Proposed Residential Development, Lisdaran, Cavan, Co. Cavan

Quality Audit

including appended
DMURS Street Design Audit and Stage 1-2 Road Safety Audit

28th October 2025

Prepared for:

Lisdaran Developments Ltd.

Traffic Transport and Road Safety Associates Ltd.
Barran
Blacklion
Co. Cavan

t. +353(0)719853847
e. info@ttrsa.com

TTRSA
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1 Introduction

1.1 Traffic Transport and Road Safety Associates Ltd.

Traffic Transport and Road Safety Associates Ltd. (TTRSA) is a specialist Traffic Engineering and Transport Planning practice, based in Ireland. The senior managers within TTRSA have extensive experience of developing traffic management schemes, assessing the transport related impacts of development and improving road safety both nationally and internationally.

1.2 Project background

TTRSA has been commissioned by Lisdaran Developments Ltd. to prepare a Quality Audit, incorporating a Design Manual for Urban Roads and Streets (DMURS) Streetscape Design Audit (prepared by Genesis Planning Consultants and Michael Fitzpatrick Architects) and a Stage 1 Road Safety Audit prepared by TTRSA, as part of a planning application for a proposed 109-unit residential development at Lisdaran, Cavan, Co. Cavan. This Quality Audit has been undertaken by an audit team comprising Matthew Steele and Pamela Townley, both experienced auditors, each with over 25 years experience in designing and assessing highway and public realm schemes. As one element of preparing this Quality Audit, the audit team undertook a site visit on Wednesday 24th September 2025.

1.3 Development background

The proposed development comprises:

- Alterations to an existing access junction off the L1513 Loreto Road, including the provision of a right-turning lane, footpath and associated works;
- Internal access roads and footpaths and associated works, including connections onto the Cavan Urban Greenway;
- 109 residential units (65 residential dwellings consisting of 23 two-bed units, 30 three-bed units and 12 four-bed units), and 44 duplex apartments consisting of 8 one-bed units, 18 two-bed units and 18 three-bed units;
- Car parking associated with the residential units including in-curtilage parking for the residential dwellings and on-street parking for the duplex apartments, electric vehicle charging points being provided throughout the site;
- Bicycle, bin and bulky items storage facilities for duplex apartment units;
- A two storey crèche with associated bicycle parking, car parking and bin storage; and,
- Residential communal open space and public open space areas to include formal play areas, hard and soft landscape works with public lighting, planting, and boundary treatments (boundary walls, railings and fencing).

Architectural drawings for the proposed development have been prepared by Michael Fitzpatrick Architects. Engineering drawings for the proposed development have been prepared by Alan Traynor Consulting Engineers Ltd. Landscaping drawings have been prepared by Park Hood Chartered Landscape Architects. Public lighting design drawings have been prepared by .AMRA MEP Engineering Consultants.

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1.4 The Design Manual for Urban Roads and Streets

The Design Manual for Urban Roads and Streets (DMURS) provides design guidance for developments and schemes on most roads with a speed limit of 60km/h or less. Some elements of DMURS are mandatory, whilst other elements are recommended.

The main objective of DMURS is to balance the needs of all users, creating well designed streets at the heart of communities. In the context of the proposed development, DMURS 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*'.

DMURS outlines four distinct models for interaction between cars and people:

- '*The first model is where traffic and people are segregated and the car is dominant;*
- *the second model is where the car and people are segregated from each other;*
- *the third model is where traffic and people mix, although on a more equitable basis; and,*
- *the fourth model is where the car is excluded altogether*'.

In relation to this development, a blend of the second and third models has been applied.

DMURS includes four overarching design principals which are implemented through adherence to specific recommendations and requirements in relation to individual design elements.

- '*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;*
- *the promotion of multi-functional, place-based streets that balance the needs of all users within a self-regulating environment;*
- *the quality of the street is measured by the quality of the pedestrian environment; and,*
- *greater communication and co-operation between design professionals through the promotion of a plan-led, multidisciplinary approach to design*'.

1.5 Quality Audits

This Quality Audit has been prepared in accordance with DMURS Advice Note No.4, published in May 2019. This Advice Note requires that the Quality Audit '*comprises of a DMURS Street Design Audit and other individual Design Audits that assess different aspects of street design, as required*'.

1.6 Format of this Quality Audit

The remaining sections of the Quality Audit are set out as follows:

- Chapter 2 contains the findings of this Quality Audit, including providing for a design team response for those issues not included within the associated Stage 1 Road Safety Audit Feedback Form; and,
- Appendix A of this Quality Audit contains a DMURS Streetscape Design Audit; and,
- Appendix B of this Quality Audit contains a Stage 1 Road Safety Audit, limited to the highway related design aspects of the proposed development. A full list of drawings reviewed in preparing this Quality Audit is included within the Road Safety Audit Brief section of the Stage 1 Road Safety Audit.

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2 Findings of this Quality Audit

The findings of the DMURS Quality Audit are included within Table 2.1. For clarity in interpreting the table:

- The first column includes in ***bold italics*** the DMURS function or design element being assessed, followed by assessment questions relevant to the function or element;
- The quality audit (QA) team response to the assessment questions is included in the second column with one, or a combination of, six findings:
    - **Yes** : meaning that the design of the proposed development has been considered by the quality audit team to be in accordance with the principles of DMURS and/or a relevant approach or standard has been applied.
    - **In-part** : meaning that some, but not all, elements of the design of the proposed development has been considered by the quality audit team to be partly in accordance with the principles of DMURS and/or a relevant approach or standard has been applied.
    - **No** : meaning that the design of the proposed development has been considered by the quality audit team to not be in accordance with the principles of DMURS and/or a relevant approach or standard has not been applied.
    - **RSA** : meaning that the issue covered by the question is addressed in the Stage 1 RSA contained in Appendix A.
    - **Not Known** : meaning that sufficient and/or relevant design information has not been provided to allow the quality audit team determine a definitive response.
    - **N/A** : meaning that the issue covered by the assessment question is not relevant to the development design.
- The third column may contain a **comment**, **recommendation for mitigation**, or **reference to the relevant section of the Stage 1 RSA** as deemed appropriate by the quality audit team; and,
- The fourth column is a **response from the scheme client and/or design team** where the quality audit team response in the second column is 'in-part' or 'no', or where the third column included a recommendation for mitigation.

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Table 2.1: DMURS Quality Audit

DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Movement function			
Has an appropriate user hierarchy been applied?	Yes	Within the context of the proposed development. The hierarchy applied is included within the '*Additional Comments*' section of the DMURS Streetscape Design Audit.-	
Have major strategic routes and desire lines been identified and incorporated into the design?	Yes		
Have streets being appropriately identified and classified within the design (arterial/link/local)?	Yes	Within DMURS, the access from the L1513 Loreto Road would be classified as a link street, with the remaining highway elements of the development being classified as local streets.	
Have design speeds been applied that are appropriate to the street classification and function (e.g. is the design speed for local streets 30km/h or below)?	Yes : RSA	Refer to Section 3.4 of the RSA report which identifies issues in relation to the signing of speed limits.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA.

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Place function			
Does the design of residential streets strike the right balance between the different functions of the street, including a sense of place?	Yes		
Does the built environment contribute to the creating of a safe and comfortable pedestrian environment?	In Part : RSA	Refer to Sections 3.1, 3.2, 3.3, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.13, 3.14 3.15 and 3.18 of the RSA report which identifies issues related to the safe use of the built environment by pedestrians.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA.
Have measures been applied to ensure satisfactory standards of personal safety and traffic safety, that are consistent with the design speeds (e.g. in order to provide 'passive traffic calming')?	In-part	Whilst speed limit (repeater type) signing and different colours of surfacing have been included within the design, typical features of passive traffic calming such as the use of landscaping to visually narrow sections of the carriageway are absent.	Carriageway widths, design and landscaping treatments are designed to be DMURS compliant.
Street layout			
Have through movements by private vehicles on local streets been discouraged by appropriate traffic calming?	Yes	No through movements (in the context of DMURS) are possible within the proposed development.	

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Are traffic calming measures appropriately spaced to provide consistency with the design speeds?	No : RSA	The design team have specified design speeds of 30km/h reduced to 20km/h for shared spaces. To provide consistency with a 30km/h design speed, a typical spacing of between 40m and 45m is required between traffic calming measures. As noted within the DMURS Street Design Audit a 'maximum 70m separation' has been applied. Also refer to Section 3.4 of the RSA report which identifies the potential for excessive vehicles speeds.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA. As noted within the DMURS Street Design Audit a 'maximum 70m separation' has been applied; given the site layout this design approach is appropriate for the site given there is no through-traffic.
Has the use of cul-de-sacs been limited?	Yes		
Have junctions been designed to prioritise the needs of pedestrians and cyclists?	No : RSA	Uncontrolled crossings (which do not provide priority for pedestrians and cyclists) have been provided at internal road junctions. Refer to Section 3.11 of the RSA report which identifies issues related to cyclist priority at junctions off the access road between the L1513 Loreto Road and the proposed crèche (also see '*cycling facilities*' below).	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA. Crossings are appropriate for the anticipated pedestrian flows.
Is the street layout generally legible in terms of way-finding?	Yes	In the context of the proposed development.	

