DBFL CONSULTING ENGINEERS

Registered Office
Ormond House
Upper Ormond Quay
Dublin 7 Ireland
D07 W704
+ 353 1 400 4000
info@dbfl.ie
www.dbfl.ie

Cork Office
14 South Mall
Cork Ireland
T12 CT91
+ 353 21 202 4538
info@dbfl.ie
www.dbfl.ie

Galway Office
Odeon House
7 Eyre Square
Galway Ireland
H91 YNC8
+353 91 335599
info@dbfl.ie
www.dbfl.ie

Waterford Office
Suite 8b The Atrium
Maritana Gate Canada Street
Waterford Ireland
X91 W028
+ 353 51 309 500
info@dbfl.ie
www.dbfl.ie

DMURS COMPLIANCE STATEMENT

Project:	Leydens Wholesalers & Distributors Dublin, 158A Richmond Road	**Prepared by:**	DG/SAS/VJ
Title:	DMURS Compliance Statement	**Checked by:**	TJ
Client:	Malkey Limited	**Date:**	24/02/2023
Job No:	210178	**Revision:**	P03

1. INTRODUCTION

1.1 OVERVIEW

1.1.1 DBFL Consulting Engineers (DBFL) in partnership with a multidisciplinary design team have been appointed to investigate, analyse, and prepare the preliminary design for the proposed mixed use residential development known as 158A Richmond Road located at Dublin 3.

1.1.2 The principal members of the design team that have influenced the scheme design include;

- **RKD Architects** (Architects).
- **AXISENG Consulting Engineers** (M&E Engineers).
- **MITCHELLS & Associates** (Landscape Architects).
- **GSP Fire & Access Consultancy** (Fire and DAC Consultant)
- **THORNTON O'CONNOR TOWN PLANNING** (Planning Consultant)
- **DBFL Consulting Engineers** (Consulting Civil, Structural and Transportation Engineers).

1.1.3 The scheme proposals now being presented to Dublin City Council are the outcome of an integrated design approach that seeks to deliver a sustainable residential community connected by well-designed streets with assimilated open spaces and community and commercial floorspace which together deliver safe, secure, convenient, and attractive networks in addition to promoting a real and viable alternative to car-based journeys.

1.1.4 In response to the 158A Richmond Road site's characteristics and associated accessibility characteristics, it is the design teams view that the design presented for the proposed

Large-scale Residential Development (LRD) has maximised every opportunity to ensure consistency with both the principles and design guidance outlined within the Design Manual for Urban Roads and Streets (DMURS) (Version 1.1, 2019)

1.1.5 This DMURS Compliance Statement seeks to outline the specific design features that have been incorporated within the proposed mixed-use residential scheme with the objective of delivering an integrated design that complies with the guidance outlined within DMURS.

1.1.6 This DMURS compliance report should be reviewed in conjunction with the architectural, landscape and engineering site layout drawings in addition to the documentation submitted as part of the Planning Application.

1.2 PROPOSED DEVELOPMENT

1.2.1 The proposals seek permission for the provision of a development known as 158A Richmond Road at Dublin 3. Malkey Limited intend to apply for permission for development (Large-scale Residential Development (LRD)) at this c. 0.55 hectare site at the former Leydens Wholesalers & Distributors Dublin, No. 158A Richmond Road, Dublin 3, D03 YK12.

1.2.2 The site is bounded to the north-east by Richmond Road, to the west/south-west by No. 146A and Nos. 148-148A Richmond Road (pending application ABP Reg. Ref. TA29N.312352), to the south/south-west by a residential and commercial development (Distillery Lofts) and to the east/south-east by the Former Distillery Warehouse (derelict brick and stone building). Improvement works to Richmond Road are also proposed including carriageway widening up to c. 6 metres in width, the addition of a c. 1.5 metre wide one-way cycle track/lane in both directions, the widening of the northern footpath on Richmond Road to a minimum of c. 1.8 metres and the widening of the southern footpath along the site frontage which varies from c. 2.2 metres to c. 7.87 metres, in addition to a new signal controlled pedestrian crossing facility, all on an area of c. 0.28 hectares. The development site area and road works area will provide a total application site area of c. 0.83 hectares.

