Project

Ballyoulster SHD - Phase 1 Residential Development Celbridge, Co. Kildare

Report Title

DMURS COMPLIANCE STATEMENT

Client

Kieran Curtin, Receiver over certain assets

of Maplewood Developments Unlimited Company (in

liquidation and in receivership)



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1.0 INTRODUCTION

- 1.1.1 This DMURS Statement is submitted in relation to the proposed Strategic Housing development on lands at Dublin Road and the Shinkeen Road, within the townlands of Donaghcumper and Ballyoulster, Celbridge, Co. Kildare.
- 1.1.2 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 and complies with the recommendations of DMURS, as required by Objective MT03.08 in the Celbridge LAP. 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.

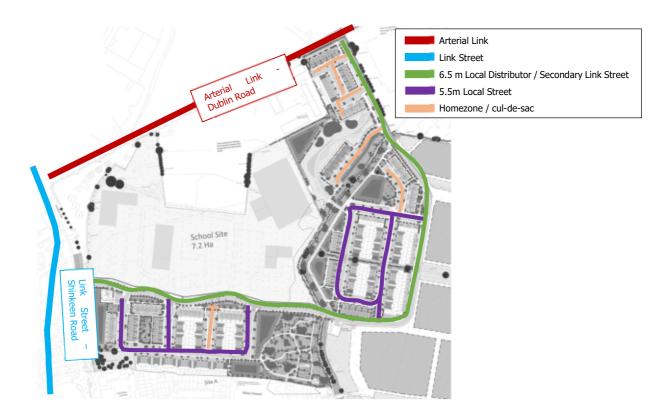
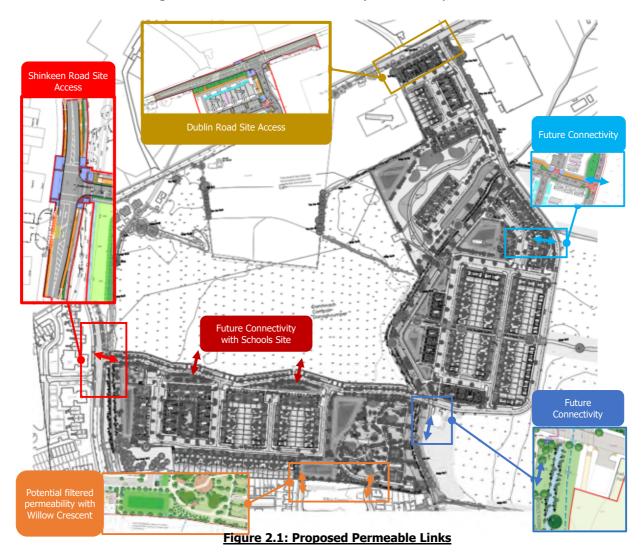


Figure 1.1: Road Hierarchy

- 1.1.3 The proposals incorporate a hierarchy of internal streets which are firmly set within the context of the local receiving environment. The existing road network in the local area includes Arterial Links & Link streets such as the Dublin Road corridor Arterial Link located to the north and Shinkeen Road Link Street situated to the west of the subject site.
- 1.1.4 The internal road network comprises a proposed 'Local Distributor' Road, 'Local' streets and 'Homezones' to provide appropriate access within the proposed Phase 1 development and the road network external to the site.

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 2-1 below shows the proposed and potential external linkages which could be facilitated by the development.



- 2.1.2 In addition to the proposed **`main site access route'** located at Shinkeen Road and Dublin Road, the proposed scheme accommodates the following **`cycle / pedestrian only'** permeable links:-
 - 1) the proposed development includes pedestrian infrastructure up to the application site boundary to facilitate potential future filtered permeable

links with the existing residential settlement of Willow Crescent by way of 2 no. non-vehicular connections, subject to agreement;

- 2) Future permeable link to potential future development; and
- 3) Permeable link between Site B and local distributor road (and future development phases).