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Permeability			
Have multiple access points been provided (in particular for sustainable modes)?	Yes	Noting that in addition to connectivity to the L1513 Loreto Road and the Cavan Urban Greenway, the scheme design drawings also identify a '*potential future link to the* [adjacent] *hospital grounds*'.	
Is the block size designed for pedestrian movement (60-80 optimal : 120m maximum)?	Yes		
Has accessibility been maximised for pedestrians and cyclists (e.g. providing route choice)?	In-part : RSA	Refer to Section 3.12 of the RSA report which identifies issues related to cyclist accessibility at junctions and to the northern sector of the proposed development.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA.
Has the design taken account to future phases of development and/or connection to future neighbouring developments?	In-part	The location of 'Possible Future Development' is shown adjacent to Phase 3 of the proposed development. **It is recommended** that connectivity to this proposed development is clearly identified. For example if future access is intended from either of the cul-de-sacs in Phase 3 of the development, the design of these cul-de-sacs as shared spaces may not be appropriate in the context of future access requirements.	Connections can be provided if required as the design allows for future connectivity.

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Has account been taken of connectivity to future/planned transport schemes?	Yes		
Pedestrian facilities and shared surfaces			
Is a continuous and logical network of pedestrian routes including tactile paving/guidance provided, taking into account the needs of mobility impaired users?	In part : RSA	Refer to Sections 3.7, 3.8, 3.9, and 3.11 of the RSA report which identify a number of issues in relation to proposed pedestrian routes.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA.
Are the proposed footpath widths appropriate for the anticipated level of use?	Yes		
Is the proposed form of pedestrian crossings appropriate to anticipated traffic and pedestrian flows?	Yes		
Are pedestrian crossings provided on all arms of all junctions?	No		Crossings are provided at the most appropriate points for pedestrians.
Are shared spaces limited to appropriate locations (e.g. where movement priorities are low and there is a high place value in promoting more liveable streets?	Not known : RSA	The extent of the proposed shared space is unclear due to the application of road surfacing within and beyond the proposed shared surfacing and road signing. Also refer to Section 3.8 of the RSA report.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA. Surface finishes have been amended to demarcate the road typology within the scheme.

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Does the design of shared spaces incorporate appropriate design features (e.g. use a variety of materials and finishes; sections of tactile paving that direct movement along the street or across spaces; the creation of distinct zones that delineate pedestrian-only space from shared space; and, verges that act as refuge zones allowing pedestrians to step on and off the carriageway to let cars pass?	In-part : RSA	Whilst the shared spaces incorporate different materials to more highly trafficked routes within the development, other elements of the shared space (as opposed to shared surface) are not fully developed. Also refer to Sections 3.7 and 3.8 of the RSA report. **It is recommended** that further development of the design of the shared spaces be undertaken before construction.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA. Shared spaces will be demarcated at detailed design for the Stage 2 RSA.
Cycling facilities			
Have cycling facilities been designed to cater for all ages and abilities of cyclist?	In part	Whilst cycling facilities are to be provided on the access leading into the site from the L1513 Loreto Road, and notwithstanding that connections have been provided to the Cavan Urban Greenway, the topography related to the upper section of the site denoted Phase 2 (excluding the proposed creche) and Phase 3 do not facilitate the provision of cycling facilities in accordance with the requirements of the prevailing NTA Cycle Design Manual. **It is recommended** that cycling facilities between the site access off Loreto Road and the proposed crèche are designed in accordance with the NTA Cycle Design Manual.	Cycle facilities will be designed in accordance with the NTA Cycle Design Manual, where appropriate.

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Have appropriate levels of bicycle parking been provided in appropriate locations?	Yes		
Active street edges			
Have the setbacks between the edge of the carriageway, back of the footpath and building line been minimised?	N/A	The requirement for, and access to, private EV charging partly necessitates the provision of in-curtilage car parking which limits the potential to minimise setbacks in residential development.	
On-street parking and loading			
Is the form of on-street car parking appropriate (e.g. parallel parking on link streets and perpendicular or angled car parking spaces on local streets)?	Yes		
Has on-street car parking been designed so that it does not dominate the streetscape?	Yes	In the context of competing demands related to: residential density; requirements for car parking provision; landscaping; and, inter-visibility between road users. -	
Does the design appropriately facilitate servicing and loading?	Yes		

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Signage and line marking			
Has the use of road signing and lining been minimised?	Yes		
Does the road signing and lining follow the requirements of the Traffic Signs Manual 2024?	In part : RSA	Refer to Section 3.4 of the RSA report which identifies issues in relation to the signing of speed limits, and Section 3.11 of the RSA report which identifies issues in relation to the signing of one-way access restrictions at the proposed crèche.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA.
Street furniture			
Has street furniture been positioned in an orderly way to help to define the street?	Yes		
Street trees and planting			
Does the landscaping plan help to distinguish the classification of streets and the value of place?	Yes	The DMURS Street Design Audit notes that the '*landscaping proposals are designed specifically to create a high quality residential environment*'	
Are the species appropriate to street design (e.g. canopy spread, mature size etc.)?	Yes		
Has landscaping been positioned to minimise the risk obstruction to inter-visibility?	Yes		

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Lighting			
Does the lighting design provide an appropriate intensity (surface luminance level) of street lighting?	In-part : RSA	Refer to Section 3.17 of the RSA report which identifies issues in relation to the uniformity of surface luminance levels.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA.
Is a contrasting luminance level of street lighting provided at pedestrian crossing points?	N/A		
Materials and finishes			
Have contrasting materials and textures been used to inform pedestrians of changes to the function of space (i.e. to demarcate verges, footpath, strips, cycle paths and driveways) and in particular to guide the visually impaired?	In part : RSA	Refer to Sections 3.6 of the RSA report which identifies issues in relation to the same colour of surfacing being applied to different types of routes/spaces. Also refer to Section 3.7 of the RSA report in relation to guidance for the visually impaired.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA.
Does the materials palette take account of anticipated traffic loading?	Not Known	Whilst the materials palette may be appropriate, no details of existing ground conditions have been provided within the design information provided. Local ground conditions would typically be assessed prior to construction.	

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Is the materials palette likely to provide appropriate levels of surface slip and skid resistance?	In-part : Not known	Whilst the asphalt carriageway and brushed concrete footpaths (aligned to the proposed carriageway) would be expected to provide appropriate levels of surface slip and skid resistance, no information has been provided in relation to the bound (gravel) surfacing specified in relation to the '*public open space footpaths*'.	Surface finishes will be demarcated at detailed design for the Stage 2 RSA.
Are carriageway surfaces consistent with the design speeds (e.g. use of standard materials, such as macadam/asphalt for streets with design speeds >40km/h)?	Yes		
Geometric variables			
Have carriageway widths been applied that are appropriate to the street classification?	Yes		
Have corner radii been applied that are appropriate to the street classification and anticipated vehicular use (e.g. accommodating the movements of larger vehicles where necessary)?	Yes		
Does the forward visibility and visibility splays provided at <u>all</u> junctions accord to the relevant design speeds?	No : RSA	Refer to Sections 3.1 and 3.2 of the RSA report in relation to inter-visibility at the site access junction and visibility at the internal junction within Phase 1 of the proposed development.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA.

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Have appropriate horizontal and vertical curvature been applied based on the relevant design speeds?	Yes	Taking account of the likelihood of reduced approach speeds on horizontal curves within Phases 2 and 3 of the proposed development.	
Are minimum and maximum gradients appropriate (e.g. between 0.5% and 5%, increasing to a practical maximum of 8.3% where topography or other circumstances make 5% difficult to achieve)?	No : Not Known : RSA	Road 1 between Ch.0 and Ch.15 is shown as having a gradient of 8.33%, exceeding the practical maximum gradient specified within DMURS. The section of Road 1 between Ch.275 and Ch.435 is shown as having a gradient of 8.25%. Whilst this latter section is within the practical maximum gradient specified by DMURS, the continuous length of the section would be difficult for pedestrians with mobility impairments to negotiate. Whilst alternative pedestrians routes (not aligned to the carriageway of the access road) have been proposed, no details have been provided for this Quality Audit in relation to the gradient or relevant standard(s) applied to the design of these routes. Also refer to Section 3.7 of the RSA report.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA. The road design has been amended in accordance with recommendations of the RSA. Also all gradients comply with DMURS.
Have appropriate kerb heights (up-stands) been applied?	Not Known : RSA	Limited information has been provided in relation to proposed kerb heights. Refer to Section 3.21 of the RSA report.	The Scheme Client/Design Team have agreed to the recommendations contained within the RSA.