1.2.3 The proposed development will principally consist of: a Large-scale Residential Development (LRD) comprising the demolition of existing industrial structures on site (c. 3,359 sq m) and the construction of a mixed-use development including artist studios (c. 749 sq m), a creche (c. 156 sq m), a retail unit (c. 335 sq m), and a gym (c. 262 sq m), and 133 No. residential units (65 No. one bed apartments and 68 No. two bed apartments). The development will be provided in 3 No. blocks ranging in height from part 1 No. to part 10 No. storeys as follows: Block A will be part 1 No. storey to part 4

No. storeys in height, Block B will be part 1 No. storeys to part 10 No. storeys in height (including podium) and Block C will be part 1 No. storeys to part 9 No. storeys in height (including podium). The proposed development has a gross floor area of c. 14,590 sq m and a gross floor space of c. 13,715 sq m.

1.2.4 The development also proposes the construction of: a new c. 204 No. metre long flood wall along the western, southern and south-eastern boundaries of the proposed development with a top of wall level of c. 6.4 metres AOD to c. 7.15 metres AOD (typically c. 1.25 metres to c. 2.3 metres in height) if required; and new telecommunications infrastructure at roof level of Block B including shrouds, antennas and microwave link dishes (18 No. antennas enclosed in 9 No. shrouds and 6 No. transmission dishes, together with all associated equipment) if required. A flood wall and telecommunications infrastructure are also proposed in the adjoining Strategic Housing Development (SHD) application (pending decision ABP Reg. Ref. TA29N.312352) under the control of the Applicant. If that SHD application is granted and first implemented, no flood wall or telecommunications infrastructure will be required under this application for LRD permission (with soft landscaping provided instead of the flood wall). If the SHD application is refused permission or not first implemented, the proposed flood wall and telecommunications infrastructure in the LRD application will be constructed.

1.2.5 The proposed development also provides ancillary residential amenities and facilities; 25 No. car parking spaces including 13 No. electric vehicle parking spaces, 2 No. mobility impaired spaces and 3 No. car share spaces; 2 No. loading bays; bicycle parking spaces; motorcycle parking spaces; electric scooter storage; balconies and terraces facing all directions; public and communal open space; hard and soft landscaping; roof gardens; green roofs; boundary treatments; lighting; ESB substation; switchroom; meter room; comms rooms; generator; stores; plant; lift overruns; and all associated works above and below ground.

1.2.6 Vehicular access to the subject site will be accommodated via the existing ***Link*** street Richmond Road which provides access to/from the development.

1.2.7 The Richmond Road corridor is generally aligned in a northwest-southeast direction and is subject to 50kph speed regulations. At the north western extents, this corridor terminates at the R132 Drumcondra Road Upper / Richmond Road / Millmount Avenue signal-controlled junction *(**Arterial*** street). A right turn ban is in place for vehicles exiting Richmond Road who may only travel straight along Millmount Avenue or turn left travelling in a southbound direction on the R132. Continuing south on the R132 for approximately 2km leads to Dublin City Centre. Between the subject site access and the aforementioned R132 / Richmond Road / Millmount Avenue signal-controlled junction, Grace Park Road is accessible which provides a connection to the N1 northbound and

subsequently the strategic M50 road network. **Figure 1.1** below shows the subject site location in relation to the surrounding road network.

