



TECHNICAL NOTE 190009/001

Subject:	DMURS Design Statement	Produced by:	AD
Project:	Newtownmoyaghy SHD	Checked by:	DR
Job No:	190009	Date:	06/11/2019

1.0 INTRODUCTION

- 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) (Version 1.1, 2019). 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 This Technical Note outlines 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.
- 1.1.3 The following documents, which are included with the Planning submission, were reviewed among others:
- DBFL Consulting Engineers `Traffic and Transport Assessment`
 - Roads Hierarchy Plan: Drg. No. 190009-DBFL-XX-XX-DR-C-2000
 - Roads Layout Sheet 1 of 3: Drg. No. 190009-DBFL-XX-XX-DR-C-2001
 - Roads Layout Sheet 2 of 3: Drg. No. 190009-DBFL-XX-XX-DR-C-2002
 - Roads Layout Sheet 3 of 3: Drg. No. 190009-DBFL-XX-XX-DR-C-2003
 - Overall Roads Layout: Drg. No. 190009-DBFL-XX-XX-DR-C-2004
 - Transportation Linkages: Drg. No. 190009-DBFL-XX-XX-DR-C-1000

2.0 DMURS OBJECTIVES

- 2.1.1 DMURS seeks to balance the needs of all users, 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"



2.1.2 DMURS also seeks to create streets which are attractive places and encourage designs appropriate to context, character and location that can be used safely and enjoyably by the public.

The DMURS User Hierarchy

2.1.3 DMURS set out a clear user hierarchy which promotes and prioritises sustainable forms of transport that designers must follow when preparing schemes. The design team have adhered to this hierarchy, by assigning higher priority to the movement of pedestrians and cyclists within the development and implementing self-regulating streets which actively manage movement in a low speed, high-quality residential environment.

DMURS Design Principles

2.1.1 At the heart of DMURS is a place-based, integrated approach to road and street design with the following four overarching design principles 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, multidisciplinary approach to design

2.1.2 Compliance of the proposed development with the design principles of DMURS is described in the following section, with details of how these will be implemented through adherence to recommendations in relation to individual design elements.



3.0 DMURS DESIGN ATTRIBUTES

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
Movement Function	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>The proposed development street hierarchy is composed largely of Local Streets, the main function of these being to provide access within/across the development. These Local Streets have been further sub-categorised into Primary Local, Secondary Local and Shared / Homezone in respect of the differing levels and mix of motorised/non-motorised traffic accommodated on each.</p> <p>This network of Local Streets connects to a Link Street providing the proposed residential development with connections to the R148 (to the south), the R125 (to the northwest), as well as the local centre and community infrastructure such as schools, shops and sports clubs. The Link Street is being delivered in phases, with the first phase constructed as part of the Millerstown Phase 1 works currently under construction.</p>
Place Function	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	The adopted design philosophy has sought to achieve a quality 'sense of place' by incorporating several green open space areas to encourage social activity. 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. The design has also sought to minimise the impact of highway features by avoiding excessive signing, road markings and street furniture.
Street Layout	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	The street layout has been influenced by several factors including the Kilcock LAP 2015–2021, Meath County Development Plan 2013-2019, boundary conditions, future and existing development, watercourses and hedgerows. The resulting street pattern is largely a grid pattern with some curvilinear sections, creating attractive curvilinear streetscapes. The use of cul-de-sacs has been limited with through access maintained for walking/cycling throughout, thereby maximising connections within the site and complying with DMURS principles.
Block Sizes	DMURS states that block dimensions of 60-80m are optimal for pedestrian movement in Centres, whilst block dimensions of up to 100m enable reasonable levels of pedestrian permeability in Neighbourhoods / Suburbs. Block dimensions should not exceed 120m	The blocks sizes within the proposed development are optimised in line with density and comply with the requirements of DMURS



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Wayfinding	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>	The grid and curvilinear street pattern adopted for the proposed development is recognised by DMURS as being generally legible in terms of wayfinding.
Permeability	Permeability can be categorised into four types: <ul style="list-style-type: none"> • Dendritic Networks • Open Networks • 3 Way Off-Set Networks • Filtered Permeability 	The development strategy primarily adopts an open network model with elements of a 3 way off-set network, maximising connectivity between key local destinations through the provision of a high degree of permeability and legibility for all network users particularly for sustainable forms of travel.
Approach to Speed	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)	The proposed development has a design speed of 30kmh, with streets designed to ensure they are self-regulating through a combination of ‘soft’ (landscaping and active edges) and ‘hard’ measures (street geometry, raised tables and build outs).
Street Trees, Planting & Street Furniture	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	A comprehensive landscape masterplan for the proposed development has been prepared by Landscape Architects. The masterplan reinforces a sense of street enclosure through the addition of street trees with appropriate canopy spreads best suited to Local Streets for optimal compliance with DMURS.
Active Street Edges	Designers should aim for active street edges which provide passive surveillance and promote pedestrian activity	On-street activity is promoted within the internal layout on Local Streets through the adoption of ‘own-door’ dwellings and corner plots have been designed with dual aspect units.
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 and low movement function of Local Streets , the proposed design has sought to specify minimal signage and line markings along the internal local streets with such treatments used sensitively throughout.