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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 SPEED DESIGN

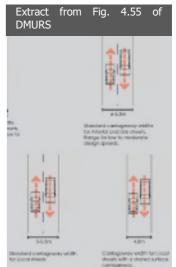
3.2.1 The design speeds for the street typologies as per DMURS Table 4.1 are detailed in **Table 3.1** below in the context of neighbourhood areas. For streets performing a 'local' function within a 'neighbourhood' context, a design speed of 10-30km/h is recommended within DMURS. For streets performing a 'link' function within a 'neighbourhood' context, again a design speed of 10-30km/h is recommended within DMURS.

Street	DMURS Function	DMURS Context	DMURS Design Speed Range	Applied Design Speed
Internal Residential Streets Within Development	Local	Neighbourhood	10-30km/h	30km/h
Local Distributor Road	Link	Neighbourhood	30-50km/h	30km/h
Table 2.1: Street Speed Design				

Table 3.1: Street Speed Design

3.3 STREET CROSS SECTIONS

- 3.3.1 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.
- 3.3.2 All 'Local' and 'Homezone' streets are designed to be 5.5m wide with dedicated pedestrian footpaths. The proposed Local Distributor Road has been designed to have a road width of 6.5m consistent with a 'Link Street' function..



Street	DMURS Function	Street Width	
Local / Homezone Streets	Local	5.5m	
Local Distributor Road	Link	6.5m	
Table 3.2: Street Widths			

3.4 HORIZONTAL AND VERTICAL GEOMETRY

- 3.4.1 The alignment of the street network has been designed to take account of existing site constraints including the levels of the 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.
- 3.4.2 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.

Road	Design Speed	Minimum Horizontal Radius with adverse camber of 2.5%	Vertical Crest Curve K Value	Vertical Sag Curve K Value	Min. Gradient	Max. Gradient
Distributor	30km/h	36m (17m)*	N/A	>2.3	1/40	1/30
Local	30km/h	3m*	N/A	>2.3	1/40	1/30
* tight corner radius at potential conflict points (parking areas/junctions) to ensure low vehicle speeds on approach						

Table 3.3: Street Geometry Parameters

3.5 JUNCTION DESIGN

- 3.5.1 As part of the development new ghost island priority controlled T-Junctions are proposed on Shinkeen Road and Dublin Road in accordance with Section 4.4.3 of DMURS.
- 3.5.2 The proposed 6m access junction radii comply with those recommended in Figure4.43 of DMURS in order to ensure reduced vehicle speeds and short pedestrian crossing distances.
- 3.5.3 4.5m junction radii are proposed at all residential block accesses along the proposed local distributor road, whilst 3.0m junction radii are proposed at all internal junctions within each of the 3 residential sites. Again, these junction radii

comply with those recommended in Figure 4.43 of DMURS in order to ensure reduced vehicle speeds and short pedestrian crossing distances.

3.5.4 Unobstructed visibility splays are provided at all internal nodes and at site access junction on Shinkeen Road and Dublin Road in addition to all internal junctions onto the proposed local distributor road and within the individual Phase 1 residential sites (plus proposed connections to future development lands). Both visibility splays and stopping site distances are in accordance with DMURS Table 4.2.

Location	Set Back	Stopping Sight Distance		
Site Access Junctions	2.4m	>45m		
Internal Junctions (Distributor Road)	2.4m	>23m		
Internal Junctions (Local Streets)	2.0m	>23m		
Table 2.4: Street Coometry Darameters				

Table 3.4: Street Geometry Parameters

3.6 ON-STREET PARKING

- 3.6.1 Parking for the proposed housing units has generally been provided in curtilage. An element of visitor parking has also been provided on-street in the form of parallel & perpendicular parking spaces at various locations whilst on-street parking has been proposed for duplex / apartment / maisonette units and the creche.
- 3.6.2 In-line with DMURS guidance (Section 4.4.9) no more than 6 no. perpendicular car parking bays and no more than 3 no. parallel car parking bays per bank have been provided. Banks of car parking have been segregated by way of island build-outs ensuring the visual impact of car parking on-site is reduced.
- 3.6.3 Parallel spaces have been designed as 2.5m wide by 6m long and perpendicular spaces are 2.5m wide by 5.0m long.

