

22111-03-006

PROPOSED RESIDENTIAL DEVELOPMENT
MAYESTON S179A,
POPPINTREE, DUBLIN 11

DMURS Design Statement

for

Fingal County Council

October 2023



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1 Introduction

Roadplan Consulting has been commissioned by O'Briain Beary Architects (OBBA) on behalf of the Fingal County Council to prepare a DMURS Design Statement for a proposed residential development at Mayeston, Poppintree, Dublin 11.

The proposed development relates to a site of c.1.35ha located within existing residential development referred to as Mayeston, Poppintree, Dublin 11. The proposed development is located north of the R104 St Margaret's Road and is bound by the M50 motorway to the north, Mayeston Green and Silloge Green to the east, Mayeston Downs to the south, and to the west by public open space.

The proposed development will include for the provision of 119 no. apartment units consisting of 39 one-bedroom apartments, 68 no. two-bedroom apartments and 12 no. 3-bedroom apartments ranging from 3-6 no. storeys and will also include for car parking, cycle parking, pedestrian and cycle links, storage, services and plant areas. Landscaping will include for high quality private open space, communal amenity areas and public open space provision.

The existing site is currently undeveloped at present.



Figure 1.1 Site Map

The purpose of this report is to identify the specific design features that have been incorporated within the proposed residential scheme with the objective of delivering a design that is consistent with both the principles and guidance outlined within the Design Manual for Urban Roads and Streets (DMURS) (May 2019), DMURS Advise Note 6 and the Cycle Design Manual (September 2023).

The scheme proposals are the outcome of an integrated design approach that seeks to implement a sustainable community that is connected by well-designed streets which will deliver safe, convenient, and attractive route networks in addition to promoting a real and viable alternative to car-based journeys. The following

documents, which are included with the Planning submission, were reviewed among others:

- Roadplan report: *22111-03-001 Mayeston Estate Traffic Report*
- OBBA drawing: *Sk(d)203 Bike Lockers Option II*
- OBBA drawing: *P1010 Ground Floor Plan*

2 DMURS Objectives

2.1 OVERVIEW

DMURS seeks to balance the needs of all users by creating well designed streets at the heart of sustainable communities. It states that *“Well designed streets can create connected physical, social and transport networks that promote real alternatives to car journeys, namely walking, cycling or public transport”*.

2.2 THE DMURS USER HIERARCHY

DMURS set out a clear a user hierarchy which promotes and prioritises sustainable forms of transport that designers must follow when preparing schemes. The Mayeston design team have adhered to this hierarchy, by assigning higher priority to the movement of pedestrians and cyclists within the development.


2.3 DMURS DESIGN PRINCIPLES

At the heart of DMURS is a place-based, integrated approach to road and street design with the following four overarching design principals to be applied to the design of all urban roads and streets:

- Design Principle 1: *“To support the creation of integrated street networks which promote higher levels of permeability and legibility for all users, and in particular more sustainable forms of transport”*.
- Design Principle 2: *“The promotion of multi-functional, place-based streets that balance the needs of all users within a self-regulating environment”*.
- Design Principle 3: *“The quality of the street is measured by the quality of the pedestrian environment”*.
- Design Principle 4: *“Greater communication and co-operation between design professionals through the promotion of a plan-led, multi-disciplinary approach to design”*.

The ways in which the proposed development complies and adheres to the design principles of DMURS is described in the following sections, with details of how the various design elements will be implemented throughout the scheme.

3 DMURS Design Attributes

DESIGN ELEMENT	DMURS GUIDANCE	PROPOSED DEVELOPMENT ADOPTED DESIGN APPROACH
<p>Movement Function</p>	<p>DMURS encourages designers to consider the movement function of a street / street network and develop a street hierarchy reflective of the levels of connectivity required and volumes of traffic</p>	<p>The proposed development street hierarchy is composed of Primary Link Streets, Primary Local Streets as well as pedestrian areas.</p> <p>The Primary Local Street will form an extension of 'Mayeston Green' which runs along the eastern boundary of the proposed development site. In recognition of both its movement function this street has been designed with a 6m wide carriageway, on-street parking and a segregated footpath on the western side of the street.</p> <p>The function of the Local Streets will be to provide access within parking section of the development and also contribute to a high-quality sense of 'place' through the proposed landscaping proposals and material finishes. In particular, the pedestrian areas will prioritise the movement of people over vehicles and provide access for emergency vehicles only.</p> <p>The overall network design has sought to optimise connectivity to and from public transport and provide high quality facilities for pedestrians and cyclists. In parallel, the adopted design philosophy has also sought to consider the context / place status of each street in terms of level of connectivity and permeability provided, quality of the proposed design, level of pedestrian/cyclist activity and vulnerable users requirements while also identifying appropriate 'transition' solutions between the different street types.</p>  <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="width: 20px; height: 10px; background-color: yellow; margin-right: 5px;"></div> Link Street <div style="width: 20px; height: 10px; background-color: blue; margin-right: 5px;"></div> Local Street </div>