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DMURS function / DMURS design element	QA Team Response	QA Team Comment : Reference to RSA section	Response from the Scheme Client/Design Team
Multi-disciplinary design team			
Has the design of the development has been prepared by a multi-disciplinary design team, including but not limited to: architects; civil engineers; landscape architects; and, transport planners.	Yes		
Road Safety Audit			
Has a Road Safety Audit been completed?	Yes		

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Appendix A – DMURS Street Design Audit

Prepared by Genesis Planning Consultants and Michael Fitzpatrick Architects (dated 25th August 2025 and provided to TTRSA on 5th September 2025)

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Design Manual for Urban Roads and Streets

Street Design Audit

Prepared in respect of:

The development will consist of the provision of a total of 109no. residential units along with provision of a crèche building and provide for associated car parking, bicycle storage and ancillary bin storage areas. Particulars of the development comprise as follows:

a) Site excavation works to facilitate the proposed development to include excavation and general site preparation works.
(b) The provision of a total of 55no. residential dwellings which will consist of 21no. 2 bed units, 28no. 3 bed units and 16no. 4 bed units.
(c) The provision of a total of 54no. duplex apartment units consisting of 8no.1 bed units, 18no. 2bed units and 28no. 3 bed units.
(d) Provision of a two storey creche with associated parking, bicycle and bin storage.
(e) Provision of associated car parking at surface level via a combination of in-curtilage parking for dwellings and via on-street parking for the creche and duplex apartment units.
(f) Provision of electric vehicle charge points with associated site infrastructure ducting to provide charge points for residents throughout the site.
(g) Provision of associated bicycle storage facilities at surface level throughout the site and bin storage facilities.
(h) Utilising the existing access point from Loreto Road with associated works to provide for internal access roads, footpaths and associated site works.
(i) Provision of internal access roads and footpaths and associated works to include for regrading of site levels as required.
(j) Provision of residential communal open space and public open space areas to include formal play areas along with all hard and soft landscape works with public lighting, planting and boundary treatments to include boundary walls, railings & fencing.
(k) Internal site works and attenuation systems which will include for provision of a hydrocarbon and silt interceptor prior to discharge.
(l) All ancillary site development/construction works to facilitate foul, water and service networks for connection to the existing foul via a rising main and provision of a foul pumping station, water connections and ESB network connections

Prepared by: Genesis Planning Consultants & MF Architects
Date: 25th August 2025

Connectivity		
Key Issues	**Key DMURS Reference.**	**Design Response**
Strategic routes/major desire lines been identified and are clearly incorporated into the design.	3.1 – Integrated Street Network 3.2.1 – Movement Function 3.3.1 – Street layouts 3.3.4 - Wayfinding	-Connections to adjoining lands facilitated via the internal roadway and footpaths. Connections also made onto the Greenway to facilitate sustainable walking routes into the Town Centre. Provision for future connections into the Hospital lands are also provided for.
Multiple points of access are provided to the site/place, in particular for sustainable modes.	3.3.1 – Street Layouts 3.3.3 – Retrofitting[1]	-As above, connections to adjoining lands facilitated via the internal road and footpath network which connects to the Loreto Road. -The roadway/pedestrian routes through the site from Loreto Road encourages permeability for pedestrians/cyclists. -Multiple pedestrian access points to the site from both the existing Greenway and the Loreto Road are also proposed.
Accessibility throughout the site is maximised for pedestrians and cyclists, ensuring route choice.	3.3.1 – Street Layouts 3.3.2 – Block Sizes 3.4.1 – Vehicle Permeability	- Frequent entrances to the neighbourhood reduce the size of individual junctions and streets. This reduces the potential for severance between communities and increases pedestrian/ cyclist mobility as streets/junctions are more compact and easier to navigate. Links are incorporated to all areas of the site and in particular to open space and landscaped areas.
Through movements by private vehicles on local streets are discouraged by an appropriate level of traffic calming measures.	3.2.1 – Movement Function 3.2.3 – Place Context 3.4.1 – Vehicle Permeability	-The internal access road is separated from the pedestrian routes/zones via appropriate kerbing. -Incorporation of home zone areas to avoid any through-traffic via local streets via the slower nature of the home zone will result in this being less attractive to through traffic. -Traffic calming via raised tables and courtesy strips at maximum 70m separation distances to control speed.

[1] *When connecting with existing communities a detailed analysis and extensive community consultation should be carried out to identify the optimal location for connections (refer also to the NTA Permeability in Existing Urban Areas: Best Practice Guide).*

Self-Regulating Street Environment		
Key Issues	**Key DMURS Reference.**	**Design Response**
A suitable range of design speeds have been applied with regard to context and function.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.1.1 – A Balanced Approach to Speed[2]	-The proposed development has been designed so that there is priority for pedestrians, cyclists, public transport and then cars with a design speed of 30kph. - Courtesy crossings, which will be defined by a change in material and vertical deflection, allow pedestrians to informally assert a degree of priority over drivers while also acting as traffic calming measure to reduce road speeds.
The street environment will facilitate the creation of a traffic calmed environment via the use of 'softer' or passive measures.[3]	4.2.1 – Building Height and Street Width 4.2.2 – Street Trees 4.2.3 – Active Street Edges 4.2.4 – Signage and Line Marking 4.2.7 – Planting 4.4.2 – Carriageway Surfaces 4.4.9 - On-Street Parking Advice Note 1 – Transitions and Gateways	-Increased building height at appropriate locations to create a sense of place. -Tree lined avenues provided. -Appropriate surface treatments at frontage onto internal roads to create a pedestrian zone. -Internal traffic speed and children at play signs to be provided. Road line marking also to be provided. -Incorporation of a reduced entrance radii of 3 metres within the site to prioritise pedestrians throughout. -Carriageway surfaces will incorporate coloured raised tables/courtesy strips. -Active street edge provided alongside the main vehicular entrance
A suitable range of design standards/measures have been applied that are consistent with the applied design speeds.	4.4.1 - Carriageway Widths 4.4.4 – Forward Visibility 4.4.5 – Visibility Splays 4.4.6 – Alignment and curvature 4.4.7 – Horizontal and Vertical Deflections	Design requirements are met as below: -max. internal road width of 5.5m on local roads and 4.8m for shared surfaces within the development. -footpath width of 2 metres (min) throughout. -visibility splays of 2.4 X 49m achievable throughout. - Traffic calming via raised tables and courtesy strips at maximum 70m separation distances to control speed.

[2] *Refer also to the National Speed Limit Guidelines*

[3] *In retrofit situations a detailed analysis should be carried out to establish what measures exist, what their likely effectiveness is and level of intervention required to achieve the designed design speed.*

Pedestrian and Cycling Environment		
Key Issues	**Key DMURS Reference.**	**Design Response**
The built environment contributes to the creation of a safe and comfortable pedestrian environment.	4.2.1 – Building Height and Street Width 4.2.3 – Active Street Edges 4.2.5 – Street Furniture 4.4.9 - On-Street parking	-The proposed development has been designed so that residential and commercial units are overlooking the main access route(s) to the site and all areas within the site. Minimum street widths of 4.8 are proposed in the shared surface area and local streets. -High-quality landscaping works and tree planting in addition to raised surfaces are also proposed on 5.5m wide roads
Junctions been designed to ensure the needs of pedestrians and cyclists are prioritised[4].	4.3.2 - Pedestrian Crossings 4.3.3 – Corner Radii 4.4.3 - Junction Design 4.4.7 - Horizontal and Vertical Deflections	-Throughout the site courtesy strips are provided to prioritise pedestrian and cyclist crossings/ connectivity. - In general, on junctions within the site local streets a maximum corner radii of 3m has been applied as design speeds are low and movements by larger vehicles are infrequent, such as on Local streets,
Footpaths are continuous and wide enough to cater for the anticipated number of pedestrian movements.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.5 – Street Furniture 4.3.1 - Footways, Verges and Strips 4.3.2 - Pedestrian Crossings	-Throughout the site, pedestrian routes are 1.8m wide or greater which provides adequate space for 2 people to pass. comfortably. (DMURS identifies a minimum width of 1.8m). Additional width (total 2.1m) of footpath has been provided along locations of head on parking to ensure continued ease of movement. -Seamless connectivity provided to all areas of the site for residents and patrons.