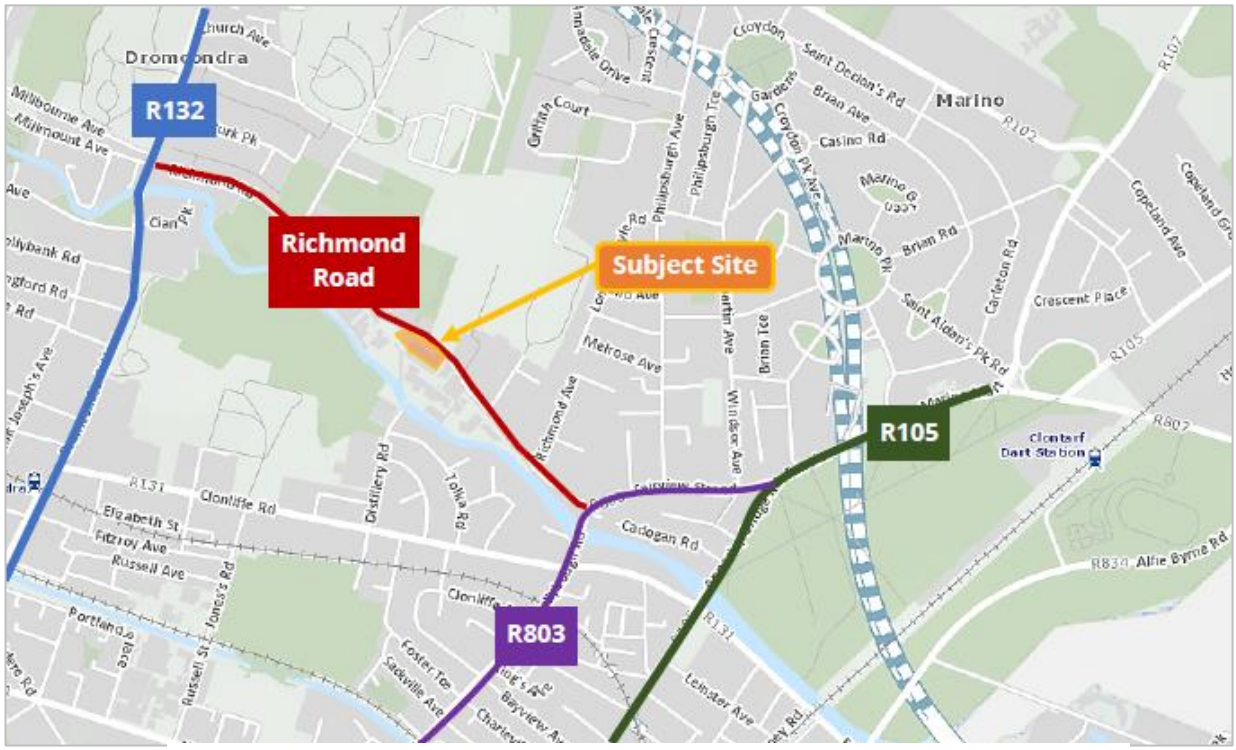


Figure 1.1: Subject Site Location (Reference: Google Maps)

Vehicle Access

1.2.8 The subject development will benefit from direct vehicular access onto Richmond Road as presented in **Figure 1.2**. The proposed site access will be located to the west of the Distillery Lofts and the Stables Apartment complex access. The access will take the form of a priority-controlled junction and access is proposed to be secured by a proposed gate to restrict access to permitted residents / visitors only. The design of the new private vehicle access / egress , in addition to the internal vehicle route, has been actively influenced by DMURS in addition to the National Cycle Manual.

1.2.9 The private vehicle access / egress, which leads to/from an undercroft car park and service area and includes the provision of a segregated pedestrian access, facilitates access to the internal parking (bicycle, motorcycle, car parking and service bay) areas for residents, staff (bicycle parking) and service vehicles only. Further details of the site access arrangements has been illustrated in DBFL Drawing No. 210178-DBFL-TR-SP-DR-C-1102.

