Contact us
+353 1 5242060
info@ors.ie
www.ors.ie

2024

Stage 1 Quality Audit Report Social Housing Bundle 4, Development at the Stanley Street Depot, Dublin 7

ENGINEERING A SUSTAINABLE FUTURE

Stage 1 Quality Audit Report
Social Housing Bundle 4, Development at the Stanley Street Depot, Dublin 7

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1 Introduction

This report documents the findings of a Stage 1 Quality Audit (QA) carried out with respect to the proposed construction of 167 apartments and duplex units at a site c. 1.15 ha at the former Dublin City Fire Brigade Maintenance Depot, Stanley Street, Grangegorman Lower, Dublin 7.

The audit team conducted the site visit on Friday the 19th of January 2024 to identify elements within the road environment that could impact the accessibility and mobility of road users as well as safety issues observed in the proposed scheme.

The audit team comprised of the following people:

Audit Team Leader:
Adam Price BEng (Hons), CEng, MIEI

Audit Team Member:
Mark Gallagher AEng, MIEI

Audit Team Observer:
Ankita Kirtane B.Arch, MSc, MIEI

The audit team reviewed the following documents and drawings provided Malone O'Regan Consulting Engineers:

(1) SHB4-SSD-DR-MOR-CS-P3-101 Rev 3
(2) SHB4-SSD-DR-MOR-CS-P3-110 Rev 3
(3) SHB4-SSD-DR-MOR-CS-P3-111 Rev 3
(4) SHB4-SSD-DR-MOR-CS-P3-120 Rev 2
(5) SHB4-SSD-DR-MOR-CS-P3-121 Rev 3
(6) SHB4-SSD-DR-MOR-CS-P3-130 Rev 4
(7) SHB4-SSD-DR-MOR-CS-P3-150 Rev 4
(8) SHB5-SSD-SMK-ZZ-SI-DR-E-6033-PL Ducting P03.

Documents/Information not supplied:
- Speed Survey
- Departures from Standards.

Guidance and information on the completion of the Quality Audit was found in:

- Design Manual for Urban Roads and Streets (DMURS), Department of Transport, Tourism and Sport.
- DMURS Supplementary Material – Advice Note 4 – Quality Audits.
- DMURS Supplementary Material – DMURS Street Design Audit (May 2019).
- Traffic Advisory leaflet 5/11, Department of Transport UK; and
- Building for Everyone - A Universal Design Approach, National Disability Authority.

The audit examined only those issues within the design relating to the road safety implications

and accessibility of the scheme and has therefore not examined or verified the compliance of the design in any other criteria.

The Quality Audit should not be treated as a design check. The problems identified and described in this report are considered by the Audit Team to require action to improve the safety of the development and minimise accident occurrence.

All comments, references and recommendations in this audit are in respect of the review of information supplied by Malone O'Regan Consulting Engineers and a subsequent site visit by the audit team.

The information supplied to the Audit Team is also listed in **Appendix A**.

2 Background

2.1 Description of the Proposed Development

ORS have been commissioned to conduct a DMURS Quality Audit (including a stage 1 Road Safety Audit) on behalf of Dublin City Council for the construction of 167 apartments and duplex units at a site c. 1.15 ha at the former Dublin City Fire Brigade Maintenance Depot and Dublin City Council Mechanical Division, Stanley Street, Grangegorman Lower, Dublin 7, which will consist of the following:

- The demolition and site clearance of the existing buildings, sheds, warehouses and garages.
- Retention and modification of the south and east elevation of an existing structure (facing onto Grangegorman Lower) to form part of apartment Block G at the southeast corner of the site.
- Construction of 167 no. apartment and duplex units across Blocks A-K (including frontage onto Grangegorman Lower).
    - Blocks A – C consist of 71 no. apartment units (43 no. 1 bed and 28 no. 2 bed units) and ranges from 5 to 6 storeys.
    - Blocks D-G consist of 84 no. apartment units (43 no. 1 bed units, 29 no. 2 bed units and 12 no. 3 bed units) and ranges from 4 to 5 storeys.
    - Blocks H-K consist of 12 no. duplex units (6 no. 1 bed and 6 no. 3 bed units) and are 3 storeys.
- Provision of 270 long-stay and 101 short-stay bicycle parking spaces, 19 no. car parking spaces and 1 no. motorcycle parking space.
- Construction of a 277.54 sqm creche.
- Provision of 552 sqm of community, cultural and arts space located at ground floor level across Blocks B, E, F and G.
- 0.113 ha of public open space and 1350 sqm of communal open space
- Vehicular access is proposed from Grangegorman Lower and vehicular egress onto Stanley Street
- Boundary treatments, public lighting, site drainage works, internal road surfacing and footpaths, ESB meter rooms, ESB substations, stores, bin and cycle storage, plant rooms, landscaping; and
- All ancillary site services and development works above and below ground.

Please refer to **Figure 2.1** displayed below, which provides an overview of the site location.

Figure 2.1: Site Location Map (Source: Google Earth)

Figure 2.2 shows the proposed site layout provided by Malone O'Regan Consulting Engineers.

Figure 2.2: Site Layout (Source: Malone O'Regan Consulting Engineers)

2.2 Existing Road Network

As previously noted, vehicular access proposed to the site is off the Grangegorman Lower Road. Service vehicles can access the site off the same vehicular accesses mentioned above. The pedestrian access/egress is off the Grangegorman Lower Road adjoining the vehicular access to the site. Separate access for cyclists is not provided throughout the site. Cyclists must share the carriageway with other motorists or pedestrians.

The Grangegorman Lower Road is a two-way road with single lane in each direction with some parallel parking spaces provided in front of the retain units adjacent to the site **(Figure 2.3)**.

Along the frontage the road has no uncontrolled crossings noted on site. The overall width of the vehicular carriageway is approximately 6.0 metres with footpaths and streetlights on either side of the carriageway as shown in Error! Reference source not found..**3**. No cycling facilities a re observed along the road.

Figure 2.3: Pedestrian facilities along Grangegorman Lower Road (looking north) (Source: Google Maps)

Brunswick Street North Access is a two-way street to the west of the site while to the east it is a one-way street with loading bay road markings.

Along the frontage the Brunswick Street North there is one controlled crossing to the east noted on site. The overall width of the vehicular carriageway is approximately 6.5 metres with footpaths and streetlights on either side of the carriageway as shown in Error! Reference s ource not found..**5**. There is also a single lane on road cycle lane provided on Brunswick Street North that discontinues at the signalised junction on the R805 to the south.

Figure 2.4: Brunswick Street North (Source: Google Maps)


Figure 2.5: Pedestrian/Cycle facilities along Brunswick Street North (looking west) (Source: Google Maps)

3 Quality Audit Scope

The primary goal of a Quality Audit is to ensure that high-quality places are delivered and maintained by all relevant parties, ultimately benefiting all end users. During that process, the Quality Audit team considers access for disabled people, pedestrians, cyclists, and drivers of motor vehicles to ensure that the scheme is inclusive and caters to the needs of all users.

The scope of this Quality Audit is to review the proposed layouts supplied by the Design Team and make recommendations in line with guidelines as per the Design Manual for Urban Roads and Streets (DMURS) and the Transport Infrastructure Ireland Road Safety Audit Standard GE-STY-01024, to ensure compliance and good practice of regulations defined in these standards documents.