3.7 TRAFFIC CALMING

3.7.1 DMURS recommends the use of the physical and psychological measures used in combination to have an impact on driver behaviour. Within the development the use of narrow streets is used in combination with on-street parking and the use of landscaping such as supplementary street trees to reduce the perceived with of

the streets (psychological measures) and physical traffic calming has been incorporated to reinforce a low vehicle speed environment. In summary, the following key traffic calming features has been incorporated into the layout:-

- Tight corner radii;
- Meandering road alignment;
- Narrow streets (5.5m);
- Supplementary trees to reduce perceived width;
- Horizontal deflection;
- Vertical deflection;
- On-street parking; and
- Frequent accesses.
- 3.7.2 Adequately 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.
- 3.7.3 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.
- 3.7.4 3 no. raised flat top Toucan crossing facilities are proposed along the proposed local distributor road including 2 no. along the frontage of Site A and 1 no. at Site B. 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.
- 3.7.5 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.
- 3.7.6 3 no. raised flat top Toucan crossing facilities are proposed along the proposed local distributor road including 2 no. along the frontage of Site A and 1 no. at Site C.

3.8 STREET ENCLOSURE

3.8.1 Section 4.2.1 if DMURS states; '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.'

3.8.2 The development contains enclosing streets forming a 'moderate' sense of enclosure within the local streets within residential sites where a Building Height to Street Width ratio of 1:3 exists. There is generally a continuous street wall and street planting to supplement.

4.0 DMURS OBJECTIVES

4.1 **OVERVIEW**

4.1.1 DMURS seeks to balance the needs of all users, creating well-designed streets at the heart of sustainable communities. It states that:

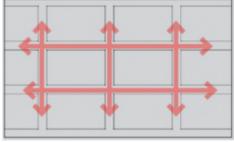
"Well designed streets can create connected physical, social and transport networks that promote real alternatives to car journeys, namely walking, cycling or public transport"

- 4.1.2 DMURS seeks to create streets which are attractive places and encourage designs appropriate to context, character and location that can be used safely by the public. The recommended approach includes the adoption of a more integrated model of street design, where barriers (physical and perceived) are removed to promote more equitable interaction between users in a safe and traffic calmed urban environment.
- 4.1.3 This integrated approach incorporates elements of urban design and landscaping that contribute to positively influence behaviour. The recommended approach creates environments where:
 - Street Networks are similar in structure (more eligible) with higher levels of connectivity (more permeability) thus reducing travel distances.
 - Higher quality street environments attract pedestrians and cyclists, promoting the use of sustainable modes of transport.
 - Self-regulating streets proactively manage vehicle driver behaviour and calm traffic, promoting safer streets.
 - Street and junctions are more compact, providing better value for money.

4.2 PLACEMAKING

4.2.1 DMURS recommends that whilst the movement of traffic is still a key issue, there are several others, including the 'sense of place', which are of core significance to the creation of safe and more integrated street designs. DMURS reveals that place can be difficult to define but can be measured and relate to;

CONNECTIVITY : The creation of a vibrant and active places requires pedestrian activity. This in turn requires walkable street networks



that can be easily navigated and are well connected.

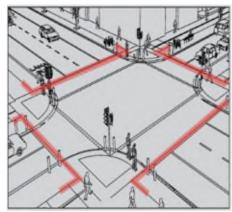
ENCLOSURE : A sense of enclosure spatially defines streets and creates a more intimate and supervised environment. A sense of enclosure is achieved by orientating buildings toward the street and placing them along its edge. The use of street trees can also enhance the feeling of enclosure.



ACTIVE EDGE : An active frontage enlivens the edge of the street creating a more interesting and engaging environment. An active frontage is achieved with frequent entrances and openings that ensure the street is overlooked and generate pedestrian activity as people come and go from buildings.

PEDESTRAIN ACTIVITY / FACILITIES: The sense of intimacy, interest and overlooking that is created by a street that is enclosed and lined with active frontages enhances a pedestrian's feeling of security and well-being. Good pedestrian facilities (such as wide footpaths and well designed crossings) also make walking a more convenient and pleasurable experience that will further encourage pedestrian activity.