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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 Primary and Secondary Local Streets (e.g. leading to/from the site access nodes with the Link Street) will be formed using standard macadam / asphalt finishes. At each of the at-grade flat top pedestrian crossing / traffic calming table treatments, different surface material treatments are proposed to alert and subsequently influence driver behaviour and vehicle speeds. Homezone will be distinguished through the application of different coloured surfacing.
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 of no less than 2.0m wide are provided throughout the scheme, with connections and tie-ins to existing external pedestrian networks thereby complying with DMURS requirements.
Pedestrian Crossings	DMURS considers crossings to be <i>"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"</i> .	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 either dropped kerbs or a raised flat top treatment thereby allowing pedestrians to informally assert a degree of priority. All informal pedestrian crossing facilities are at least 2.0m wide, whilst all controlled pedestrian crossings are at least 2.4m wide and all toucan crossings are 4.0m wide or more.
Corner Radii	Reducing corner radii improves pedestrian and cyclist safety at junctions by lowering vehicle speeds and increasing inter-visibility 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, at: <ul style="list-style-type: none"> Link / Local nodes has been specified as 6.0m where required as informed by swept path analysis, and Local / Local nodes has been specified as 3.0m
Pedestrian & Shared Surfaces	In the context of the proposed development, DMURS recognises the use of shared surfaces as being highly desirable where <i>"movement priorities are low and there is a high place value in promoting more liveable streets (i.e. homezones) such as on local streets within neighbourhood"</i>	A small number of homezones are proposed within the development and have been designed to incorporate features that ensure drivers recognise that they must share the space with non motorised users. This has been achieved by applying differing materials and finishes within Homezone areas.
Cycling Facilities	DMURS references the National Cycle Manual (NCM) in terms of the provision of appropriate cycling facilities.	Segregated pedestrian and cycle facilities are provided along the Link Street . The design of the previously approved roundabout connecting the Link Street and Primary Local Street has been revised to incorporate 'continental' style cycle facilities, providing cyclists with off-



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		<p>road passage through the roundabout. The developments Primary Local Streets connecting with the Link Street incorporate dedicated bicycle infrastructure with one-way cycle tracks (1.5m minimum wide) designed in accordance with the NCM. Along the remaining lightly trafficked internal Local Streets, cyclists will share the carriageway with other street users as per the NCM guidance for such situations.</p>
<p>Carriageway Width</p>	<p>DMURS states that Links Streets should lie in the range of 2.75m to 3.5m, while on Local Streets carriageway widths should be between 5.0m-5.5m and on local streets where a shared surface is provided should not exceed 4.8m</p>	<p>The proposed residential developments internal street network are compliant with DMURS, incorporating:</p> <ul style="list-style-type: none"> • Local Streets: 5.5m wide carriageways; • Link Street (partially constructed/under construction) provides linkages between the R148 and R125 is 7.3m wide with a 1.5m wide grass verge, 1.5m wide off-road cycle track and 2m wide footpath provided on both sides.
<p>Carriageway Surfaces</p>	<p>Where low design speeds are desirable (i.e. 30km/h) DMURS states that changes in colour and/or texture of the carriageway 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</p>	<p>Homezone streets will be differentiated through the application of differing coloured surfacing on the carriageways.</p>
<p>Junction Design</p>	<p>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</p>	<p>All junctions within the proposed development will be priority controlled which is consistent with the proposed traffic flows and complies with the requirement of DMURS for junctions between Local Streets and between Local / Link Streets.</p>
<p>Forward Visibility & Visibility Splays</p>	<p>DMURS provides SSD Standards in relation to forward visibility requirements at junctions to ensure drivers have sufficient reaction time</p>	<p>Appropriate clear unobstructed visibility splays on both the horizontal and vertical planes, as per DMURS requirements; are provided / safeguarded at all internal nodes and at the site access junctions to the external road network.</p>
<p>Horizontal & Vertical Deflections</p>	<p>DMURS highlights that traffic calming features should be provided on longer straights where there is more than 70m between junctions</p>	<p>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. Raised tables / platforms have been located at Local / Link nodes, including raised zebra crossings on all arms of the proposed roundabout. The maximum height of these raised flat top treatments is designed to be 75mm with a minimum flat top width of 2.0m. Buildouts and speed reduction bends have also been incorporated into the Local Streets as traffic calming features making the local streets self-regulating.</p>



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Kerbs	DMURS provides indicative kerbs heights of 125mm on Link Streets for clear segregation, while lower kerb heights of 60mm are appropriate pedestrian activity is higher & design speeds lower i.e. Local Streets and no kerb should be provided for shared surface	Internally within the development carriageway kerb heights will comply with DMURS requirements having been specified as follows: <ul style="list-style-type: none"> • Link Street: 125mm, • Primary / Secondary Local Streets: 60mm
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 provided through a mix of in curtilage perpendicular spaces measuring 5m x 2.5m (dwellings), off street car park areas and parallel spaces measuring 6m x 2.4m (apartments). The provision of on-street car parking includes both parallel and perpendicular parking bays along either one or both sides of the internal local streets. The potential dominance of both on and off street car park areas for the apartments are actively managed through the provision of landscaped buffers and street trees.
Multi-disciplinary Design Team	DMURS advocates multi-disciplinary input into the development of a scheme to ensure a holistic design approach is implemented	In accordance with design philosophy of DMURS, the proposed development has been prepared by a multi-disciplinary design team including CCK (architects), DBFL Consulting Engineers (civil engineers & transport planning) and NMP (landscape architects).
Road Safety Audit (RSA)	RSAs are required to identify potential hazards and how they could affect road users. They should be undertaken in full cognisance of the principles, approaches and standards contained within DMURS	RSAs will be considered for all stages of the development to ensure adequate and appropriate measures are included guaranteeing satisfactory standards of personal and traffic safety