The introduction of DMURS have sought to improve the design of streets in urban areas and to facilitate the implementation of policy on sustainable living by achieving a better balance between all modes of transport and road users. The introduction of DMURS is intended to encourage more people to walk, cycle or use public transport by making the experience safer and more pleasant.

In general, the principles of DMURS are intended to lower traffic speeds, reduce unnecessary car use, and create a built environment that promotes healthy lifestyles and responds more sympathetically to the distinctive nature of the individual communities and places.

DMURS Quality Audits are undertaken to demonstrate that appropriate consideration has been given to the relevant aspects of the design from a DMURS point of view. The benefits of undertaking a DMURS Quality Audit are as follows:

- The needs of all user groups and the design objectives of the project are fully considered.
- An audit enables the project's objectives to be delivered by putting in place a check procedure.
- It can contribute to cost efficiency in design and implementation.
- A DMURS Quality Audit encourages engagement with stakeholders.

This Quality Audit will be divided into the following assessments:

- A DMURS Street Design Audit
- Additional Audits (Access, Walking and Cycling Audits)
- A Road Safety Audit.

A DMURS audit template, consisting of a series of short tables, is available online by the Department for Transport, Tourism and Sport (DTTAS) and has been adopted into this report.

This Quality Audit was carried out to identify any potential difficulties road users, particularly mobility impaired users, older people and families with children may encounter when accessing the proposed housing development and to address any safety issues associated with the proposal. The elements found in this Audit that require further consideration with the guidelines set out in DMURS are outlined at the following pages.

4 DMURS Street Design Audit

4.1 Overview

The DMURS Street Design Audit is an essential tool for evaluating the compliance of street designs with the principles outlined in the Design Manual for Urban Roads and Streets (DMURS). This audit serves to ensure that key considerations outlined in DMURS have been appropriately addressed. The audit focuses on four critical aspects of street design, namely:

- Connectivity.
- Self-Regulating Street Environment.
- Pedestrian and Cycling Environment; and
- Visual Quality.

4.2 Connectivity

Connectivity				
Key Issues	**Key DMURS Reference**	**Comments**	**Audit Suggestion**	**Design Team 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	3.1 – The internal network connects dwelling entrances with parking area and open spaces. 3.2.1 – The development creates a permeable network for pedestrians restricting private vehicles. 3.3.1 – The design creates a strong sense of enclosure by using landscaping and various streetscapes to enclose the streets and development as a whole. 3.3.4 – Site layout is legible directing users towards site and building entrances.		
Multiple points of access are provided to the site/place, in particular for sustainable modes.	3.3.1 – Street Layouts 3.3.3 – Retrofitting	3.3.1 – The development maximises the number of walkable routes between destinations within the development through the provision of footpaths at open spaces. 3.3.3 – The development creates a permeable network for pedestrians with restrictions on the movement of private vehicles.		

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	3.3.1 – Adequate number of footpaths 3.4.1 – The development has created a network with restrictions on the movement of private vehicles. 3.4.1 – The site provides vehicular accessibility to the development by road from the northwestern and southeastern boundary of the site which only provides access to the car parks located to the northwest and southeast of the site. This can benefit service vehicles like refuse truck. However, no provision has been given for other service vehicles to access entirety of apartment buildings.	Separate cyclist tracks have not been provided on the scheme. Cyclists will be required to share the road with vehicles, dismount and reach their destination through the provided footpaths which is deemed appropriate.	
Through movements by private vehicles on local streets are discouraged by an appropriate level of traffic calming measures.	3.2.1 – Movement Function 3.2.2 – Place Context 3.4.1 – Vehicle Permeability	3.2.1 – The development comprises internal streets that provides access to the internal car parking areas and consequently the apartment building. The access road does provide a through route for vehicles in once direction only. 3.2.2 – The development comprises an appealing living place enriched with valuable green attributes. 3.4.1 – The development has created a network with restrictions on the movement of private vehicles through the use of short driving distance so that drivers are more likely to maintain lower speeds over shorter distances.	The access road provides a through route for vehicles which allows for access through Grangegorman Lower and both access and egress through Brunswick Street North.	

4.3 Self-Regulating Street Environment

Self-Regulating Street Environment				
Key Issues	**Key DMURS Reference**	**Comments**	**Audit Suggestion**	**Design Team 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	3.2.1 – A speed limit of 30km/h is applied and appropriate for the development type. 3.2.3 – Higher levels of pedestrian movement are catered for. 4.1.1 – The design provides for limited traffic calming measures which could result in higher speeds through the development.		
The street environment will facilitate the creation of a traffic calmed environment via the use of 'softer' or passive measures.	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	4.2.2 – Tree plantings are proposed in the layout plan. 4.2.3 – Active Street edges are provided through the provision of a combination of landscaping, pedestrian connection, and parking bays besides vehicular carriageway. 4.2.4 – Signage kept to minimum. 4.2.7 – Planting is used to create a softer landscape and encourage slower speeds. 4.4.2 – To reinforce narrower carriageways each parking bay is finished so that it is clearly distinguishable from the main carriageway. 4.4.9 – On-street parking has been provided throughout the site which will visually narrow the carriageway.	The type of tree planting proposed should be such that they do not obscure visibility splays from junctions.	

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 Advice Note 1 – Transitions and Gateways	4.4.1 –Measurements of the road carriageway are specified in the drawings provided. 4.4.4 – Forward visibility has been reduced through the provision of on-street parking and changes in horizontal alignments along the access road. 4.4.5 – Junction visibility splays in accordance with DMURS. 4.4.6 – The development features changes in horizontal curvature which promotes lower speeds. 4.4.7 Vertical deflections are proposed in the design.		

4.4 Pedestrian and Cycling Environment

Pedestrian and Cycling Environment				
Key Issues	**Key DMURS Reference**	**Comments**	**Audit Suggestion**	**Design Team 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	4.2.1 – Limitations in cross-sectional width and the emphasis on delivering segregated footpath and, and the provision of separated pedestrian access increases pedestrian safety. 4.2.3 – Active Street edges provide passive surveillance of the street environment and promote pedestrian activity. 4.2.5 – Street furniture such as public lighting, seatings, picnic tables are provided in certain sections of the development. 4.2.9 – On-street parking is proposed only at sections of the development.	Designers should ensure that tree canopies over time do not impede the illumination provided by street lighting.	
Junctions been designed to ensure the needs of pedestrians and cyclists are prioritised.	4.3.2 – Pedestrian Crossings 4.3.3 – Corner Radii 4.4.3 – Junction Design 4.3.4 – Pedestrianised and Shared Surfaces	4.3.2 – Pedestrian crossings are provided throughout the development. 4.3.3 – Corner radii of 3 to 6 metres have generally been provided at both the proposed vehicular access road. 4.3.4 – Pedestrianised surfaces are provided in abundance throughout the scheme.		
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	3.2.1 – The development maximises the number of walkable routes to the east and south of the development. 3.2.3 – The development comprises an appealing living place with green attributes. 4.3.1 – Footways are generally of 2.3 metres which is greater than the minimum recommended width. Other pedestrianised surfaces are		

		generally of a wider nature throughout the development.		
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	4.3.4 – Accessible parking spaces are proposed throughout the site with dropped kerbs provided.		
Cycling facilities will cater for cyclists of all ages and abilities.	3.2.1 – Movement Function 3.2.3 – Place Context 4.3.5 – Cycle facilities	4.3.5 – Dedicated cycling lanes are not provided. Cyclists will share the carriageway with pedestrians. However, the scheme provides ample spaces for cycle parking throughout the development.	Appropriate signage leading to bicycle parking area should be provided within the development.	

