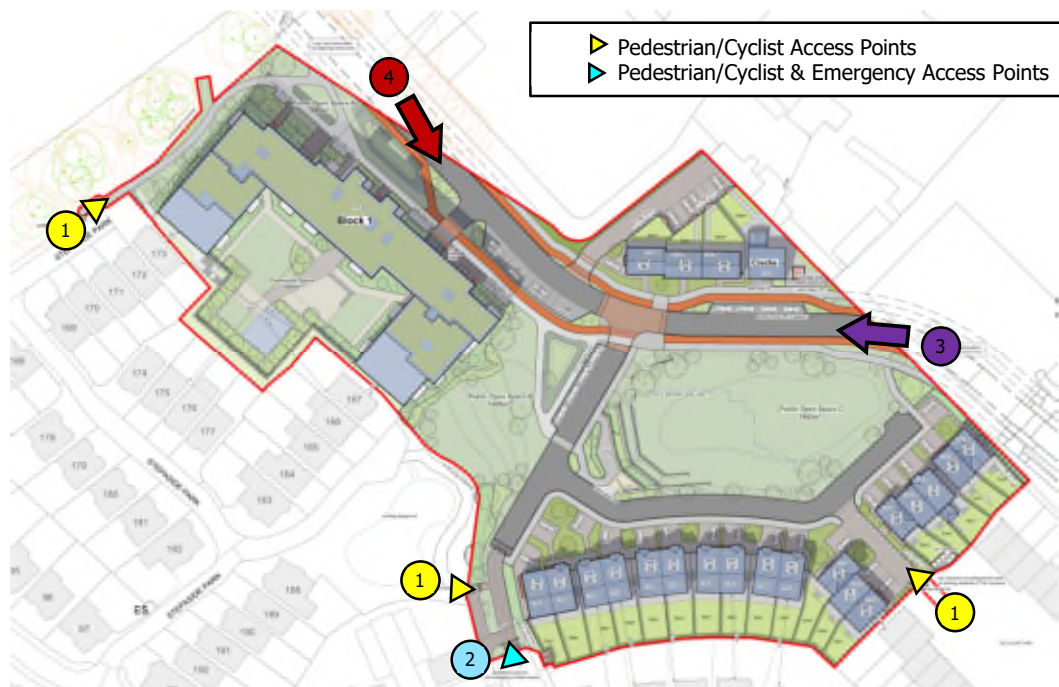


Figure 2: Proposed Linkages

3.0 DESIGN PARAMETERS & DEVELOPMENT COMPLIANCE

3.1 INTRODUCTION

3.1.1 The following sections demonstrate key points from the Design Manual for Urban Roads and Streets (DMURS) 2019, and how the development proposals comply in each of these areas.

3.2 STREET ENCLOSURE

3.2.1 'Sense of enclosure is generally measured as a ratio where the height of a building (measured from front building line to front building line) is measured against the width of a street.'



3.2.2 The development contains enclosing streets in various forms creating a hierarchy of urban spaces. These can be defined as the following:-

- A strong sense of enclosure occurs within the homezones where a Building Height to Street Width ratio of 1:2 exists.
- A moderate sense of enclosure occurs within the primary and secondary local access streets where a Building Height to Street Width ratio of 1:3 exists.

3.3 STREET DESIGN SPEED

3.3.1 The design speeds for the street typologies as per DMURS Table 4.1 are detailed in **Table 1** below in the context of neighbourhood areas. For streets performing a 'local' function within a 'neighbourhood' context, a design speed of 10-30km/h is recommended within DMURS whilst those streets performing a 'Link' street function within a 'Neighbourhood' or 'Suburban' context, a design speed of 30-50km/h is recommended.

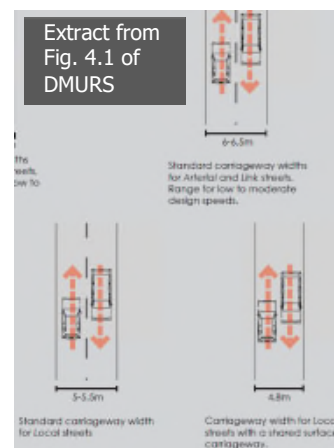
Street	DMURS Function	DMURS Context	DMURS Design Speed Range	Applied Design Speed
Internal Local Streets Within Development	Local	Neighbourhood	10-30km/h	10km/h
Clay Farm Loop Road	Link Street	Suburban	30-50km/h	30km/h

Table 1: Street Design Speeds

3.4 STREET CROSS SECTIONS

3.4.1 The carriageway widths have been designed based on DMURS Figure 4.55 within Section 4.4.1. **Table 2** below outlines the different street widths implemented within the subject design.