[4] *Refer also to the National Cycle Manual (2011)*

Pedestrian and Cycling Environment (cont)		
Key Issues	**Key DMURS Reference.**	**Response**
The particular needs of visually and mobility impaired users been identified and incorporated in the design.	4.2.5 - Street Furniture 4.3.1 - Footways, Verges and Strips 4.2.5 - Street Furniture 4.3.2 - Pedestrian Crossings 4.3.4 - Pedestrianised and Shared Surfaces	-The design of the scheme has placed a particular focus on the pedestrian. -The walkways and open space area has been designed to provide a sense of enclosure, be active spaces and with good surveillance in order to enhance pedestrians sense of safety. Road crossing and internal raised junctions are to be constructed in a different colour. Tactile paving has been provided at the Junction of proposed site and Loreto Road to facilitate pedestrian movement along the Loreto Road. -All areas readily accessible to mobility impaired persons.
Cycling facilities will cater for cyclists of all ages and abilities.[5]	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.3.5 - Cycle facilities.	-Provision of shared surface roads throughout the site to connect with all areas and the wider locality via Loreto Road -Provision of adequate bicycle storage areas at various locations throughout the site to encourage usability.

[5] *Refer also to the National Cycle Manual (2011)*

Visual Quality		
Key Issues	**Key Considerations and DMURS Ref:**	**Design Response**
The landscape plan responds to the street hierarchy and the value of the place.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.2 – Street Trees 4.2.7 – Planting Advice Note 1 – Transitions and Gateways	-The creche creates a sense of place which is re-iterated via the central open space which is only accessible to pedestrians and cyclists. -Landscaping proposals are designed specifically to create a high quality residential environment in accordance with DMURS via feature planting, trees and buffer/privacy strips.
Street furniture is orderly placed.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.5 - Street Furniture. 4.3.1 Footways, Verges and Strips	-The street furniture positioned at focal points such as the plaza and at the open space area to serve the movement patterns of pedestrians and encourage usability. Street furniture will be placed within designated zones and items chosen from a limited colour palette that promotes visual cohesion with the number of items balanced with other facilities. -Footpaths, verges and strips designed to required standards (refer to road design specifics.
The use of signage and line marking has been minimised.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.4 - Signage and Line Marking.	-Line marking only required to serve the single vehicle access road providing a 'less is more' approach to reinforce lower design speeds. A similar approach is to be taken with signage as drivers must navigate the street environment with full regard to their own behaviour and the behaviour of others around them. An emphasis on the values of place and shared road use will also reduce the requirement of signage and it's visual impact in order to reduce visual clutter. -All other surface treatments will consist of paving, resin-bound surfacing and a tarmac finish for the main pedestrian and cyclist route. -Provision of internal speed limit and 'children at play' signs.
Materials and finishes used throughout the scheme have been selected from a limited palette and respond to the value of the place?	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.6 – Materials and Finishes 4.2.8 – Historic Contexts. 4.3.2 – Pedestrian Crossings	-As above, landscaping proposals designed specifically to create a high quality residential environment in accordance with DMURS; specifically block paving to the perimeter of buildings. -Surface finishes to the walkway will be a high quality tarmac surface and constructed to a taking in charge finish specification. Courtesy crossings, which will be defined by a change in material and vertical

	4.4.2 – Carriageway Surfaces	deflection, allow pedestrians to informally assert a degree of priority over drivers. -Pedestrian crossing facilities to be provided at junctions and on each arm of the junction -Corner radii have been minimised so that crossing points are located closer to corners on pedestrian desire lines -Crossings located at strategic locations where pedestrians are likely to cross, such as adjacent to bus stops and Focal Points, or to coincide with traffic calming measures on longer straights

Additional Comments

The principle design guidance of DMURS has been considered in the design as the design prioritises pedestrians, cyclists, public transport and then private cars, as per the extract opposite from DMURS. Specifically we highlight:

- a 'pedestrian focus' is incorporated into the layout.
- pedestrian links to open space and landscaped areas.
- provision of adequate street furniture& street lighting throughout.
- use of contrasting materials between pedestrian and vehicular routes.
- provision of cycleway(s) within/through the site are provided on-street.
- provision of pedestrian footpaths of min 1.8 metres; this includes along the road frontage of the site.
- Typical entrance corner radii of 3 metres to give priority to pedestrians.
- internal pedestrian and cyclist crossings via provision of 'courtesy crossings'.
- provision of bicycle storage spaces both at street level to encourage use of public transport/sustainable modes of transport.
- Provision of a bus drop-off/collection point for any future bus route(s) to serve the site internally.
- incorporation of the 'pedestrian focus' to inform the site landscaping works.
- provision of internal speed limit and 'children at play' signs.

Overall the scheme design will be consistent with standards and objectives as set out under DMURS.

Personnel Information			
	Name	**Date**	**Signature**
Report Prepared By:	Ronan Woods	27th August 2025	
Principle Designers	Ronan Woods (Genesis Planning) Catriona Byrne (MF Architects) Michael Fitzpatrick (MF Architects)	27th August 2025 05/09/2025 05/09/2025	

Appendix B – Stage 1 Road Safety Audit

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Proposed Residential Development, Lisdaran, Cavan, Co. Cavan

Stage 1 Road Safety Audit

Final Report

23rd October 2025

Prepared for

Lisdaran Developments Ltd.

Traffic Transport and Road Safety Associates Ltd.
Barran, Blacklion,
Co. Cavan

t. +353(0)71 9853847
e. info@ttrsa.com

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Document Control Sheet

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Record of Issue

Revision	Issue	Status	Date	Comment
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1	2	Final	23/10/2025	Final report with completed RSA Feedback Form

Distribution

Organisation	Copies
Lisdaran Developments Ltd. c/o Michael Fitzpatrick Architects Ltd.	1 Electronic (pdf) copy

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Contents

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1 Introduction

This report presents the findings of a Stage 1 Road Safety Audit (RSA) of the highway design of a proposed 109-unit residential development and crèche facility, which will be accessed from a permitted junction on the L1513 local road (Loreto Road), in Cavan.

This RSA has been commissioned by Lisdaran Developments Ltd. The scheme drawings for this proposed residential development have been prepared by a team led by Michael Fitzpatrick Architects Ltd.

This RSA has been undertaken by Traffic Transport and Road Safety Associates Limited (TTRSA) in accordance with the requirements of Transport Infrastructure Ireland (TII) GE-STY-01024 Road Safety Audit standard. The Audit Team members comprised: Matthew Steele (TII Auditor Ref. No. MS88315) and Pamela Townley (TII Auditor Ref. No. PT90300). A brief for this RSA, in accordance with the requirements of TII GE-STY-01024, is included as Appendix A of this report.

A site visit for this RSA was undertaken by both RSA Audit Team members during the morning of the 24th September 2025 during which the weather was dry and the road surface was dry. The RSA was undertaken by the aforementioned Audit Team during the time period 4th September 2025 to 3rd October 2025.

This Road Safety Audit examines the documents relating to the proposed scheme and on-site observations at the time of the Road Safety Audit site visit, and identifies issues which may have an adverse impact on road safety. The Road Safety Audit does not examine or verify: the proposed scheme for compliance with any other standards or criteria; the spatial accuracy of the design information provided; nor, road safety issues related to site construction traffic.

Issues which impact on road safety are listed as problems within this Road Safety Audit report, and relate to the documentation provided upon commencement of the Road Safety Audit and associated clarification. The problems identified are considered to require action in order to improve the safety of the scheme and minimise collision occurrence.

The scheme employer and designer are required to respond to this Road Safety Audit report by completing a Road Safety Audit Feedback Form, included as Appendix B of this Road Safety Audit report. If any of the recommendations within this RSA are not accepted, a written response is required within the Road Safety Audit Feedback Form stating the reasons for non-acceptance.

Where the scheme employer and designer amend the scheme design in response to their completion of the Road Safety Audit Feedback Form, such design amendments are not assessed within this Road Safety Audit.

Where significant changes are made to a scheme design following, or as a result of, a Stage 1 Road Safety Audit, a Stage 1 Road Safety Audit re-audit of these design amendments should be undertaken as part of the design process prior to construction. In addition to this Stage 1 Road Safety Audit, TII GE-STY-01024 requires both: a Stage 2 Road Safety Audit to be undertaken prior to construction; and, a Stage 3 Road Safety Audit to be undertaken prior to opening to traffic.

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2 Scheme Background

2.1 The proposed scheme

The scheme and scope of this RSA comprises the highway design of a proposed 109-unit residential development and crèche facility which will be accessed from a permitted junction on the L1513 local road (Loreto Road), and via a section of the permitted site road relating to this permitted junction.