4.3 THE DMURS USER HIERARCHY

4.3.1 DMURS set outs a clear hierarchy for scheme designers prioritising sustainable forms of transport. Walking is the most sustainable form of transport with all journeys beginning / ending on foot. By prioritising design for pedestrians, the number of short

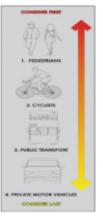
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journeys taken by car can be reduced, public transport made more accessible, and the delivery of walkable communities addresses issues of social equity. DMURS reveals that cyclists must be afforded a high priority as trips by bicycle have the potential to replace motor vehicles as an alternative means of transport for short to medium range trips.

4.3.2 The movement of buses should be prioritised over other motorised vehicles according to DMURS whilst the placement of private motor vehicles at the bottom of the user hierarchy is not anti-car but acknowledges that a balanced solution is required with the

needs of the car no longer taking priority over (i) the needs of other users or (ii) the value of place within the proposed residential development and across the local receiving environment.

4.3.3 The design team have adhered closely 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 vehicle movements within a low speed, high-quality residential environment.



4.4 DMURS DESIGN PRINCIPLES

- 4.4.1 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.

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- **Design Principle 4:** Greater communication and co-operation between design professionals through the promotion of a plan-led, multidisciplinary approach to design.
- 4.4.2 Compliance of the proposed development with the design principles of DMURS is described in the following chapter, with details of how these will be implemented through adherence to recommendations in relation to individual design elements.

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 connectively required and volumes of traffic	The proposed development's street hierarchy is illustrated in Figure 1-1 within the Introduction. The proposed internal network incorporates a structured hierarchy of integrated residential streets responding to their context and function attributes; • Type 1 : Secondary LINK Street – 30kph design speed • Type 2 : Secondary LOCAL Street – 20kph design speed • Type 3 : Shared surface 'Homezone' – 20kph design speed • Type 3 : Shared surface 'Homezone' – 20kph design speed Meandering east-west and north-south through the subject site from the Dublin Road Access to the Shinkeen Road Access is connected via the Secondary LINK Street. This Secondary LINK Street has been purposively designed (30kph design speed) through the masterplan development lands to actively manage vehicle speeds and discourage through traffic. Segregated cycle tracks are proposed along certain sections of the LINK street and the LOCAL Street. The narrower 5.5m wide Primary and Secondary LOCAL streets (20kph) branching off the aforementioned LINK street have been designed to have relatively short lengths of straight sections with tight corner and junction geometry further contributing to managing vehicle speeds. The main function of these LOCAL streets is to provide access within/across the immediate development quarter. The 'Homezone' (20kph) will be enclosed lightly trafficked squares with onwards permeability provided for only pedestrians and cyclists. Within the courtyards higher quality material specifications will be applied to influence its place function.
Place Function	The ' <i>Place Function'</i> 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 ' <i>sense of place'</i> 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. Significant levels of enclosure along each street type as achieved by the building orientation and tree planting contribute to providing a more intimate and supervised street environment.

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
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, boundary conditions, future and existing development, watercourses, hedgerows, and consultations with local residents. The resulting street pattern is largely a grid pattern, creating attractive legible streetscapes. The street layout was derived from several factors which include, the distinct shape of the site, boundary conditions and travel desire lines. This has led to the creation of a street network that comprises elements of an orthogonal and organic layout in specific areas but with through access maintained for walking and cycling throughout, thereby maximising connections within the site and complying with DMURS principles.
Wayfinding	DMURS states that in general "the more the orthogonal street layout the more legible it will be (as well as being the most connected)"	The grid and integrated 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: Dendritic Networks Open Networks 3 Way Off-Set Networks Filtered Permeability	The development strategy adopts an open network model with elements of a filtered permeability network, maximising connectivity between key local destinations through the provision of a high degree of permeability and legibility 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.	 The proposed development has adopted the following approach to vehicle speed, 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). Primary LOCAL Street – 20kph design speed Secondary LOCAL Street – 20kph design speed 'Homezone' – 20kph design speed Private Parking Courtyard – 10-15 kph design speed