4.5 Visual Quality

Visual Quality				
Key Issues	**Key DMURS Reference**	**Comments**	**Audit Suggestion**	**Design Team 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	3.2.1 – Adequate number of attractive walkable routes are provided throughout the development. 3.2.3 – The development embodies an appealing living environment with an emphasis on green features, enhancing the sense of place and discouraging excessive speeds. 4.2.2 – The inclusion of street trees across the site enhances the sense of enclosure achieving a sense of place. 4.2.7 – Planting is proposed to create a softer landscape.		
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	4.2.5 – Street furniture provided does not restrict pedestrian movements.		
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	4.2.4 – Details of signage are provided, and signage is kept to the minimum required.		
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 4.4.2 – Carriageway Surfaces Advice Note 2 – Materials and Specifications	3.2.1 – Adequate number of walkable routes are provided to the south of the development. 3.2.1 – Materials and finishes are chosen to improve movement by creating visual distinctions between surfaces.		

5 Additional Audits

5.1 Accessibility and Walkability Audit

As mentioned previously the proposed site will be accessed off Grangegorman Lower to the east of the site and off Stanley Street to the south of the application site. The pedestrian access to the site is off Grangegorman Lower and Stanley Street as well in close proximity to the vehicular access. The pedestrian footpaths are segregated from the vehicular traffic.

Multiple pedestrian accesses are given to the shared public landscaped area to the west of the apartment buildings via Stanley Street to the south and Grangegorman Lower Road to the east. However, it is unclear how the pedestrian footpaths tie in with the existing footpaths on Stan;ey Street as the footpaths narrow and are reduced with street furniture and signage.

The local road network is well connected with footpaths in the vicinity of the site on Grangegorman Lower and Stanley Street which provides a safe environment for pedestrians. Cycling facilities are observed in the vicinity of the site on Brunswick Street North.

The site is well accessible via footpaths that connects the site to several local amenities like train station, shopping centre, schools, and hospitals.

5.1.1 Public Transport Network

The proposed development is well served by public transport, as it is located in Dublin city centre along Grangegorman lower and Brunswick Street. This strategic location facilitates convenient access to various areas within Dublin city. The location of the residential development will ensure great external connectivity by means of walking and public transport to future residents of the site and it should be expected that the movements to and from the site will be less car-dominated. The proposal is well-served by several bus routes in the vicinity of the site, as shown in **Figure 5.1** below.

There are 6 No. bus stops located in the vicinity of the site out of which 3 No. are located on R805 (Stoneybatter) and 3 No. are located on Church Street and Church Street Upper. All the bus stops are located ca. 200 to 600 metres from the application site. Heuston Railway Station is located 1.8km to the southwest of the site.

There are continuous footpaths leading the site to the bus stops located adjacent to the west of the site on the R805. The footpaths are deemed to be in good condition and of appropriate width in the vicinity of the site entrance. Two bus stops provided in the vicinity of the site in Stoneybatter have the provision for bus shelters and benches as well as one with a shelter and bench on Upper church street. **Table 5.1** overleaf outlines the available bus services in the area.

Figure 5.1: Bus stops in the vicinity of the development (Source: TFI)

Table 5.1 – Bus Services Available (Source: TFI)

Route No.	Bus Operator	Origin	Destination	Weekday Services
37	Dublin Bus	Blanchardstown Shopping Centre	Wilton Terrace	30 mins
39		Ongar	Burlington Rd	15 to 30 mins
39A		Ongar	UCD Belfield	10 to 30 mins
39X		Burlington Rd	Ongar	30 mins
70		Dunboyne	Burlington Rd	10 to 20 mins
83		Kimmage	Harristown	Only Operates Weekends
83A		Stannaway Ave	Harristown Bus Garage	Only Operates Weekends

Future residents and visitors of the site will enjoy access to an extensive network of existing bus routes in the vicinity, which will be further enhanced by the major Bus Connects proposal to improve the public transport, pedestrian, and cyclist network around the site, the maps of which are included in Error! Reference source not found. overleaf. The proposed site lies in close p roximity to multiple proposed Bus Connects project routes with the closest being a peak time B spine route in the vicinity of the site connecting Blanchardstown to the city centre. Due to the centrality of the site future residents will be able to access most of the greater Dublin area through the proposed Bus network upgrades.

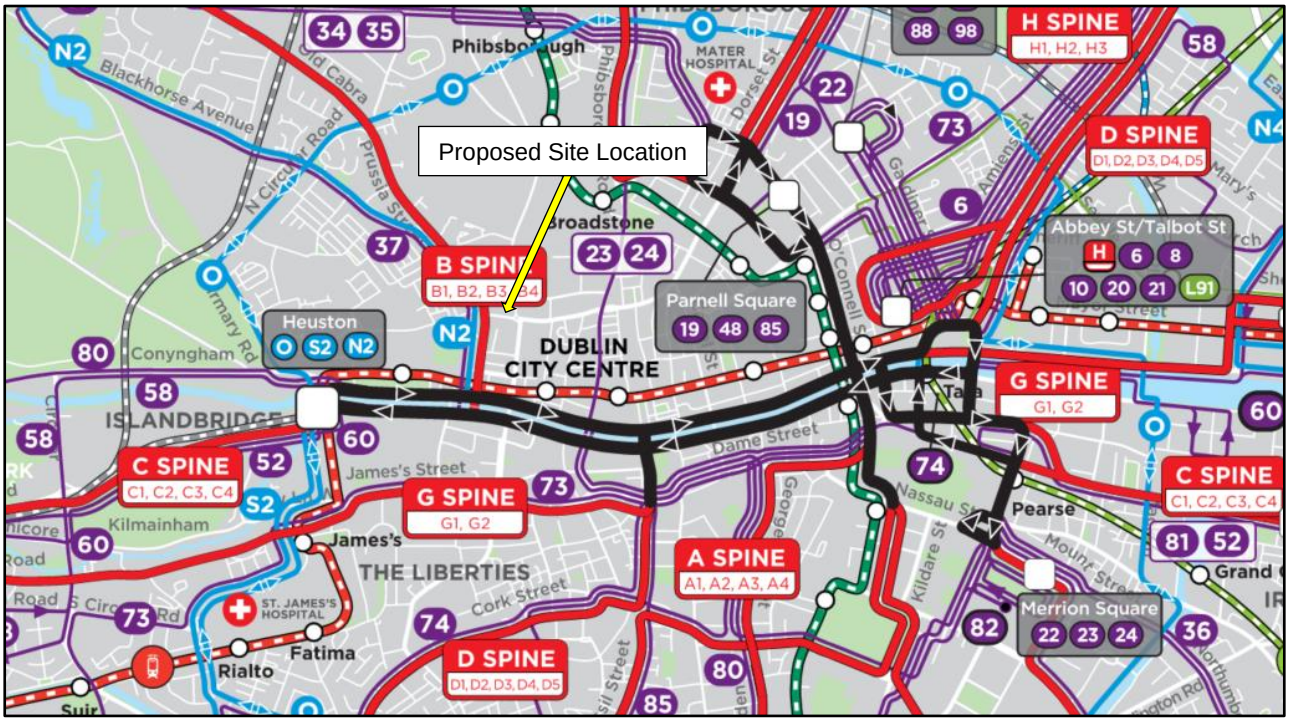


Figure 5.2: Proposed Bus Connects in the vicinity of the development (Source: Bus Connects)

The site is also located in close proximity to the Luas Red Line. The closest stop for the Red Line is in Smithfield, which is 550m away from the proposed site. There are continuous footpaths and crossing points leading the site to the Luas stop in Smithfield. This provides the residents of this site with access to communities such as Drimnagh, Tallaght and City-West.