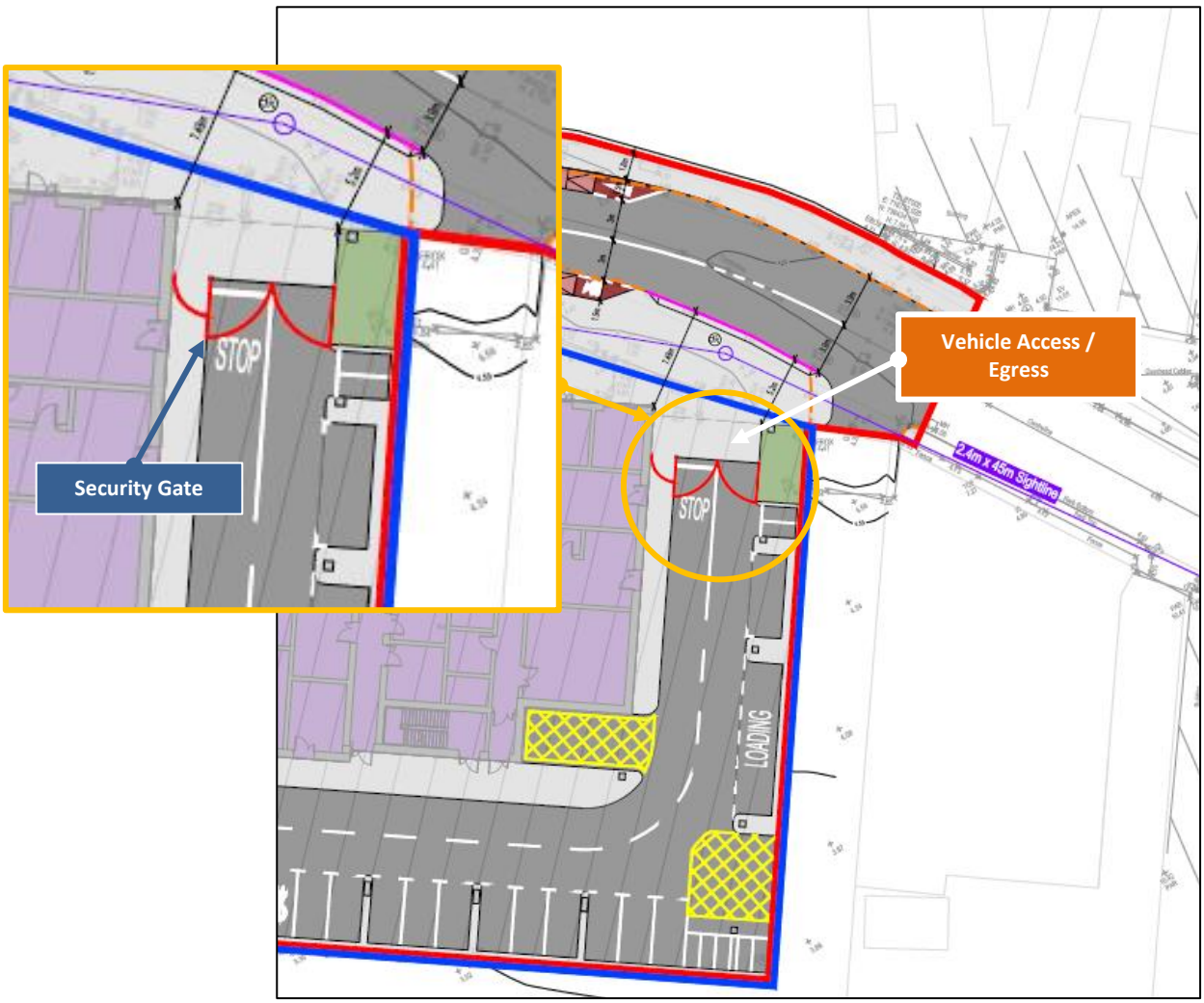


Figure 1.2: Proposed Development Private Access / Egress on Richmond Road

Pedestrian And Cyclist Access Arrangements

1.2.10 The proposed site layout has been designed to maximise connectivity to, from and through the site for pedestrians and cyclists. As illustrated in **Figure 1.3** below (Source: RKD Ground Floor Plan – GA Drawing No. 22001-RKD-ZZ-00-DR-A-1100), pedestrians and cyclists will be able to easily access / egress the site from a number of locations including three locations directly onto the Richmond Road corridor.

