

INFRASTRUCTURE ROADS ACCESSIBILITY & MOVEMENT - DMURS

Access and linkages for the site are based on the Accessibility & Movement Strategy of the Fortunestown LAP which seeks to link all the unconnected areas of the Plan Lands and integrate the lands fully with existing neighbourhoods, LUAS stops and nodal points.

The open street network maximises permeability and enhances legibility by means of implementing the following **DMURS Design Principles**.

A DMURS design statement is included on the following pages.

DMURS Design **Principle 1:**



Implemented in design

The proposed residential scheme delivers greater mode and route choices along direct, attractive and safe connections to a range of amenities and local service destinations.

DMURS Design **Principle 2:**



vehicles.

DMURS Design **Principle 3:**



Implemented in design

Incorporation of shared surfaces in each Local Street creates a safe pedestrian / vehicle environment. Pedestrian friendly street crossings and traffic calming maximises permeability throughout the development.

DMURS Design **Principle 4:**



Implemented in design

Multidisciplinary design team allocated to ensure Fortunestown LAP objective were achieved throughout the design

Implemented in design

A hierarchy of streets with Arterial links, Link Streets, Local Streets enhancing the streets function for pedestrians and



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TECHNICAL NOTE 162073/001

Subject:	DMURS Design Statement	Produced by:
Project:	Proposed Residential Development at Fortunestown Lane and Garter Lane, Citywest	Checked by:
Job No:	162073	Date:

INTRODUCTION 1.0

- 1.1.1 It is DBFL's opinion that the proposed residential development is consistent with both the principles and guidance outlined within the Design Manual for Urban Roads and Streets (DMURS) 2013. The scheme proposals are the outcome of an integrated design approach that seeks to implement a sustainable community connected by well-designed streets which deliver safe, convenient, and attractive networks in addition to promoting a real and viable alternative to car based journeys.
- 1.1.2 The following section outlies the specific design features that have been incorporated within the proposed residential scheme with the objective of delivering a design that is in full compliance with DMURS.

2.0 **DESIGN ATTRIBUTES**

2.1 **Strategy Development**

- The adopted masterplan strategy maximises connectivity between key local destinations through the provision of a high degree of 2.1.1 permeability and legibility for all network users particularly for sustainable forms of travel. Accordingly, the proposed residential scheme delivers greater mode and route choices along direct, attractive and safe linkages to a range of amenities and local service destinations.
- 2.1.2 The identified masterplan incorporates a hierarchy of streets with *Arterial* links including the N9, N82 and N81 to the north, east and south of the subject site respectively. *Link* streets bordering the site, such as Garter Lane, Fortunestown Lane and Bianconi Ave provide the connections between the proposed development and both the above *Arterial* links and with neighbourhood centres. In contrast, the internal road network has been designed to deliver a hierarchy of *local* streets that provide access within / across the proposed new residential community and between the *Link* streets bordering the site. The movement function of each of internal *local* street sought to respect the different levels of motorised traffic whilst optimising access to/from public transport and catering for higher number of pedestrians and cyclists. In parallel the adopted 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 / cyclists activity and vulnerable users requirements whilst identifying appropriate 'transition' solutions between different street types.
- The masterplan delivers a street network that is orthogonal in nature with the objective of maximising permeability and enhancing 2.1.3 legibility. Furthermore, the design of appropriately sized blocks actively contributes to a highly permeable and accessible community for both pedestrians and cyclists.
- High levels of internal connectivity are also delivered for motorised vehicles, albeit at slower speeds to that achievable along the external 2.1.4 *Link* streets. Through the provision of a vehicle access / egress point in the southeast corner, two number compact site access junctions

has



at the sites western boundary, and the potential for a fourth access point in the future to the north; the masterplan offers a well-connected traffic calmed 'by design' street network. Furthermore, in addition to pedestrian / bicycle connections at each of these four site access nodes, the provision a dedicated pedestrian / bicycle connection in the southwest corner (leading to/from the LUAS interchange and onwards to Saggart Village) of the site maximises permeability along key travel desire lines thereby delivering convenient, attractive and safe linkages for pedestrians and cyclists.

Design Parameters 2.2

- The adopted design approach successfully achieves the appropriate balance between the functional requirements of different network 2.2.1 users whilst enhancing the sense of place. The implementation of self-regulating streets actively manages movement by offering real modal and route choices in a low speed high quality residential environment. Specific attributes of the schemes design which contribute to achieving this DMURS objective include;
 - a) A strong sense of street enclosure is achieved utilising the adopted building height to street width ratios internally; in parallel with the specification of continuous rows of large street trees.
 - b) The potential dominance of on-street car parking is actively management through the provision of landscaped buffers and the specification of continuous rows of large street trees.
 - c) On-street activity is promoted internally along the residential streets through the adoption of 'own-door' dwellings.
 - The proposed design has sought to specify minimal signage and line markings along the internal *local* streets with such treatments d) used sensitively throughout and predominately at key nodes and 'transition' areas with adjoining *Link* Streets.