The Green line albeit being further away is still accessible with the closest stop being the Dominick tram stop, which is 1.3km away from the proposed site. There are footpaths and crossing points leading the site to the Luas stop in Dominick Street. Additionally, there is an existing cycle lane just south of Stanley Street that leads to the Dominick Street Luas stop. This Green Line provides residents of this site with access to communities such as Cabra, Phibsborough and Sandyford.

Figure 5.3 overleaf, outlines the location of the closest Red and Green Line stops.

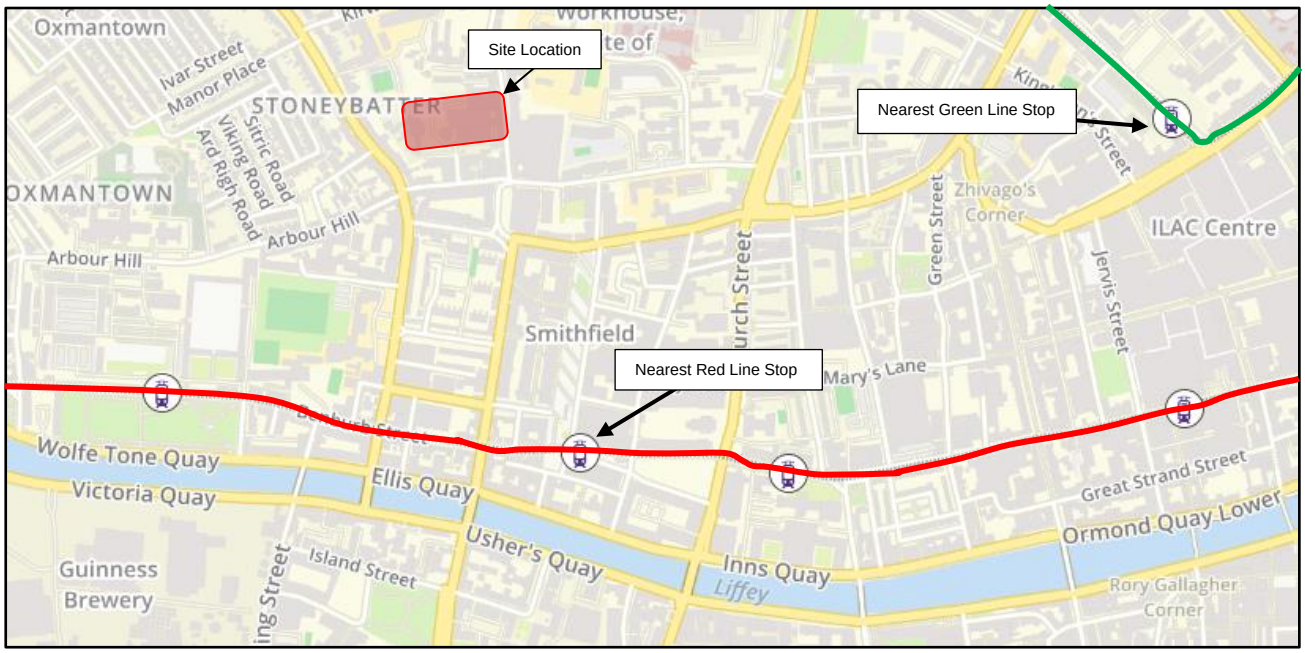


Figure 5.3: Luas Stops in proximity to site location. (Source: Bus Connects)

5.2 Cycle Audit

Currently there are no dedicated cycle lanes in place within the scheme. However, there is a vast network of cycle lanes present in the immediate vicinity of the application site. At the sites southern access point, there is a cycle path connecting to Blanchardstown. Additionally, there is a cycle lane to the southeast of the proposed site that gives future residents access to a large portion of the city centre.

The development description indicates the presence of 270 long stay cycle storages and 101 short stay bicycle parking spaces. However, the provided cycle parking spaces should adhere to the specifications outlined in Dublin City Development Plan 2022-2028. The provisions of closed and secured cycle parking facilities are crucial for encouraging the use of cycle stands.

NTA GDA Cycle Network Plan consisting of the Urban Network, Inter-Urban Network and Green Route Network for each of the seven Local Authority areas comprising the GDA was adopted as part of the GDA Transport Strategy 2022-2042. Secondary Route is proposed on Grangegorman Lower Road to the west of the site with a Primary Radial Route is planned for Stoneybatter/Manor Street to the east of the stie. Overall, the site is proposed to be very well connected with cycle infrastructure in the vicinity of the site, as shown in **Figure 5.4** overleaf.