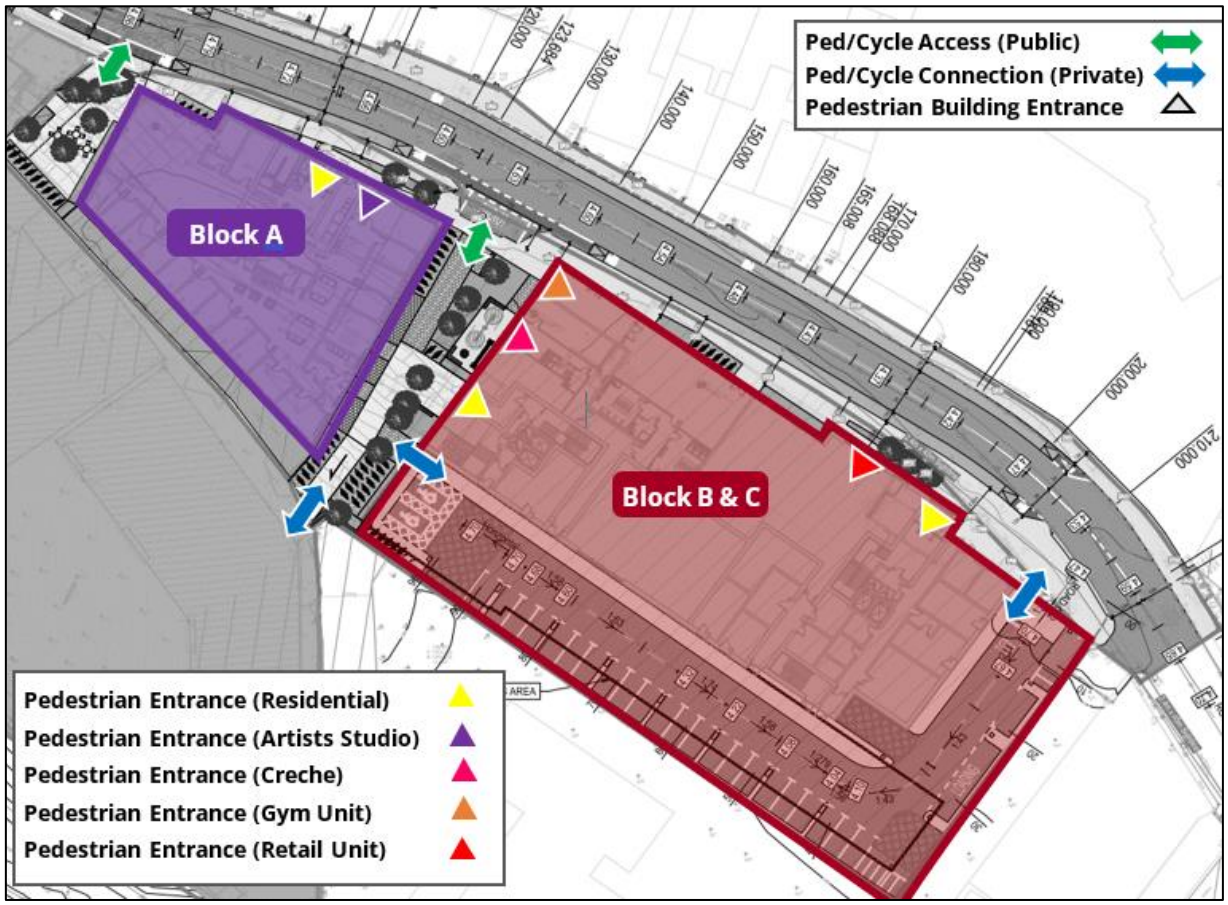


Figure 1.3: Proposed Pedestrian / Cycle Access and Connection Locations

1.2.11 A permeable connection will also be proposed with the adjacent SHD development (ABP Pl. Ref. 312352) to the south (and onwards to/from the emerging Tolka River Greenway) for residents thereby maximising permeability. Footways will also be located on the northern extents of the site. Only residents will have access between both the subject site and the adjacent Richmond Road SHD (Phase 1).

2. DMURS OBJECTIVES

2.1 OVERVIEW

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 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.

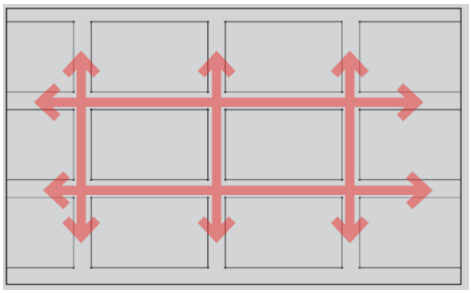
2.1.3 This integrated approach incorporates elements of urban design and landscaping that contribute to positively influencing behaviour thereby reducing the necessity for conventional measures (e.g. physical barriers and road geometry) in order to actively manage travel behaviour. The recommended approach 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.

2.2 PLACEMAKING

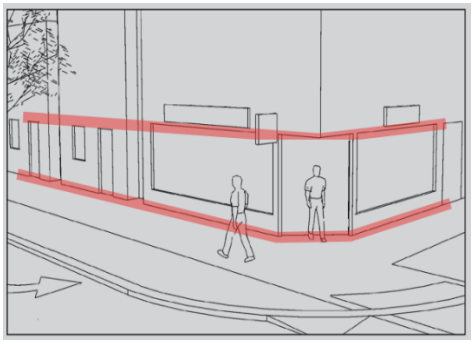
2.2.1 DMURS recommends that whilst the movement of traffic is still a key issue, there are several others, including the 'sense of place', which are of core significance to the creation of safe and more integrated street designs. DMURS reveals that place can be difficult to define but can be measured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

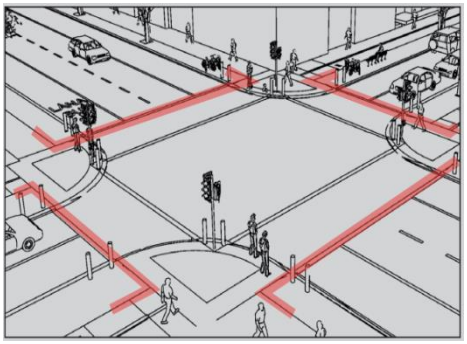


ENCLOSURE *: A sense of enclosure spatially defines streets and creates a more intimate and supervised environment. A sense of enclosure is achieved by orientating buildings toward the street and placing them along its edge. The use of street trees can also enhance the feeling of enclosure.*