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Place Function	<p>The 'Place Function' essentially distinguishes a street from a road, achieved largely by creating a relationship between the street and the buildings and spaces that frame it, ultimately resulting in a richer and more fulfilling environment.</p>	<p>The adopted design philosophy has sought to achieve a very high quality 'sense of place' by incorporating several large green open space areas to encourage social activity as well as facilitating movement of pedestrians and cyclists. Green open spaces are provided throughout the site including recreational paths and seating areas. Large pockets of open spaces located within the centre of the development and adjacent to Block E have been proposed as natural parks / play areas.</p> <p>There are also several smaller landscaped areas provided between the blocks, along with landscaped buildouts throughout the car parking areas contributing to an aesthetically pleasing streetscape.</p> <p>Furthermore, the type of surface materials, landscaping and street furniture have been chosen with consideration of both their aesthetic qualities and context of the existing surrounding environment.</p> <p>The design has also sought to minimise the impact of highway features by avoiding excessive signing, road markings and street furniture. Significant levels of enclosure along each street type has been achieved by the building orientation and tree planting. This contributes to providing a more intimate and supervised street environment.</p>
Street Layout	<p>DMURS looks to encourage street layouts where "all streets lead to other streets, limiting the number of cul-de-sacs that provide no through access" and maximise the number of walkable / cyclable routes between destinations.</p>	<p>The street layout has been influenced by several factors including the Fingal Development Plan 2023-2029, as well as current boundary conditions, hedgerows and existing / future development in the locality.</p> <p>The resulting street layout encompasses a limited number of cul-de-sacs with filtered permeability maintained for walking / cycling throughout and provides appropriate connections to the wider road network, thereby optimising the permeability of the site and complying with DMURS design principles.</p>
Block Sizes	<p>DMURS state the following optimal block dimensions:</p> <ul style="list-style-type: none"> • 60-80m for local centres • 100m in neighbourhoods or suburbs 	<p>The block sizes within the proposed development are optimised in line with the density being approximately 100m and thereby comply with the requirements of DMURS. These compact block sizes within the development maximise accessibility and permeability particularly for those travelling on foot or by bicycle.</p>
Wayfinding	<p>DMURS states that in general <i>"the more the orthogonal street layout the more legible it will be (as well as being the most connected)"</i></p>	<p>A legible street pattern has been adopted for the proposed development in accordance with DMURS through creating defined footpaths either side of the Link/Local Streets, whilst pedestrian areas defined by changes in materials and landscaping. The site will also provide vehicular and pedestrian connections to 'Mayeston Green', Mayeston Downs and onwards to the Local Centre and R104 to the south.</p>

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Permeability	<p>Permeability can be categorised into four types:</p> <ul style="list-style-type: none"> • Dendritic Networks • Open Networks • 3 Way Off-Set Networks • Filtered Permeability 	<p>The development strategy primarily adopts an Open Network model with elements of filtered permeability incorporated into the design, thereby maximising connectivity between key local destinations. The scheme affords a high degree of permeability and legibility for all network users, particularly for sustainable forms of travel.</p> <p>High-quality landscaping and public realm will contribute to making the proposed development an attractive, pleasant environment for pedestrians / cyclists with direct pedestrian links connecting to accessible play and recreation areas. Thus, the proposed site layout design aims to support local trips between the subject site, Local Centre, surrounding key services / amenities and schools to be made either on foot or by bike.</p> <p>The site aims to offer a well-connected, self-regulating street network with appropriate levels of internal connectivity delivered for motorised vehicles, via the Link/Local Street and excellent levels of connectivity and permeability for pedestrians/cyclists through, to and from the development site.</p>
Approach to Speed	<p>DMURS states that designers should balance speed management, the values of place and reasonable expectations of appropriate speed according to Context and Function. Where vehicle movement priorities are low, such as on Local Streets, lower speeds limits should be applied (30km/h).</p>	<p>The Link Streets have been designed in accordance with DMURS design parameters for a 50km/h design speed, whilst the Local Streets have been designed in accordance with the design parameters for a 30km/h design speed.</p>
Street Trees, Planting & Street Furniture	<p>DMURS primarily considers street trees in terms of enclosure and suggests that for ratios of building height and street width within this development that supplementary street trees are desirable.</p>	<p>A comprehensive landscape masterplan for the proposed development has been prepared. The landscape masterplan reinforces a sense of street enclosure through the areas of planting, landscaped buildouts and street trees with appropriate canopy spreads best suited to Link/Local Streets and pedestrian areas for optimal compliance with DMURS.</p>