The design of this proposed residential development is contained in Appendix A of this report, and in summary the configuration of the proposed development site will comprise a low density residential area aligning the northern section of the development site and a higher density residential area to the south-eastern area of the site. These two areas of the site will be linked by a spine access road which will access onto the permitted site road. A crèche facility will also access onto the eastern side of the permitted site road. The width of the proposed site access road will be 4.8m for proposed shared surface areas of the site and between 5.5m and 6m for the remaining carriageway routes of the site. The majority of the site access spine road leading to the south-eastern area of the site has a steep vertical gradient. Footpath routes with crossing points are proposed within the site. Parking for the residential units will mainly comprise perpendicular in-curtilage parking spaces with off-road perpendicular and kerb-side parallel parking spaces located in the south-western area of the site. Vertical and horizontal traffic calming measures are also proposed for the carriageway routes of the site.

The scope of this RSA excludes: a) Proposed pedestrian and/or cycle routes which: access onto the eastern and southern perimeter of the site; and which do not align the carriageway of the central, northern and south-eastern areas of the site; c) The Loreto Road/Site access junction which has been the subject of a previous RSA; and, c) The gradient of the internal road (the design team have informed the audit team that the gradient has been agreed with Cavan County Council).

2.2 The existing situation

As observed during the time of the RSA site visit and depicted within the image below, the characteristics of the section of existing permitted site road which the proposed development and crèche facility will access onto included the following:

- The constructed kerbed carriageway of this permitted site road ranges between 5.9m and 6m aligned on its western side by a kerbed off-road segregated 2m wide pedestrian route and 2m wide cycle track. Sections of dropped kerbs are present within the existing constructed kerbline.
- Southbound from the permitted junction with Loreto Road, the site road has relatively straight alignment on a rising grade transitioning to a minor right-hand curve and then to a relatively straight alignment on a descending grade towards and at the location of the proposed crèche facility.
- Public lighting columns are present on the western side of the site road, and surface water drainage gullies are also present.
- No road markings or road signs are present.

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Plate 2.1: Existing permitted site road looking towards the L1513 local road (Loreto Road)

2.3 Traffic Collision Information

Collision data is not currently publicly available in Ireland due to ongoing issues in relation to GDPR and associated data-sharing agreements between An Garda Síochána and the Road Safety Authority.

2.4 Design Standards and Departures from Standards

The design standards applicable to this proposed residential development are: the 2019 Design Manual for Urban Roads and Streets, the prevailing Traffic Signs Manual, and TII design standards, as appropriate. The RSA audit team has not been informed of any departures from standards.

2.5 Information provided for this RSA

Documents and information provided for this RSA are detailed with the RSA brief contained in Appendix A of this report.

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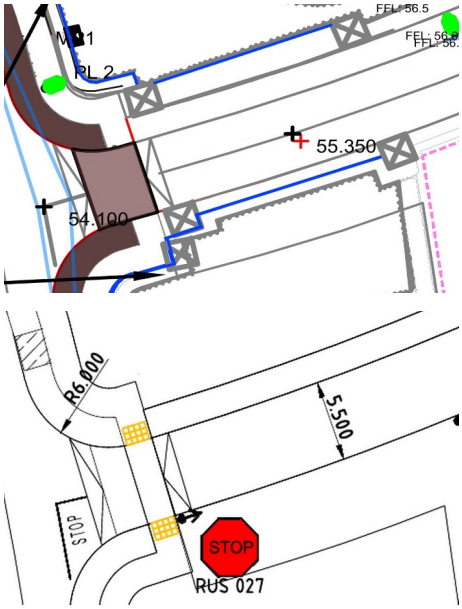
3 Stage 1 Road Safety Audit Findings

3.1 Problem: Boundary treatment at proposed site entrance

The feature pillars and boundary treatment of the south-eastern side of the proposed site entrance (depicted) will obstruct inter-visibility between those pedestrians and cyclists crossing south to north across the site entrance and those vehicles approaching to egress the site entrance, increasing the risk of collisions involving these vulnerable road-users. The proximity of these proposed pillars to the edge of the carriageway will increase the risk of vehicles colliding with this boundary treatment. It is also unclear whether adequate visibility of the proposed junction control sign is provided at this locality.

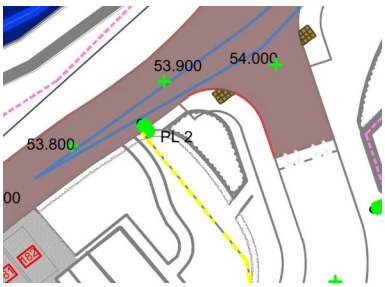


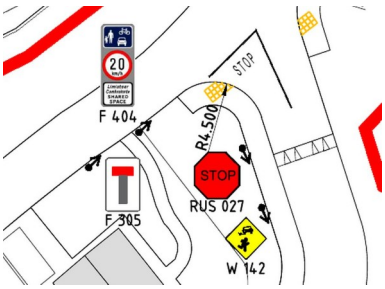
Recommendation:
Provide adequate unobstructed inter-visibility for pedestrians and cyclists crossing at this site entrance, for example setting back this combined boundary treatment further southwards. Ensure that road signing is appropriately positioned, and that adequate lateral clearance of boundary treatment and road signing is provided.

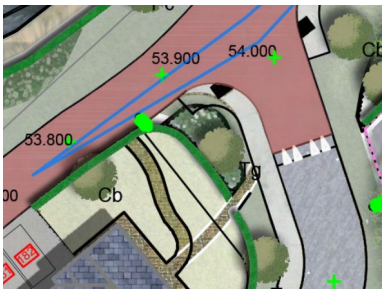
3.2 Problem: Boundary treatment west of northern internal junction

The proposed 2m high wall boundary positioned west of the northern internal junction will adversely impact on road-user safety through:

- Obstructing junction visibility splay to/from the west;
- Obstructing inter-visibility for northbound pedestrians stepping out from the adjacent private north-south pedestrian route onto the proposed shared-surface roadway (as depicted below left);
- Obstructing visibility of proposed road-signs, noting that the road signing is also obstructed by the proposed public lighting infrastructure (as depicted below centre);
- Obstructing safe access for the private east-west route pedestrian route at this locality (as depicted below right).







Recommendation:
Ensure that boundary treatment at this locality does not adversely impact on road-user safety, revising this boundary treatment whilst taking full account of junction visibility splays, inter-visibility of pedestrians, pedestrian access routes, and road signing and public lighting infrastructure.

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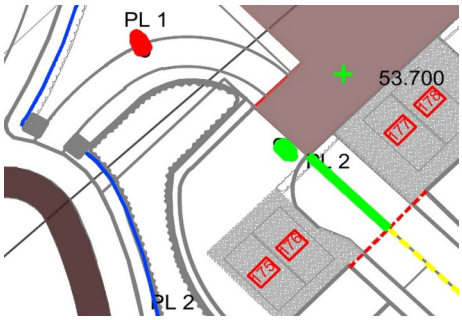
3.3 Problem: Vehicular access at north-western area of site

There is potential for those vehicles egressing from the north-western parking spaces (residential unit labelled A1) to collide with the adjacent proposed public lighting column. Additionally those vehicles reverse egressing from this parking area and the western parking space of the adjacent residential unit (labelled A2) will potentially collide with pedestrians accessing to/from the proposed north-western pedestrian route/shared-surface roadway.



Recommendation:

Provide safe access for vehicular and pedestrian access in this area of the development site, revising the position of public lighting infrastructure and revising the alignment of the north-western pedestrian route, taking full account of vehicle swept path access.

3.4 Problem: Potential for excessive vehicle speeds applied within the development

There is potential for excessive vehicle speeds to be applied within the development, particularly noting that: the proposed chicane ramps will not be effective and cause driver/rider confusion; the long section lengths of raised tables will negate the speed reduction effectiveness of these highway features especially on a descending gradient of the carriageway route; and, the vertical grade of sections of the spine road will adversely influence northbound vehicle speeds. Excessive vehicles speeds increase the risk of a range of collision types.

Recommendation:

Provide appropriate vertical traffic calming measures to ensure that appropriate vehicle speeds for the proposed 30km/h speed limit and 20km/h speed limit are physically enforced throughout the proposed development site. Ensure that appropriate speed limit transition signing is provided. Omit the proposed chicane ramps.

3.5 Problem: Protection of sections of carriageway route aligning steep vertical level differences

The lack of vehicle restraint measures for the sections of carriageway routes of the development site which align steep vertical level differences increases the risk of high injury severity loss-of-control type collisions involving those road-users who inadvertently/erroneously leave the carriageway. It is also noted that discrepancies exist within the proposed kerbing design information provided for the spine road, including the potential for dropped kerbs to be provided relating to surface water drainage to the adjacent swale area.