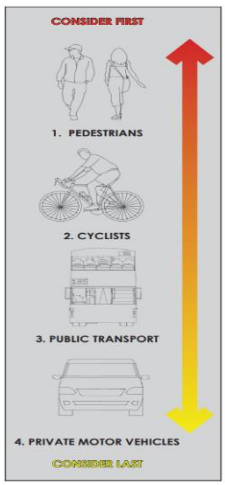
***ACTIVE EDGE** : An active frontage enlivens the edge of the street creating a more interesting and engaging environment. An active frontage is achieved with frequent entrances and openings that ensure the street is overlooked and generate pedestrian activity as people come and go from buildings.*



***PEDESTRIAN 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.*



2.3 THE DMURS USER HIERARCHY



2.3.1 DMURS set outs a clear user hierarchy for scheme designers which prioritises 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 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.

2.3.2 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.

2.3.3 As outlined in Chapter 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 and active travel linkages which actively manage vehicle movements within a low speed, high-quality residential environment.

2.4 DMURS DESIGN PRINCIPLES

2.4.1 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

2.4.2 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.

3. 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	With the arterial routes R132 located to the west and the R803 located to the east of the subject site, the Richmond Road corridor exhibits a **LINK** street function. The subject site proposes two types of connections to Richmond Road namely; 1) Pedestrian / Cyclists: (a) dedicated pedestrian access via the plaza area (and onwards to the site to the south for residents), (b) pedestrian access along the western boundary and (c) the gated controlled access adjacent the vehicular site access and 2) Vehicles: the proposed private vehicle access / egress on Richmond Road and its associated internal route within undercroft facility. The NTA's Cycle Network Plan for the Greater Dublin Area will also enhance the attraction of cycling and includes proposals for the provision of a Greenway route along the Tolka River bank (located south of the subject site) as well as the proposed Orbital Route NO2 (Sheet N1 GDA Cycle Network Plan 2013) which aims to run adjacent the subject site on Richmond Road.
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 green open space areas to facilitate active travel in an attractive safe environment and encourages social activity in addition to delivering active frontages at ground floor level onto the Richmond Road corridor. The proposed public open space is divided into two primary areas, the 'Central Plaza' area with a sunny aspect and a smaller area to the northwest corner of the site, known as the 'Artists Plaza'. The Central Plaza is enclosed, with high levels of passive surveillance provided by the surrounding creche, gym and apartments. The primary residential entrance to Block B is accessed via this area, ensuring activity throughout the day. 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. Significant levels of enclosure along the street type is achieved by the building open space, landscaped orientation and tree planting contributes 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 external street layout has been influenced by several factors including boundary conditions, the adjacent Richmond Road SHD future development, the DCC Richmond Road Area Action Plan and discussions with the local roads authority. The street layout was derived from several factors which include, the distinct shape of the site, boundary conditions, policy objectives and active travel desire lines. Pedestrian connections have been proposed for residents towards the neighbouring Richmond Road SHD (Phase 1) which in turn will provide onward connections towards the future Tolka Greenway along the southern edge of Richmond Road SHD with future through access maintained for walking and cycling throughout, thereby maximising connections within the site and to adjoining lands thereby complying with DMURS principles. In addition, whilst the private vehicle access (Undercroft facility) is a cul-de-sac for vehicles, through permeability is provided for pedestrians and cyclists for residents and staff.
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 within the proposed development have a maximum dimension of between 29-32m, which is in line with the density and comply with the requirements of DMURS.
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 internal street pattern for pedestrians, proposed material specification and provision of access to/from the open space area accumulatively influence the users understanding of the proposed development which is recognised by DMURS as being positively influenced by good levels of legibility 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 'active' forms of travel.

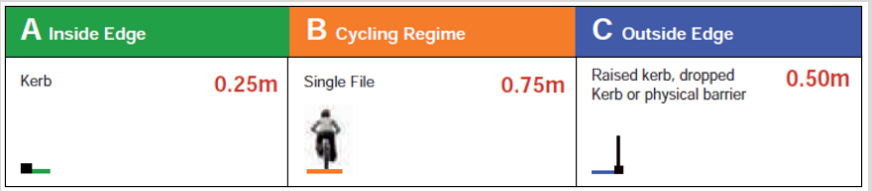
Approach to Speed (Geometry)	DMURS states designers should balance speed management, the values of place and reasonable expectations of appropriate speed according to Context and Function. Where vehicle movement priorities are low, such as on Local Streets, lower speeds limits should be applied.	The proposed development will have lightly trafficked drop-off/collection bay at the development's front plaza area. The street has been designed to ensure they are self-regulating through a combination of 'soft' (landscaping and active edges) and 'hard' measures (street geometry and controlled crossing). Geometry in accordance with DMURS for a LINK street (with a 6.0m wide carriageway and raised parallel 1.5m cycle tracks) and the street enclosure positively influence vehicle driver behaviour to respect the governing 50kph regulations.