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Active Street Edges	Designers should aim for active street edges which provide passive surveillance and promote pedestrian activity	The layout of the apartment blocks has been arranged to ensure that pedestrian/cyclist routes through the open space areas are overlooked as much as possible to increase passive surveillance.
Signage & Line Marking	DMURS notes that designers should use discretion with regard to the self-regulating characteristics of streets and the impact of signs / line marking on the value of place	In recognition of the low-speed nature of the internal street network, the proposed design has sought to minimise signage and line marking with such treatments used sensitively throughout. It is considered that the street design, together with the proposed landscaping and surfacing material will provide an environment which is both intuitive for motorists and self-regulating. 'Stop' line markings are proposed at the at the internal junctions to reinforce the requirement for motorists, with priority given to the primary street.
Materials & Finishes	DMURS states that designers should use " <i>contrasting materials and textures to inform pedestrians of changes to the function of space (i.e. to demarcate verges, footway, strips, cycle paths and driveways) and in particular to guide the visually impaired</i> "	The range of proposed materials is in line with the requirements of DMURS with the Local Streets being formed using standard macadam / asphalt finishes. Pedestrian areas will be formed using block paving to further reinforce the different pedestrian space nature of the environment compared to the remaining network. The use of tactile paving has been applied throughout in accordance with the guidance contained within the Traffic Management Guidelines (2003) and the UK Department for Transport 'Guidance on the use of Tactile Paving Surfaces' (December, 2021) to ensure a logical and navigable pedestrian environment is delivered for those with visual impairments.
Footways	DMURS notes that well designed footpaths are free of obstacles and wide enough to allow pedestrians to pass each other in comfort.	Clear, unobstructed footpaths (min. 1.8m wide) are provided within the proposed development with connections and tie-ins to proposed external pedestrian networks thereby complying with DMURS requirements.
Pedestrian Crossings	DMURS considers crossings to be "one of the most important aspects of street design as it is at this location that most interactions between pedestrians, cyclists and motor vehicles occur".	Well-designed pedestrian crossing facilities are provided at frequent intervals along key travel desire lines throughout the scheme in addition to those located at street nodes. All courtesy crossings are provided with tactile paving and dropped kerbs thereby allowing pedestrians to informally assert a degree of priority.

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Corner Radii	Reducing corner radii improves pedestrian and cyclist safety at junctions by lowering vehicle speeds and increasing intervisibility between users.	With the objective of encouraging low vehicle speeds and maximising pedestrian safety and convenience, corner radii have been provided as per DMURS guidance: <ul style="list-style-type: none"> Turning movements from a Link Street towards a Local Street have generally been specified as between 3.0m-4.5m, as informed by swept path analysis.
Cycling Facilities	DMURS refers to the National Cycle Manual (NCM) as the principle form of guidance in relation to guidance on the design and provision of appropriate cycle facilities.	An overall provision of 358 no. cycle parking spaces will be provided across the development. This provision is in accordance with both FCC and DHPLG's requirements. The resident cycle spaces (240 spaces) are to be located in secure, covered cycle stores within the curtilage of the property. Short-stay spaces (118 spaces) will be provided in the form of Sheffield Stands and will be distributed across the site. These stands have been located in overlooked areas enabling passive surveillance, thereby enhancing security.
Carriageway Widths	DMURS recommends the following carriageway / lane widths: <ul style="list-style-type: none"> Local Street lane widths within the range of 2.52.75m (i.e. carriageway width of 5.0m-5.5m) Shared Surface carriageway width should not exceed 4.8m 	The proposed residential developments internal street network and carriageway widths are compliant with DMURS, incorporating: <ul style="list-style-type: none"> Link Streets: The Link Street comprises a 6.0m wide carriageway. Local Streets: The Local Streets comprise a 5.5m wide carriageway.
Carriageway Surfaces	Where low design speeds are desirable DMURS states that changes in colour and/or texture should be used periodically such as at crossings or where shared carriageways are proposed (i.e. 10-20km/h) applied to the full length of the street	The Link and Local Street network will be primarily formed using standard macadam / asphalt finishes, whilst footpaths will be formed by block paving To reinforce narrower carriageways (particularly when parking spaces are empty), each parking space at surface level is finished so that it is clearly distinguishable from the main carriageway, i.e., paved versus black top/buff finish.