Recommendation:

Provide appropriate vehicle restraint measures for the proposed vehicle routes of the site which align steep vertical level differences.

3.6 Problem: Road-user confusion of same coloured surfacing applied to different types of routes

It is unclear from the drawing information provided for this Stage 1 RSA whether the same coloured surfacing will be applied for raised tables, shared-surface routes, and cycle routes. This situation could increase the risk of collisions between road-users due to driver confusion of the visual designation of these routes, with resultant increased potential for hazardous access onto cycle routes and potential for reduced awareness/adherence of shared-surface areas of the site.

Recommendation:

Ensure that the same/similar colour of surfacing is not applied to raised tables, shared-surface routes or cycle routes of the site.

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3.7 Problem: Pedestrian route access

There is potential for pedestrian trip/fall injury and collisions involving pedestrians due to lack of safe pedestrian access at the following locations of the proposed development site:

- On the section of the site spine road footpath route where the vertical gradient exceeds 1:20;
- The rear edge of the proposed footpath routes due to lack of physical detection by pedestrians with visual impairments;
- At the transition points to/from designated pedestrian routes and the shared-surface routes;
- Where the footpath terminates into car parking spaces at residential units labelled 34 and 49;
- To traverse along and across the shared-surface routes, particularly for those with hearing loss and visual impairments;
- To/from the proposed public open space play/seating areas of the northern sector of the site;
- To/from the proposed pedestrian route at the north-eastern area of the site opposite residential unit labelled A10 (including across the carriageway on the pedestrian desire line);
- Across the carriageway on the pedestrian desire line to/from the proposed pedestrian route at the central-eastern area of the site (between residential units labelled 32/33 and 50);
- At the interface of pedestrian routes which are not accessible for those with visual and mobility impairments;
- At proposed crossing points which are positioned immediately at, or adjacent to, parking spaces;
- Adjacent to the northern and eastern fenced perimeter of the central play park;
- Where road signing and landscaping trees are positioned within the footpath route;
- Where road gullies are positioned within the footpath and within pedestrian crossing point routes; and,
- At crossing points where the proposed alignment and dimensions of tactile paving will misguide pedestrians with visual impairments.

Recommendation:

Provide safe route access for pedestrians within the proposed development site, ensuring that appropriate route alignment, route gradients, and protected linked route access (which is physically detectable and visually defined) is provided. Ensure that safe crossing points, with appropriate form and alignment of tactile paving, are provided.

3.8 Problem: Pedestrian route access for southern central link road of the development site

It unclear from the information provided for this Stage 1 RSA of how the proposed kerbed footpath route indicated within the road cross-section labelled D-D will provide safe pedestrian access tie-in with the proposed footpath terminal points at the junctions of the internal link route serving residential units labelled 34 through to 49, or to the proposed shared-surface of this link route. Inadequate pedestrian route access including lack of connectivity, can increase the risk of injury/collision involving these road-users.

Recommendation:

Remove the shared-surface designation of the proposed link road serving residential units labelled 34 through to 49 and provide connected footpath routes as per the proposed cross section D-D for this link road.

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3.9 Problem: Universally accessible (designated disabled) parking spaces

It is unclear from the drawing information provided for this Stage 1 RSA of whether safe access will be provided to, from, or at, the proposed universally accessible (designated disabled) parking spaces. Inadequate detection, definition or gradient of the pedestrian route at these parking spaces can for example increase the risk of trip/fall injury to these pedestrians. Additionally there is the potential for conflict and collision between the users of the south-eastern universally accessible parking space and users of the proposed pedestrian/cycle route which is aligned adjacent to this parking space.

Recommendation:

Provide safe access to, from and at the proposed universally accessible (disabled) parking spaces.

3.10 Problem: Vehicle swept path encroachment over footpath

There is potential for injury to pedestrians as the swept path of large vehicles encroaches over the footpath route in the locality of residential unit labelled number 34.

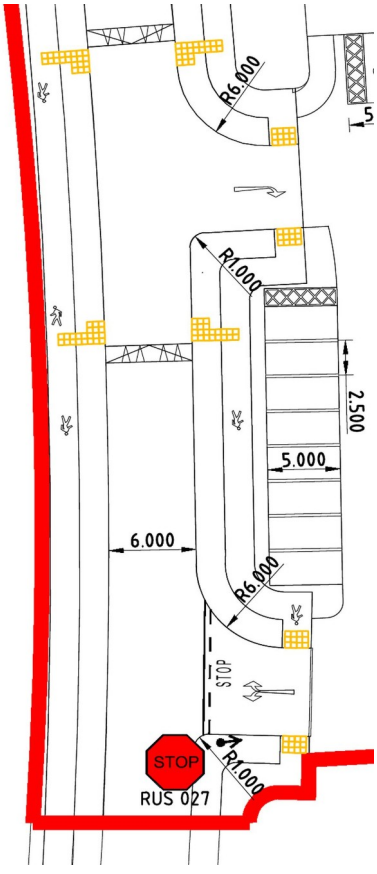
Recommendation:

Ensure that vehicles do not encroach over the footpath at this locality.

3.11 Problem: Reduce safe access at locality of the proposed crèche facility

Road-user safety will be reduced in the locality of the proposed crèche facility as:

- Road-users will not be informed of the one-way access restriction (due to a lack of one-way and no-entry road signing), which combined with the proposed width of the crèche site entrance and crèche site exit points, will increase the likelihood of vehicles simultaneously entering and egressing these access points, and increase the risk of conflict and collisions including with those utilising the adjacent pedestrian route and cycle track;
- Vehicles will over-run the sections of the proposed tactile paving and cycle track at the crèche site access points;
- It is unclear how pedestrians will safely access to/from vehicles positioned within the proposed set-down area, particularly as there will be potential conflict between these road-users and those vehicles either manoeuvring to/from the proposed parking spaces or traversing the adjacent internal access route;
- Cyclists will collide with the stop control road sign proposed within the cycle track at the crèche site exit point;
- It is unclear how cyclists utilising the cycle track will safely cross the crèche site entrance and exit points;
- The provision of tactile paving in the formation which indicates controlled pedestrian crossing points of the raised table at the crèche site entrance point will create confusion for pedestrians with visual impairments and increase the risk of collisions involving these pedestrians who will interpret this tactile paving as their priority over other road-users to cross both the cycle route and the carriageway.



Recommendation:

Reduce the width of the crèche site access points to single vehicle access and provide road signing and road markings appropriate to the access restrictions and traffic movement of the proposed route of the crèche facility. Provide safe access for pedestrians and cyclists utilising the routes at the crèche site frontage and for access into/from the crèche site.

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3.12 Problem: Cycle route access

It is unclear from the drawing information provided for this Stage 1 RSA of how safe access will be provided for cyclists to access to/from the proposed off-road segregated cycle track (including between the proposed cycle route and the carriageway routes of the development site) and access to/from the proposed northern sector of the development site. Inadequate safe cycle route access increases the risk of collisions involving cyclists.

Recommendation:

Provide safe access for cyclists within the development site including providing safe access to and from the northern sector of the site.

3.13 Problem: Potential for vehicles to inadvertently over-run the footpath and cycle track

The limited vertical levels/transition between the carriageway and adjacent footpath or cycle track at the raised site access junction and raised internal junctions increases the potential for vehicles to inadvertently over-run the footpath and/or cycle track at these localities. This situation increases the risk of collision involving these vulnerable road-users and increases the risk of injury to vehicle occupants as vehicles strike/collide into adjacent areas of higher kerbing, etc.

Recommendation:

Provide physical measures (for example cones or bollards) at these junction localities to ensure that vehicles do not inadvertently encroach onto the footpath and/or cycle track.

3.14 Problem: Residential unit boundary treatment masking inter-visibility

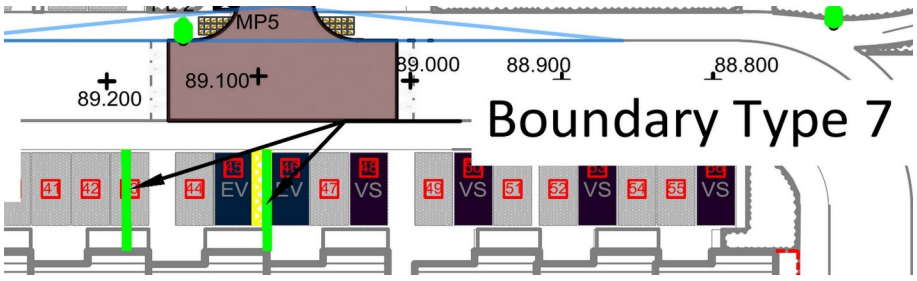
There is the potential for the boundary treatment proposed between the residential units to mask inter-visibility between those vehicles manoeuvring from/within curtilage parking spaces and those pedestrians (including child/youth pedestrians) traversing the adjacent footpath/shared-surface route or crossing points. This situation increases the risk of collisions involving these pedestrians.