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
Approach to Legibility and Self Regulating Streets	Legibility can be achieved with street networks that are structured to draw people towards focal points such as Landmarks, Gateways and other civic buildings and spaces. Self-regulating environments can successfully balance the functional needs of different users, enhance the sense of place and manage speed in a manner that does not rely on extensive regulatory controls and physically intrusive measures for enforcement.	Movement through the subject development is structured by connecting major focal points in a similar manner to DMURS with proposed focal points also used to deliver a legible network to assist wayfinding and draw people towards the proposed building focal points (e.g. building entrances) via the schemes open spaces and key public realm areas. The clear prioritisation of pedestrians and cyclist within the development by the restriction of all vehicular movements to the single vehicular entrance and the segregating of the bicycle storage facilities (both long-term and short-term) within the development, promotes the self-regulating environment and functional needs of different active travel.
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 Mitchell & Associates Landscape Architects. The masterplan reinforces a sense of street enclosure through the addition of soft landscaping and street trees with appropriate canopy spreads best suited 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 of the development (particularly at the development's entrance 'plaza' and route to/from the building entry points. The provision of creche, gym and artists' studios at ground floor level also enhance the active street presence along Richmond Road corridor and within the central plaza area. The residential blocks external access routes and the entrance/exit control points to/from the under-croft area (only being accessible to residents via the gated controlled access points) within which the Long Term residential cycle parking store is located, will benefit from excellent passive surveillance from both ground floor and upper floor 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 the Link Street (Richmond Road), the proposed design has sought to specify minimal signage and line markings along the Link Street with such treatments used sensitively throughout. The proposals have utilised central road markings on the carriageway, stop lines at the proposed toucan crossing and markings at the associated parking regulations for road safety reasons. The need for cycle lane road markings has been minimised through the adoption of raised cycle tracks. Internally, road markings will only be used to delineate the parking bays. A yellow box at the turning area, close to the disabled bays will be provided as the area will not be self-regulating. No road markings and signage will be provided at the plaza areas which in turn will reinforce these areas as pedestrian only access.

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
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 for the external works in the public controlled lands are in line with the DCC requirements in regard road enhancements works along Richmond Road 'LINK' street. Internally within the private and semi-private area, a range of different surface material treatments are proposed to alert, inform and influence users behaviour. The two entrance plaza areas adjoining Richmond Road will be distinguished through the application of high-quality material specification to highlight pedestrian priority in the area. The high quality feature paving will be extended on-site across in the developments communal area and plaza approach to the residential entrance points and onwards along the internal open space for the shared pedestrian/cycle plaza. In contrast a standard concrete finish (footpath) and black top (carriageway) is to be applied for the internal (undercroft) private vehicle parking area. In response to DCC development management maintance requirements all new infrastructure implemented in the public area (adopted by DCC) will be formed in response to DCCs specific requirements including concrete finished to public footpaths and macadam surfacing to carriage way surfaces.
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 1.8m wide along the northern side of the Richmond Road and 2.2m wide (minimum) along the southern side of Richmond Road are provided along Richmond Road (over the extend of the proposed off site infrastructure enhancement works), with connections and tie-ins to existing external pedestrian networks

		thereby complying with DMURS requirements. The provision of dedicated high-quality internal pedestrian footways are to be provided with a number of open space connections incorporating 3.0m wide facilities thereby ensuring the appropriate provision is provided for the anticipated levels of pedestrian footfall as per DMURS guidance.
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*".	The proposals include the opportunities to provide both informal and controlled pedestrian crossing facilities. A TOUCAN crossing is proposed on Richmond Road (located approx. 40m north-west of Block A) as part of the Richmond Road corridor upgrades. The crossing will be provided with dropped kerbs thereby allowing all road users to conveniently cross this road carriageway.
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 priority, safety and convenience, the private access within the scheme has not been designed as a traditional private entrance (with low vehicle volumes) which offers priority to pedestrians travelling along Richmond Road. The corner radii at the vehicular site access will be provided as per the DMURS Guidance.
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*"	The central communal plaza areas located between Blocks A and Block B/C and will function as a 'shared' area accommodating pedestrians, cyclists and emergency vehicles only. Nevertheless, pedestrians will be prioritised to ensure drivers within the internal route 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.