- e) Footpaths no less than 1.8m (generally 2.0m or wider) are provided throughout the scheme and with connections / tie-in to existing external pedestrian networks.
- Appropriate clear unobstructed visibility splays, as per DMURS requirements; are provided / safeguarded at all internal nodes and at the site access junctions to the external road network.
- Well designed and frequently provided pedestrian crossing facilities are provided along key travel desire lines throughout the a) scheme in addition to those located at street nodes. 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.
- h) At the more heavily trafficked *Arterial / Link* nodes formal signalised crossings are provided for the benefit of both pedestrians and cyclists. Such crossings are provided with a single straight direct movement to minimise crossing distance and enhance pedestrian / cyclist convenience and comfort levels.
- All informal pedestrian crossing facilities are at least 2.0m wide, whilst all controlled pedestrian crossings are at least 2.4m wide. i)
- All toucan crossings are 4.0m wide or more. i)
- With the objective of encouraging low vehicle speeds and maximising pedestrian safety and convenience, corner radii at (i) *Link* k) / Local nodes has been specified as 6m where swept path analysis / traffic signal staging permitted, and (ii) Local / Local nodes has been specified as 3m as per DMURS guidance.
- A variety of materials and finishes have been specified in the Shared Areas to indicate that the carriageway is an extension of the pedestrian domain.
- m) Internally within the development carriageway kerb heights have been specified as 75-80mm in accordance with the objectives of DMURS.

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- n) The developments principle *Local* streets connecting the new residential area with the external *Link* streets incorporate dedicated bicycle infrastructure with both at-grade bicycle lanes (1.75m wide) and segregated tracks (2.0m wide) designed in accordance with the National Cycle Manual (NCM). Along the remaining lightly trafficked internal *Link* streets cyclists will share the carriageway with other street users as per the NCM guidance for such situations.
- o) The proposed residential developments internal hierarchy of *Local* streets incorporates 5.5m wide carriageways on the main access routes (e.g. leading to/from the site access nodes with external *Link* streets) and central north/south spine; and 5.0m wide carriageways along the remaining guitter residential streets.
- p) At locations where perpendicular car parking is proposed additional vehicle manoeuvring requirements are accommodated within the design of the parking bays (combination of bay depth and width modifications) and not by increasing the width of the carriageway.
- q) The main access routes (e.g. (e.g. leading to/from the site access nodes with external *Link* streets) of internal street network will be formed using standard macadam / asphalt finishes, however along the full length of each of the inter-connecting lightly trafficked residential streets (e.g. those of 5.0m in width) a colour contrast is to be achieved by way of a textured / colour surface to reinforce the lower design speed in these areas.
- Similarly, at each of the at-grade flat top pedestrian crossing / traffic calming table treatments, different surface material r) treatments are proposed to alert and subsequently influence driver behaviour and vehicle speeds.
- s) Vertical deflections in the form of raised tables have been strategically placed across the internal *Local* street network to promote lower design speeds and enable pedestrians to cross the street at-grade. These features have been located at (i) equal priority junctions, (ii) on straights where there is more than 70m between nodes, (iii) at entrance treatments to reinforce a change between design speeds, (iv) at pedestrian crossings; and (v) outside focal / civic points (e.g. connection to/from LUAS



interchange). The maximum height of these raised flat top treatments is designed to be 75mm with a minimum flat top width of 2.0m.

The provision of on-street car parking includes both parallel and perpendicular parking bays along either one or both sides of the t) internal *local* streets. In accordance with DMURS the parallel bays are dimensioned 6.0m long by 2.4m wide. In contrast, the perpendicular parking spaces are a minimum of 4.8m (nor more) long with widths varying between 2.5 and 2.6 depending upon the width of the adjoining carriageway. In locations where the perpendicular parking required additional manoeuvring area, this has been achieved by increasing the length / depth of the parking bay and not by widening the street carriageway.







INFRASTRUCTURE ROADS: SCHEMATIC LAYOUT PLAN







TYPE 1 Principle Site Access Route– Principle route through site – North South Avenue

TYPE 2 LOCAL STREETS (Feeder Streets)

TYPE 3 LOCAL STREETS (Home Zone)

 Sustainable modes of transport such as cycling and walking are proposed through the use of an open street network and the provision of ample cycle parking throughout the scheme.

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- JUNCTION TABLES
- **RAISED ENTRY TREATMENTS**
- HORIZONTAL BUILD OUTS •
- **REDUCED CORNER RADII** •



Figure 1: Extended speed table allowing safe pedestrian access to central green area



Figure 2: Chicanes (horizontal deflection) situated throughout the new development



Typical traffic calming measures incorporated into design to improve safety for motorists, pedestrians and cyclists.



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Turning bay sized to provide large refuse vehicles sufficient space to complete turning manoeuvre

Figure 11: Vehicle tracking

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FFL 107.450

Section 5



INFRASTRUCTURE DRAINAGE SuDS Design Strategy and Flood Risk Assessment

SuDS Design Strategy

SuDS techniques have been incorporated into the schemes surface water strategy, as a method of managing surface waters discharge rates from the development. The SuDS features have been designed in line with the "Greater Dublin Strategic Drainage Study" (GDSDS) and "The SuDS Manual 2015" adopted by CIRIA Department for Environment Food & Rural Affairs.

The main SuDS feature will comprise, two Detention Basins and which will store surface water from the development before entering into an existing stream at the site's greenfield discharge rate. A rain garden will also be included in the design along the Main Green Link.

Two Detention Basins For Development



Example Rain Garden



Flood Risk Assessment

A Site Specific Flood Risk Assessment (SSFRA) has been carried for the subject site by JBA Consulting and the adjoining Phase 2 site (subject to separate future planning application) to the south. The SSFRA includes hydraulic modelling of the Verschoyles Stream and is carried out in accordance with 'The Planning System and Flood Risk Management Guidelines'.

Section 5









Figure 6: Typical storm & foul sewer situated within road area







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