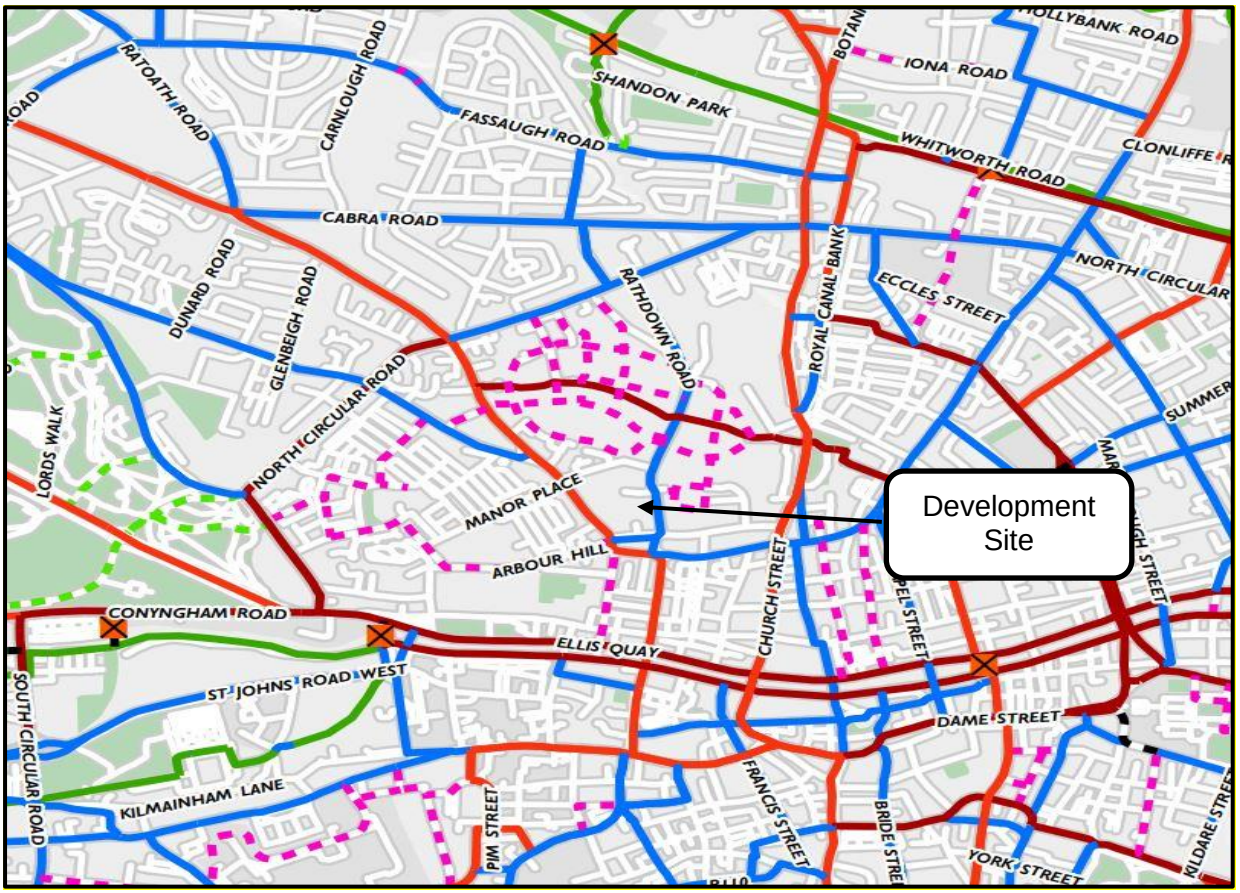


Figure 5.4: NTA GDA Cycle Network Plan in the vicinity of the development (Source: NTA)

6 Road Safety Audit

6.1 Introduction

This report documents the findings of a Stage 1 Road Safety Audit (RSA) carried out with respect to the proposed Social Housing Bundle 4, Development at the Stanley Street Depot, Dublin 7.

The audit team conducted the site visit on Friday the 19th of January 2024. The audit was carried out in the offices of ORS on Wednesday the 24th of April 2024.

The audit team comprised of the following people:

Audit Team Leader:
Adam Price BEng (Hons), CEng, MIEI

Audit Team Member:
Mark Gallagher AEng, MIEI

Audit Team Observer:
Ankita Kirtane B.Arch, MSc, MIEI

During the site visit the weather was clear with blue skies. The road surface was dry, and the traffic levels were noted to be low across the audit period.

Previous Road Safety Audits were not available for review. The audit team reviewed the following documents and drawings provided by Malone O'Regan Consulting Engineers.

(1) SHB4-SSD-DR-MOR-CS-P3-101 Rev 3
(2) SHB4-SSD-DR-MOR-CS-P3-110 Rev 3
(3) SHB4-SSD-DR-MOR-CS-P3-111 Rev 3
(4) SHB4-SSD-DR-MOR-CS-P3-120 Rev 2
(5) SHB4-SSD-DR-MOR-CS-P3-121 Rev 3
(6) SHB4-SSD-DR-MOR-CS-P3-130 Rev 4
(7) SHB4-SSD-DR-MOR-CS-P3-150 Rev 4
(8) SHB5-SSD-SMK-ZZ-SI-DR-E-6033-PL Ducting P03.

Documents/Information not supplied:

- Speed Survey
- Departures from Standards.

The terms of reference / procedure for the Audit were as per the relevant sections of the **Transport Infrastructure Ireland Road Safety Audit Standard GE-STY-01024.** The audit examined only those issues within the design relating to the road safety implications of the scheme and has therefore not examined or verified the compliance of the designs to any other

criteria. The Road Safety Audit should not be treated as a design check.

The problems identified and described in this report are considered by the Audit Team to require action to improve the safety of the development and minimise accident occurrence.

All comments, references and recommendations in this safety audit are in respect of the review of information supplied by Malone O'Regan Consulting Engineers.

Section 6.2 of this report presents the findings of the Stage 1 Road Safety Audit of the proposed residential development. For development's description and site layout please refer to **Section 2**.

The information supplied to the Audit Team is also listed in **Appendix A**.

A feedback form for the Designer to complete is contained in **Appendix B**.

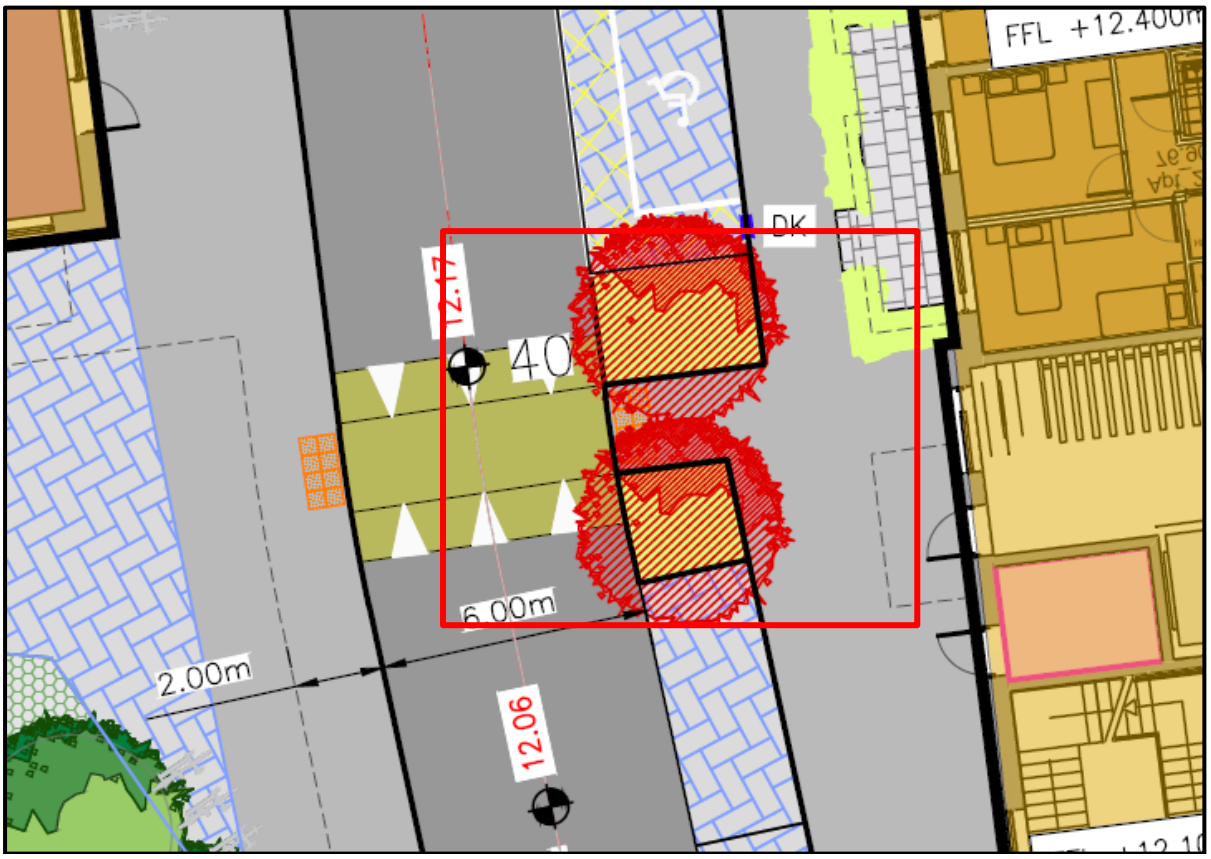
6.2 Problems Raised from the Road Safety Audit

The following are problems and recommendations to address the safety issues associated with the proposal. The recommendations are proposed to the designer of the scheme to reduce any safety risks associated with it.