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
Cycling Facilities	DMURS references the National Cycle Manual (NCM) in terms of the provision of appropriate cycling facilities.	Dedicated cycle infrastructure is proposed (1.5m wide on both sides as agreed with DCC in regards to the roads enhancement objectives along Richmond Road). The proposed width is in line with the National Cycle Manual (NCM) Width Calculator (within Section 7.2 of the NCM) as shown in the figure below. 

		Furthermore, the neighbouring Richmond Road SHD (Phase 1) proposals also include the provision of the DCC/NTA Tolka Greenway infrastructure operations along the entirety of the southern edge of the development in addition to a link towards the Richmond Road corridor along the western boundary.
Carriageway Width	DMURS states that LINK Streets should lie in the range of 5.5m to 7m, 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.	The proposals will provide 6.0m wide carriageway along Richmond Road as part of the agreed off site enhancement works. Being classified as a Link Street this conforms with DMURS guidance for a street with the designated function. The proposed internal private vehicle route will also provide 6.0m wide carriageway. This width is influenced by DMURS recommendations for carriageways which provides access to perpendicular parking. This width will also assist the internal manoeuvring requirement of service vehicle such as Light god vehicles and rigid lorries seeking to gain access to/from the internal designated loading bay.Swept path analysis and vehicle tracking movements have been undertaken to demonstrate the manoeuvring requirement for vehicles accessing their designated locations.
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.	As Richmond Road has a design speed of 50kph, the DMURS criteria is not necessarily applicable along the external road network. Nevertheless, if required by the local road authority, the carriageway area (or areas thereof) can be differentiated through the application of differing coloured surfacing.
Junction Design	Junction design has traditionally been determined by traffic volumes however DMURS recommends that designers should now take a more balanced approach to junction design catering for all road users specific requirements.	The proposed site access / egress on Richmond Road will be priority controlled which is consistent with the proposed traffic flows and complies with the requirement of DMURS. In the context of the low volumes of vehicle movements that the proposed development is predicted to generate, the scheme design advocates that a raised footpath is continued across the vehicle route to/from the internal undercroft parking area thereby affording priority to pedestrians walking along the southern footpath on Richmond Road.

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 the site access/egress location to the external road network in response to the adopted design speeds along Richmond Road Corridor.

Design Element	DMURS Guidance	Proposed Development Adopted Design Approach
Kerbs	DMURS provides indicative kerbs heights of 125mm on Link Streets for clear segregation, while lower kerb heights of 60mm which are appropriate for higher pedestrian activity & design speeds lower i.e., Local Streets and no kerb should be provided for shared surface.	Along Richmond Road, the carriageway kerb heights for both the raised cycle tracks and footpaths are generally 60mm and comply with both DMURS and National Cycle Manual requirements.
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.	The location of the proposed development has been considered and a 'car lite' scheme is proposed. The car parking management strategy as referred to in DBFL's TTA report which prioritises active travel for pedestrian and cyclists in a safe and comfortable manner in addition to public transport opportunities. All residents car parking and servicing will be provided off road within the developments ground floor undercroft facility which will be accessible via the private gated site access on Richmond Road. Accordingly, no on-street car parking on Richmond Road corridor is provided for. It is noted however that a single indented set-down / collection bay (with double yellow line parking restrictions) is provided on-street adjoining the central plaza area to facilitate taxi / uber interchanges and courier deliveries.

		It is noted that no car parking is to be assigned to the non-residential elements of the proposed development. It is intended that these units will predominantly serve the local catchment area and will be accessible via sustainable modes of travel that include active travel modes such as walking and cycling. Accordingly, with the local guidelines and the DHPLG's recommendation, the proposals apply a reduced car parking quantum and prioritise active travel.
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 RKD Architects, DBFL Consulting Engineers (Civil, Structural & Transport Engineering), Mitchell & Associates (Landscape Architects), GSP Fire Access Consultant (Fire and DAC Consultant), Axiseng Consulting (M&E Engineers) and Thornton O'Connor Town Planning (Planning Consultant).
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	A Quality Audit incorporating a Stage 1 RSA has been undertaken and accompanies the planning application.