3.4.2 'Link' street (Clay Farm Loop Road) is designed to be 6.0m wide with 2m wide footways and 2m wide cycletracks on both sides. Primary Access 'Local' streets are designed to be 5.5m wide with 2m wide footways. Secondary Access 'Local' streets are designed to be 5.5m wide.



Street	DMURS Function	Street Width
Link Street (Clay Farm Loop Road)	Link	6.0m
Primary Access	Local	5.5m
Secondary Access	Local	5.5m
Homezone	Local with shared surface carriageway	

Table 2: Street Design Speeds

3.5 HORIZONTAL AND VERTICAL GEOMETRY

- 3.5.1 The alignment of the street network has been designed to take account of existing site constraints including the levels of the existing discharge points, boundary conditions and site topography and create a street network that is organic in nature with the objective of maximising permeability and enhancing legibility.
- 3.5.2 Geometric elements including, horizontal and vertical curvature and sight distance will have at least the minimum values consistent with the design speed of the street and in accordance with DMURS Table 4.3, Carriageway geometry parameters.

Design Speed	Minimum Horizontal Radius with adverse camber of 2.5%	Crest Curve K Value	Sag Curve K Value	Min. Gradient	Max. Gradient
10km/h	N/A	N/A	N/A	1.7%	5.0%
30km/h	55	N/A	>2.3	0.7%	5.0%

Table 3: Street Geometry Parameters

3.6 JUNCTION DESIGN

- 3.6.1 The proposed 4.5m junction radii comply with those recommended in Figure 4.43 of DMURS in order to ensure reduced vehicle speeds.
- 3.6.2 Unobstructed visibility splays are provided at all internal nodes and on the Clay Farm link road. Both visibility splays and stopping site distances are in accordance with DMURS Table 4.2.

Location	Set Back (X Distance)	Stopping Sight Distance
Junctions at Clay Farm L.R.	2.4m	49m (potential bus route)
Internal Junctions	2.0m	23m

Table 4: Street Geometry Parameters



3.7 ON-STREET PARKING

- 3.7.1 Parking for the proposed housing units has generally been provided in curtilage. An element of visitor parking (and creche staff) has also been provided on-street in the form of parallel parking spaces at various locations. Perpendicular parking (for apartments) has been provided within apartment building parking area and designed to ensure at least 6m width is included to allow manoeuvring in and out of the space.
- 3.7.2 Parallel spaces have been designed as 2.5m wide by 6m long and perpendicular spaces are 2.5m wide by 5.0m long (with 0.5m buffer on one side of the street where street width is 5.5m wide). Disabled car parking spaces are 4.8m wide and 6.0m long (excluding buffer).

3.8 TRAFFIC CALMING

- 3.8.1 DMURS recommends the use of the physical and psychological measures used in combination to have an impact on driver behaviour. The subject scheme design has actively sought to ensure that no excessively long straight sections of roads are provided with the strategic placement of different traffic calming features (e.g. junctions, tight bends, vertical deflections, etc) are provided at the appropriate frequency / distance to actively reinforce by design the adopted vehicle design speed. The layout seeks to create what can be considered to be a 'Self-Regulating Street'. In summary, the following key traffic calming features has been incorporated into the layout:-

- Tight corner radii;
- Narrow streets (5.5m wide local streets);
- Speed tables;
- On-street parking;
- Short lengths of straight streets, and
- Tree planting to reduce the perceived width.



3.9 PEDESTRIAN CROSSINGS

- 3.9.1 Well designed and frequently provided pedestrian crossing facilities are provided along key travel desire lines throughout the scheme in addition to those located at street nodes.
- 3.9.2 All courtesy crossings are provided with either dropped kerbs or a raised flat top treatment thereby allowing pedestrians to informally assert a degree of priority.
- 3.9.3 A raised flat top pedestrian crossing point / traffic calming ramp is provided in the vicinity of the proposed site entrance.



Figure 3: Proposed Pedestrian Crossing Locations