Due to ongoing review of road traffic collision data by the Road Safety Authority website, no traffic collision data could be obtained for the vicinity of the proposed development site.

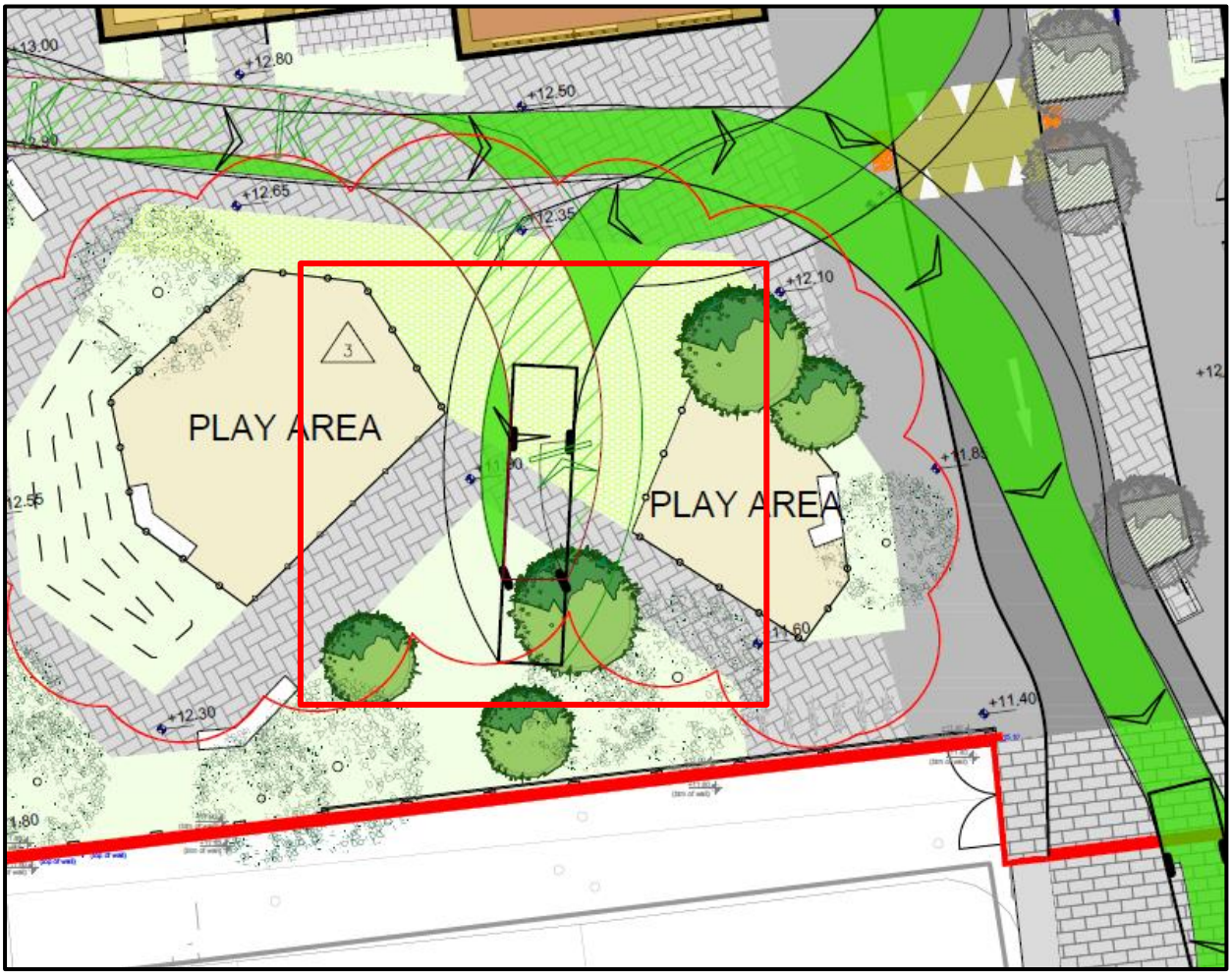
6.2.1 Potential Problems Identified

Problem No.1: Visibility at Crossing Points
Location: Within Scheme
The audit team is concerned about visibility at the proposed crossing points within the scheme due to the proposed landscaping proposed next to the crossing points. The audit team is concerned that the proposed landscaping may impact the visibility of users utilising the crossing and may also restrict visibility of vulnerable users for motorists approaching the crossing points.



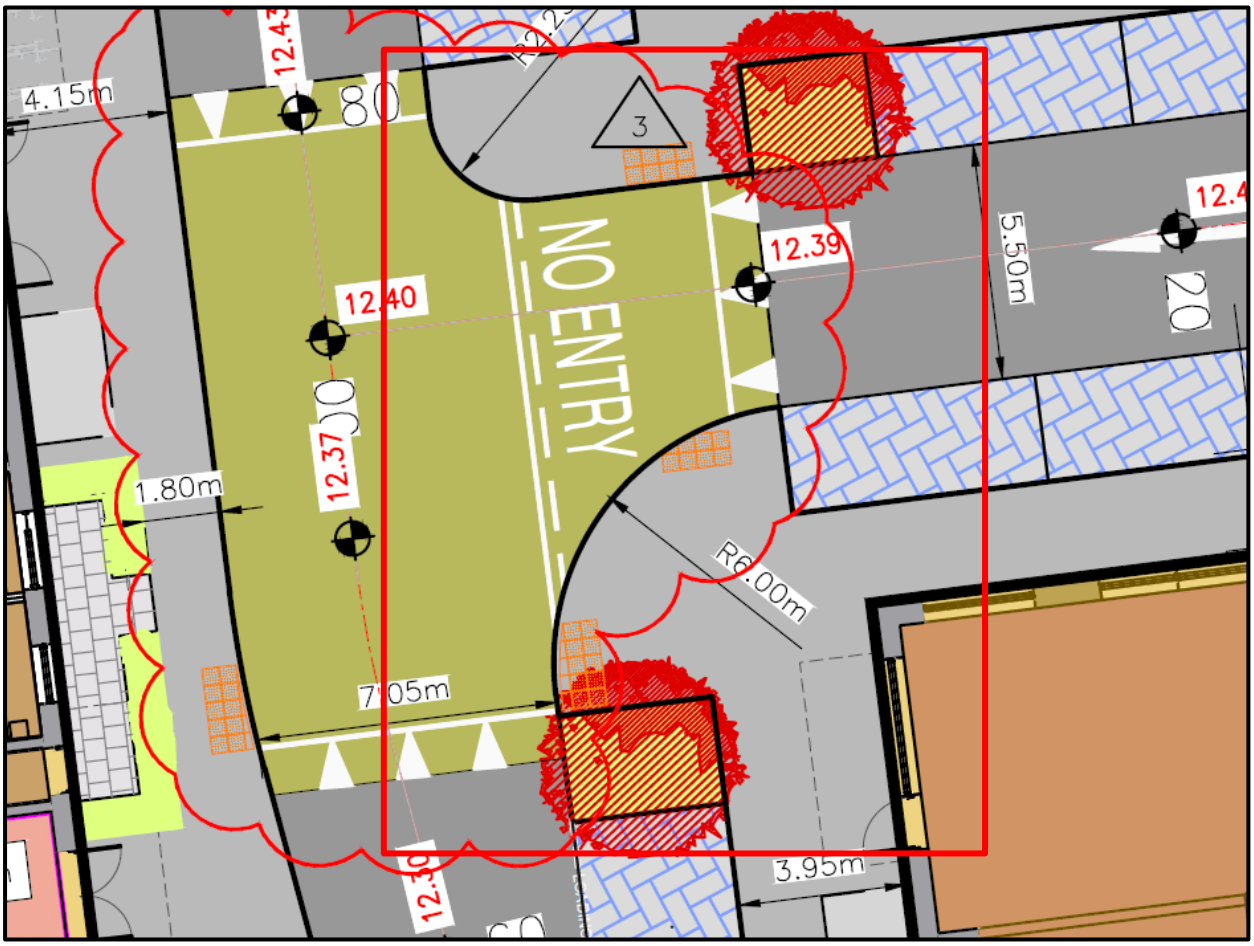
Recommendation:
The design team should ensure that proposed landscaping does not restrict the visibility for vulnerable users at crossing points.