Recommendation:

Provide adequate inter-visibility between those vehicles manoeuvring from/within curtilage parking spaces and those pedestrians (including child/youth pedestrians) traversing the adjacent footpath/shared-surface route or crossing point, for example providing adequate off-set distance between this boundary treatment from the rear edge (non-carriageway edge) of the adjacent footpath.

3.15 Problem: Collision with landscape boundary treatment at curtilage of residential units

There is potential for injury to road-users as they collide with the proposed landscape boundary treatment (type 7) positioned within the parking space of residential units labelled 22/23 and positioned within the access strip between residential units labelled 24/25 and 26/27 (as depicted).



Recommendation:

Provide safe access for road-users accessing parking spaces and pedestrian access routes.

3.16 Problem: Obstructed visibility of road signs

There is the potential for road signs to be masked by landscaping trees and public lighting infrastructure (for example opposite residential units labelled 04 and 05, and as noted in Section 3.2), increasing the risk of collisions due to reduced road-user awareness of the sign face information.

Recommendation:

Ensure that forward visibility of road sign information is not obstructed.

3.17 Problem: Inadequate public lighting luminance for area of the site

Inadequate public lighting luminance for a section of the northern shared-surface route (as depicted) and for a section of the southern parallel parking areas of the site increases risk of road-user collisions and reduces the ability for pedestrians and cyclists to detect the highway alignment during darkness conditions. It is also unclear from the drawing information provided for this Stage 1 RSA whether a public lighting column is provided adjacent to the mini-pillar on the north-eastern route of the site, noting that the proposed adjacent landscaping tree can reduce the effectiveness of public lighting luminance.

Recommendation:

Ensure that adequate public lighting luminance is provided for the proposed development site.

3.18 Problem: Collision with public lighting infrastructure

There is the risk of injury to road-users colliding with public lighting infrastructure positioned within turning heads, cycle routes, and footpath routes.

Recommendation:

Ensure that public lighting infrastructure is not positioned within turning areas, cycle routes and pedestrian routes.

3.19 Problem: Level of utility covers within the carriageway surface

There is potential for injury to road-users as they collide with the upstand of a utility cover positioned within the eastern carriageway of the site in the vicinity of residential units labelled 24/25 and 26/27 and loss control whilst traversing the area of the utility cover positioned within the northern internal junction.

Recommendation:

Ensure that all utility covers are positioned flush with the constructed highway surface.

3.20 Problem: Potential for inadequate surface water drainage

There is potential for inadequate surface water drainage to be provided within sections of the proposed development site, including: for the pedestrian and vehicle areas of the crèche facility; at proposed turning areas; on the shared-surface routes of the northern and eastern areas of the site (as no kerbing detail or drainage cross-fall of these shared-surface routes has been provided for this RSA); on the north-eastern linear route of the site; at proposed raised crossings; at the upstream ramp interface of several raised tables; for the proposed cycle tracks; and, across the carriageway interface with pedestrian and cyclist crossing points. Inadequate surface water drainage including ponding and inadequate intercept of surface water flow, can increase the risk of slip type injury to pedestrians and loss-of-control type collisions involving vehicles including two wheeled vehicles.

Recommendation:

Ensure that adequate surface water drainage is provided for the proposed development site.

3.21 Problem: Proposed carriageway kerbing

It is unclear from the drawing information provided for this Stage 1 RSA of whether adequate kerbing will be provided to assist in guiding road-users of the highway alignment, preventing vehicles from leaving the carriageway route alignment (and for example entering drainage channels), or to assist in providing adequate surface water drainage (as aforementioned in Section 3.20 of this report), noting that design information suggested the provision of sections of limited kerb height on the spine access road and the provision of a French drain for the north-eastern carriageway route area of the site. The provision of inadequate carriageway kerbing can adversely impact on road-user safety.

Recommendation:

Ensure that appropriate carriageway kerbing is provided for the proposed development site.

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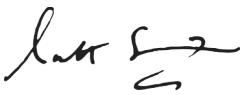
4 Audit Statement

We certify that we have examined the documentation provided for this RSA as detailed in Section 2 of this report, and visited the site as detailed in Section 1 of this report. This RSA has been carried out in accordance with TII GE-STY-01024 with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme. The problems that we have identified have been noted in this RSA report, together with suggestions for safety improvement that in our opinion should be studied for implementation. This RSA has been conducted by the persons named below who are independent from the design team for the scheme.

Matthew Steele (Audit Team Leader)	Signed: 	Date: 3rd October 2025
Pamela Townley (Audit Team Member)	Signed: 	Date: 3rd October 2025

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Appendix A – Road Safety Audit Brief

Scheme: Proposed Residential Development, Loreto Road, Lisdaran, Cavan

TII Checklist Item	Yes/No/Not Applicable (N/A)	Comment
Client Organisation and Contact	Yes	Lisdaran Developments Ltd.
Design Organisation and Contact	Yes	Michael Fitzpatrick Architects Ltd.
Design Brief	Yes	Undertake a Stage 1 Road Safety Audit spatially limited to the proposed highway design of a proposed 109-unit housing development which will access onto the L1513 local road (Loreto Road) in Cavan.
Design Standard Applied	Yes	The 2019 Design Manual for Urban Roads and Street, the prevailing Traffic Signs Manual, and TII design standards.
Design Speed Applied	Yes	The proposed residential development will incorporate a 30km/h 'Slow Zone', with 20km/h speed limits applied to proposed shared surface sections of the proposed development site. Visibility splays for the proposed internal junctions will accord with DMURS.
Departures from Standard	No	
Scheme Drawings	Yes	Detailed overleaf.
Other scheme details, e.g. signs schedules, traffic signal staging	No	
Collision data for existing roads affected by the scheme	Yes	Collision data is not currently publicly available in Ireland due to ongoing issues in relation to GDPR and associated data-sharing agreements between An Garda Síochána and the Road Safety Authority.
Traffic surveys	No	
Previous RSA Reports and Designer Responses /Feedback Form	No	
Previous Exception Reports	N/A	
Start date for construction and expected opening date	Yes	If planning is granted, it is anticipated that the proposed residential development will be constructed in three phases commencing from June 2026.
Any elements to be excluded from RSA	Yes	A) Proposed pedestrian and/or cycle routes which: access onto the eastern and southern perimeter of the site; and which do not align the carriageway of the central, northern and south-eastern areas of the site. B) The Loreto Road/Site access junction which has been the subject of a previous RSA. C) The gradient of the internal road (the design team have informed the audit team that the gradient has been agreed with Cavan County Council).
Any other information (list separately)	No	