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Junction Design	DMURS notes that junction design is large determined by volumes of traffic and that designers should take a more balanced approach to junction design catering for all users	Vehicles will be able to access the site via an extension to the existing Local Street (Mayeston Green). All other junctions internally within the site are priority controlled which is consistent with the proposed traffic flows and compliant with DMURS.
Forward Visibility & Visibility Splays	DMURS provides SSD Standards in relation to forward visibility requirements at junctions to ensure drivers have sufficient reaction time	Appropriate clear unobstructed visibility splays is provided on both the horizontal and vertical planes. These splays, adheres to DMURS's requirements; is being provided / safeguarded at all internal nodes and at the site access junctions to the external road network.
Horizontal & Vertical Deflections	DMURS highlights that traffic calming features should be provided on longer straights where there is more than 70m between junctions.	Horizontal deflections including buildouts have been incorporated at strategic locations, which together with the proposed internal street geometry will help to create a self-regulating speed environment as well as offering opportunities to facilitate soft landscaping features such as street trees.
Kerbs	DMURS recommends kerbs heights of 125mm on Link Streets, lower kerb heights of 60mm are appropriate where pedestrian activity is higher & design speeds lower. No kerb should be provided for shared surface areas.	Internally within the development, carriageway kerb heights will comply with DMURS requirements. There are also several build-outs proposed throughout the scheme some of which will be required to protect site services, these will have a full height kerb 100mm to prevent overrun by vehicles.
On-Street Parking	Well-designed on-street parking can help calm traffic, although a balance needs to be struck as an over provision will conflict with sustainability objectives and be visually dominant.	In accordance with DMURS, parking is provided through a mix of in curtilage and on-street spaces measuring: <ul style="list-style-type: none"> - Perpendicular: 5.0m -5.5m x 2.4m - Parallel: 6.0m x 2.4m The on-street car parking at the development includes a combination of perpendicular and parallel bays along the internal street network. In accordance with DMURS, the parallel parking bays are dimensioned

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		6.0m x 2.4m. Where the parallel surface parking is provided, four / five continuous spaces are broken up by landscaping to minimize the visual dominance of the on-street parking.
Multi-disciplinary Design Team	DMURS advocates multidisciplinary input into the development of a scheme to ensure a holistic design approach is implemented	In accordance with design philosophy of DMURS, the proposed scheme has been prepared by a multi-disciplinary design team including BSM (Planning), O'Briain Beary (Architects), Roadplan Consulting (Transport Engineers), Downes Associates (Civil and Structural), Belton Consulting Engineers (M&E) and RedScape (Landscape Architects).

4 Summary & Conclusions

4.1 SUMMARY

Roadplan Consulting has been commissioned by O'Briain Beary Architects (OBBA) on behalf of the Fingal County Council to prepare a DMURS Design Statement for a proposed residential development at Mayeston, Poppintree, Dublin 11.

The development layout has been prepared with careful consideration by optimising connectivity between key local areas through the provision of a high degree of permeability and legibility for all network users and particularly prioritising sustainable forms of travel.

Accordingly, the proposed residential scheme delivers greater modal and route choices along direct, attractive and safe linkages to a range of local amenities and bus stops. The development layout incorporates a clear, legible hierarchy of streets.

The adopted design philosophy has sought to achieve a very high quality 'sense of place' by incorporating green open space areas to encourage social activity.

The context / place status of each Local Street and pedestrian areas was also considered in terms of the level of connectivity provided, level of pedestrian and cyclist activity as well as vulnerable users requirements, while also identifying appropriate 'transition' solutions between different street types. Appropriately sized blocks, together with filtered permeability delivers an overall street network that is highly permeable, legible and accessible in nature for all road users.

4.2 CONCLUSION

The preceding sections of this report outline the proposed development attributes which contribute to achieving the DMURS design objectives. The overall design approach successfully achieves an appropriate balance between the functional requirements of different network users, while also providing for an enhanced sense of place. The implementation of a self-regulating street network will actively manage movement by offering sustainable modal and route choices in a low speed, high-quality residential environment.

Consequently, the proposed development is the outcome of an integrated design approach which will ultimately deliver safe, convenient and attractive networks in addition to promoting real and viable alternatives to car-based journeys.