Problem No.2: Turning Manoeuvre for Fire Tender
Location: Play Area to Southwest
The audit team is concerned about the availability of the turning area at this location due to a play due to proposed landscaping in the area. The audit team is concerned the location of landscaping, and any proposed street furniture could impact the turning manoeuvre of the fire tender entering and exiting the area.



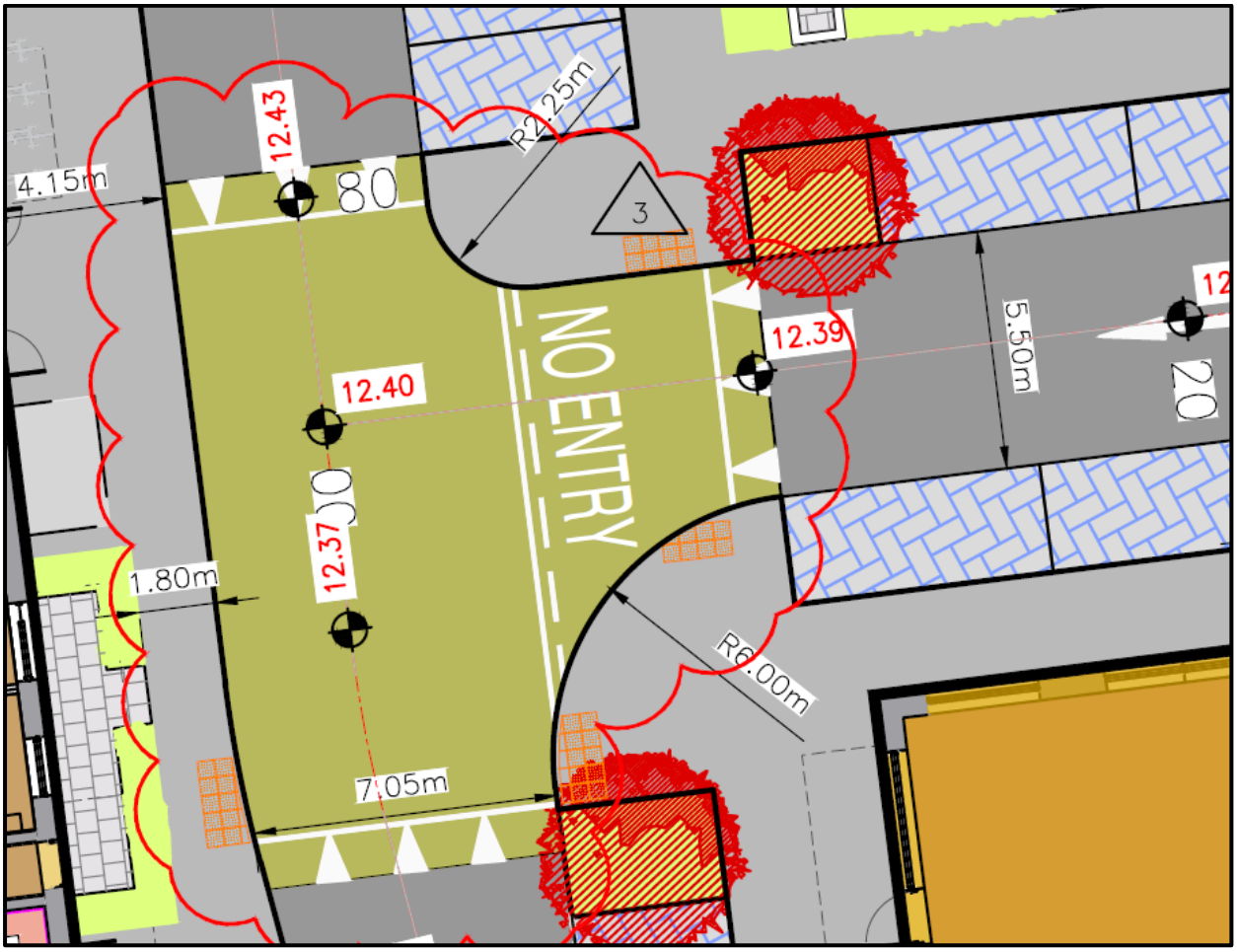
Recommendation:
The design team should ensure that landscaping and street furniture do not impact of the turning manoeuvre by a fire tender.

Problem No.3: Visibility at Crossing Points
Location: Within Scheme
The audit team is concerned about visibility at the proposed crossing points within the scheme due to proposed carparking proposed in close proximity to the crossing points. The audit team is concerned that parked cars may impact the visibility of users utilising the crossing and may also restrict visibility of vulnerable users for motorists approaching the crossing points.