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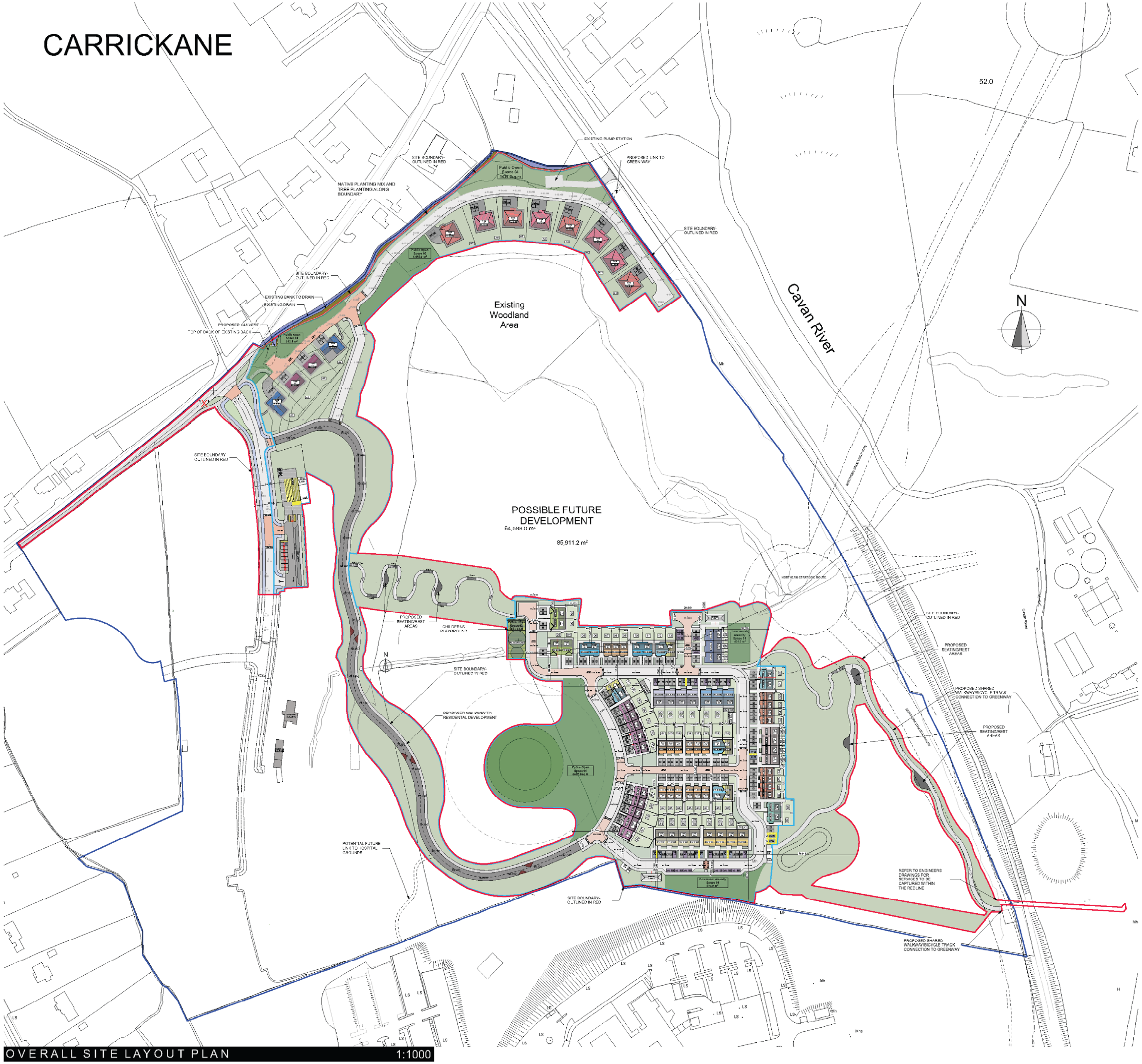

HOUSE TYPE LEGEND:	QTY.
HOUSE TYPE - A 4 BED - 2 STOREY + 3 BED - 2 STOREY SEMI DETACHED	8
HOUSE TYPE - B1 3 BED - 2 STOREY SEMI-DETACHED	4
HOUSE TYPE - B2 3-BED - 2 STOREY SEMI-DETACHED	2
HOUSE TYPE - B3 3-BED - 2 STOREY SEMI-DETACHED	2
HOUSE TYPE - C1 2 BED - 2 STOREY TERRACE	15
HOUSE TYPE - C2 2 BED - 2 STOREY TERRACE	8
DUPLEX BLOCK - D2 3 BED APARTMENT + 2 BED APARTMENT	6
DUPLEX BLOCK - D3 3 BED APARTMENT + 2 BED APARTMENT	8
DUPLEX BLOCK - D5 3 BED APARTMENT + 2 BED APARTMENT	8
DUPLEX BLOCK - D6 3 BED APARTMENT + 2 BED APARTMENT	8
DUPLEX BLOCK - D7 3 BED APARTMENT + 2 BED APARTMENT	6
HOUSE TYPE - E1 3 BED - 2 STOREY TERRACE	10
HOUSE TYPE - F1 3 BED - 2 STOREY SEMI-DETACHED	4
DUPLEX BLOCK - H1 1 BED APARTMENT + 1 BED APARTMENT	8
HOUSE TYPE - J1 4 BED - 2 STOREY DETACHED	3
HOUSE TYPE - J2 4 BED - 2 STOREY DETACHED	4
HOUSE TYPE - J3 4 BED - 2 STOREY DETACHED	1
HOUSE TYPE - K1 4 BED - 2 STOREY DETACHED	2
HOUSE TYPE - N1 4 BED - 2 STOREY DETACHED	2
TOTAL UNITS:	109 NO.

SITE PLAN LEGEND:

N

LISDARAN, CAVAN, CO. CAVAN
SITE BOUNDARY OUTLINED IN RED

SITE AREA - 85,911.2sqm / 21.2 Acres / 8.6 Ha

- Site Boundary
- +107.00 Proposed Levels
- F.F.L. - 107.50 Finished Floor Level
- House Type
- House Type
- Roads
- Footpaths
- Shared Surface
- Cycle Lanes
- Grass Areas
- Public Open Space/Communal Amenity Space
- Vechicle Parking
- Electrical Car Charging Parking
- Vistor Car Parking
- Disabled Car Parking

NOTES:

All Dimensions to be taken on site - No dimensions to be scaled from this drawing.

This drawing is to be read in conjunction with all other relevant drawings, Specifications ETC.

Any Discrepancys to be reported to the Architect for clarification. This drawing may not be copied or reproduced without written consent.

No works should be carried out without prior consent from the local planning authority.

Please note that this is a planning drawing and is therefore limited in its capacity to convey the total information, details & specifications neccessary to complete the works. Any work carried out that is not specified or detailed here will be the responsibility of the persons carrying out them out. If any situation arises which could cause a contravention of the building regulations, then the architect should be consulted, otherwise the architect can not be held responsible.

All work and materials are to be in Accordance with current building regulations whether detailed on this drawing or not

SITE BOUNDARY
SITE AREA: 85,911.2sqm / 21.2 Acres / 8.6 Ha

SITE OWNERSHIP
245,611.0sqm / 60.69Acres / 24.6 Ha

REFER TO ENGINEERS DRAWINGS FOR LEVELS AND ROAD DESIGN AND SPECIFICATION

PLANNING ONLY

ISSUE	DATE	DESCRIPTION	APPD
P-02	05/09/2025	ISSUED FOR REVIEW	MF
P-01	04/09/2025	ISSUED FOR REVIEW	MF

Michael Fitzpatrick ARCHITECTS

RIAI PRACTICE NO. 11010

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PROJECT DETAILS
Proposed residential development at Lisdaran, Cavan, Co.Cavan for Lisdaran Developments Ltd

SITE PLAN

Document Name:

Project No.	Project	Originator	Volume	Level	Type	Role	Sheet No.
24174-	RCL-	MFA-	00-	00-	DR-	A	-518

Suitability-Status-Code-Description: S2 A
Issue: P-02

Scale:	Drawn by:	Checked by:	Date:
As indicated @ A0	R. Conaty	M. Fitzpatricks	05/09/2025

Main Street
Butlersbridge
Co. Cavan
w - www.mfarchitects.ie
e - info@mfarchitects.ie
t - 049 4365800

Appendix B – Road Safety Audit Feedback Form

Scheme: Proposed 109-unit residential development
Location: L1513 Loreto Road, Lisdaran, Cavan
Audit Stage: 1

To be completed by Design Team				To be completed by Audit Team Leader
Paragraph Number in RSA Report	Problem accepted (Yes / No)	Recommended measures(s) accepted (Yes/ No)	Describe alternative measure(s). Give reasons for not accepting recommended measure. (Only to be completed if recommended measure is not accepted)	Alternative measures or reasons accepted by Audit Team (Yes / No)
3.1	YES	YES		
3.2	YES	YES		
3.3	YES	YES		
3.4	YES	YES		
3.5	YES	YES		
3.6	YES	YES		
3.7	YES	YES		
3.8	YES	YES		
3.9	YES	YES		
3.10	YES	YES		
3.11	YES	YES		
3.12	YES	YES		
3.13	YES	YES		
3.14	YES	YES		
3.15	YES	YES		
3.16	YES	YES		
3.16	YES	YES		
3.17	YES	YES		
3.18	YES	YES		
3.19	YES	YES		
3.20	YES	YES		

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Proposed Residential Development, Lisdaran, Cavan, Co. Cavan
Stage 1 Road Safety Audit

3.21	YES	YES		

Design Team Representative:
(Michael Fitzpatrick Architects Ltd)

Print Name: CATRIONA BYRNE

Signature: Catriona Byrne **Date:** 22/10/2025

Scheme Client:
Lisdaran Developments Ltd.

Print Name: Richard Clarke

Signature: Richard Clarke **Date:** 22/10/2025

Road Safety Audit signed of by:
Matthew Steele (Audit Team Leader)
BA(Hons) MSc FCILT FRGS MCIHT

Signature: **Date:** 23/10/2025

Audit sign-off note: *In accordance with current TII guidance, no revised drawings are assessed as part of signing-off this feedback form. The information audited is limited to that contained within Appendix A of this Stage 1 RSA.*

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