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
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 Bernard Seymore Landscape Architects. The masterplan reinforces a sense of street enclosure through the addition of street trees with appropriate canopy spreads best suited to <i>Local Streets</i> for optimal compliance with DMURS. Along straight sections, trees, car parking and buildouts provide a sense of enclosure thereby reducing the perceived width of the carriageway thereby reducing speeds.
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 of all internal <i>Local Streets</i> and Pedestrian / Cycle Only Urban 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 higher place function of <i>Local Streets</i> , the proposed design has sought to specify minimal signage and line markings along the internal local streets with such treatments used sensitively throughout.
Materials & Finishes	DMURS states that designers should use '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	The range of proposed materials is in line with the requirements of DMURS with <i>Local Streets</i> (e.g. leading to/from the site access nodes with the <i>Link Street</i>) 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. <i>Courtyard</i> areas will be distinguished through the application of high-quality material specification in addition to different coloured surfacing materials.
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. Greenways (shared ped / cycle connections) have been designed to incorporate no less than 3.0m as per the guidance outlined in the National Cycle Manual which accompany DMURS

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
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 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.
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: <i>Link</i> / <i>Local</i> nodes has been specified as 6.0m where required as informed by swept path analysis, and <i>Local</i> / <i>Local</i> nodes has been specified as 3.0-4.5m
Pedestrian & Shared Surfaces	In the context of the proposed development, DMURS recognises the use of shared surfaces as being highly desirable where "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"	A small number of <i>Courtyards</i> are proposed within the development and have been designed to incorporate features that ensure drivers recognise that they must proceed with caution within a low speed environment and that they are likely to be sharing the space with non-motorised users. This has been achieved by applying differing materials and finishes within the design philosophy of residential Homezones.
Cycling Facilities	DMURS references the National Cycle Manual (NCM) in terms of the provision of appropriate cycling facilities.	Segregated two-way cycle facilities are provided along the majority of the Secondary <i>LINK</i> Street of the development. The design of this high quality segregated cycle track ensures that a 3.0m wide dedicated two-way facility is delivered in accordance with the guidance outlined within the NCM. At all locations, the cycle facility is segregated from vehicular traffic.
Carriageway Width	DMURS states that LINK Streets should lie in the range of 5.5m to 7m, while on Local	The proposed residential developments internal street network are considered to be compliant with DMURS, incorporating the following carriageway width characteristics:

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
	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	 Carriageway Type 1 Primary LOCAL Street – Typically 5.5m wide carriageway Carriageway Type 2 : Secondary LOCAL Street – Typically 5.5m wide carriageway Carriageway Type 4 : Private Parking Courtyard - Typically 5.5m wide carriageway
Carriageway Surfaces	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	Raised traffic calming features (e.g. flat top junction treatments), pedestrian crossings and shared surfaces such as Homezone area will be differentiated through the application of differing coloured surfacing on the carriageways.
Junction Design	DMURS notes that junction design has traditionally being determined by traffic volumes however it recommends that designers should now take a more balanced approach to junction design catering for all road users' specific requirements	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 <i>Local Streets</i> and between <i>Local / Link</i> Streets.
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 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 in response to the adopted design speeds.

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
Horizontal & Vertical Deflections	DMURS highlights that traffic calming features should be provided on longer straights where there is more than 70m between junctions	Vertical deflections in the form of raised tables have been strategically placed across the Link Street to promote lower design speeds and enable pedestrians / cyclists to cross the street at-grade. Horizontal deflection has been achieved by way of tight corner radii and meandering alignment to provide a self enforcing speed reduction environment. The maximum height of these raised flat top treatments is designed to be 75mm with a minimum flat top width of 2.0m. Junction layout designs (e.g., change of priority), kerb buildouts and speed reduction bends have also been incorporated into the <i>Local Streets</i> as traffic calming features making the local streets self-regulating.
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: 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 is provided through a mix of in curtilage perpendicular spaces, and on- street perpendicular & parallel parking. The potential dominance of both on and off street car park areas are minimised 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 O'Mahony Pike (architects), DBFL Consulting Engineers (civil engineers & transport planning), Bernard Seymour (landscape architects).