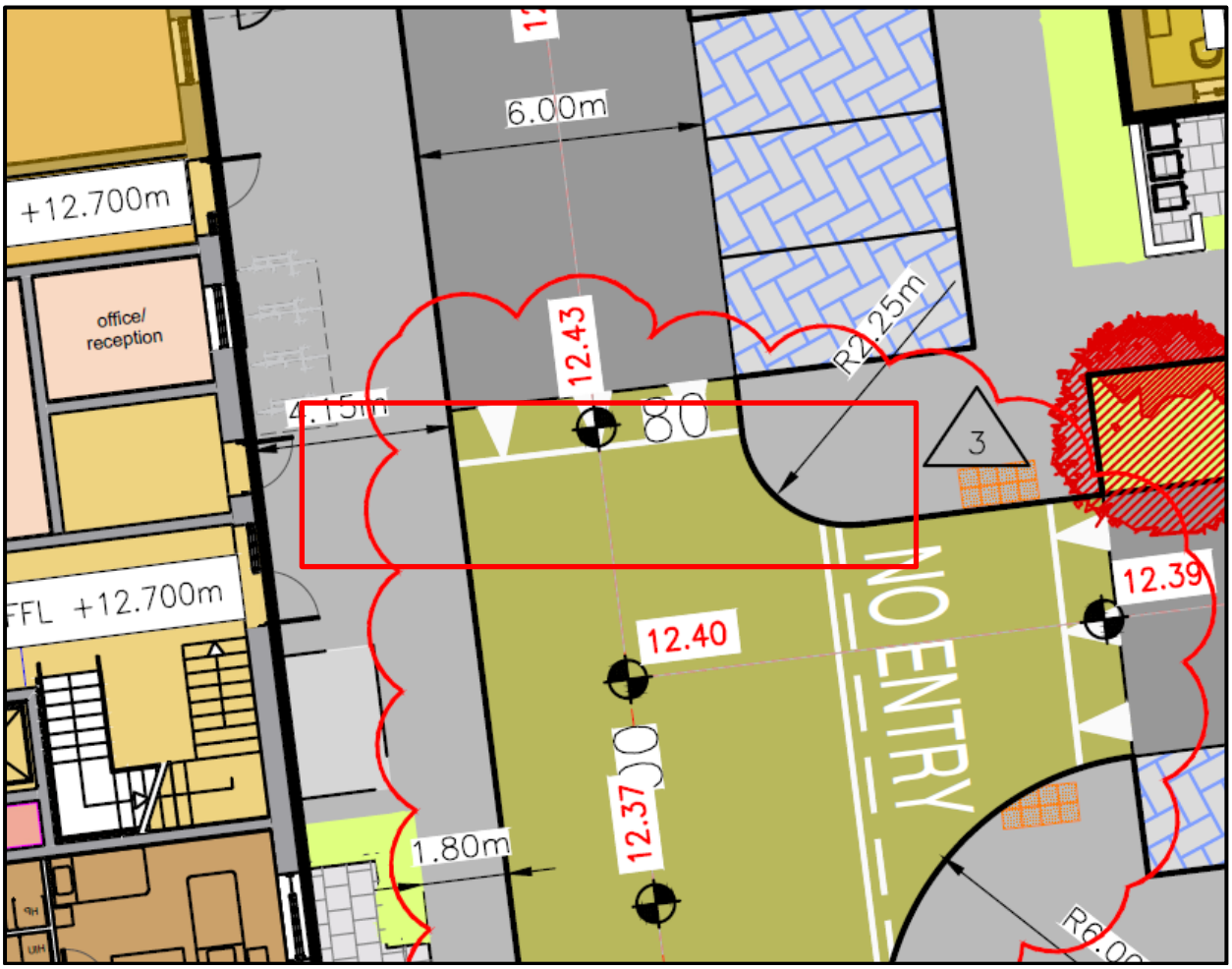
Recommendation:
The design team should ensure that parked cars in the proposed parking spaces do not restrict the visibility for vulnerable users at crossing points.

Problem No.4: Control at Internal Junction
Location: Identified Location
The audit team note that there is no proposed control for vehicles travelling west along the one-way street at the internal junction arrangement which could lead to vehicles failing to stop at the junction which could potentially result in conflicts on the two-way street.



Recommendation:
The design team should ensure that a stop control arrangement is proposed at this junction for vehicles travelling west from Grangegorman Lower Road.

Problem No.5: No Crossing Point on Desire Line
Location: Location Identified
The audit team note from the provided drawings that there is not crossing point at the identified location to allow users in the northern units to cross the carriageway in the direction of Stable Lane. This could result in users crossing the carriageway in undesignated location which could result in potential vehicle collision with vulnerable users.

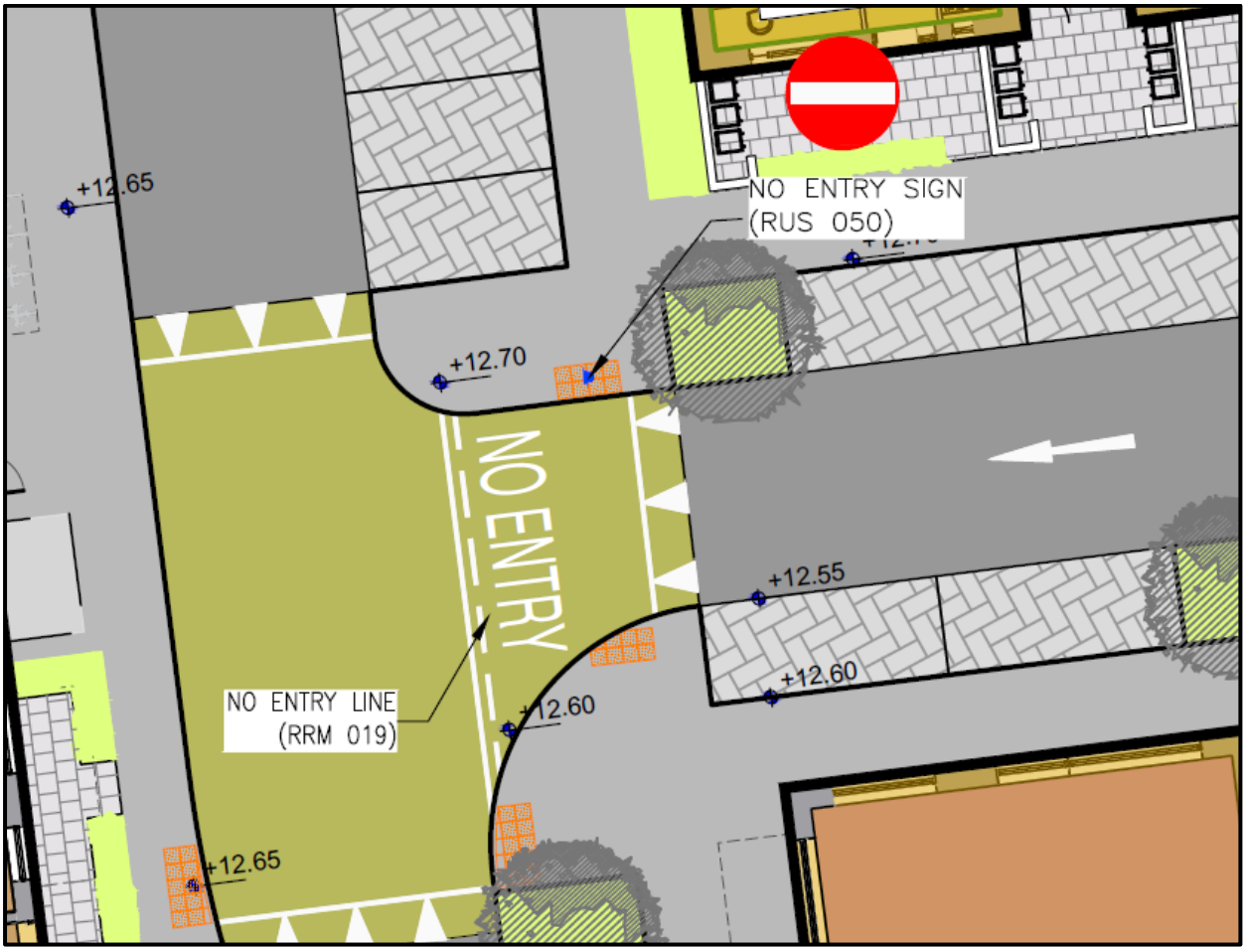


Recommendation:
The design team should ensure that there is a dedicated crossing point at this location to allow users to safely crossing the carriageway.

Problem No.6: Protection to Detention Basin Area
Location: Adjacent to Play Area
The audit team note that the detention basin runs parallel to pedestrianised surface which could be a high footfall area for children in particular. As no protection is provided for vulnerable users, the audit team has concerned that a vulnerable road user could inadvertently enter the bioretention area which could result in potential drowning incidents.

Recommendation:
The design team should provide adequate protection to the detention basin and any protruding pipework is provided to prevent vulnerable users from entering the pond area.

Problem No.7: 'No-Entry' Sign Positioned on Crossing Point
Location: Identified Location
The audit team note that there are public lighting columns which appears to be positioned on the crossing point identified. The positioning of this column will restrict the movement of vulnerable users and will result in a safety hazard for visually impaired users.

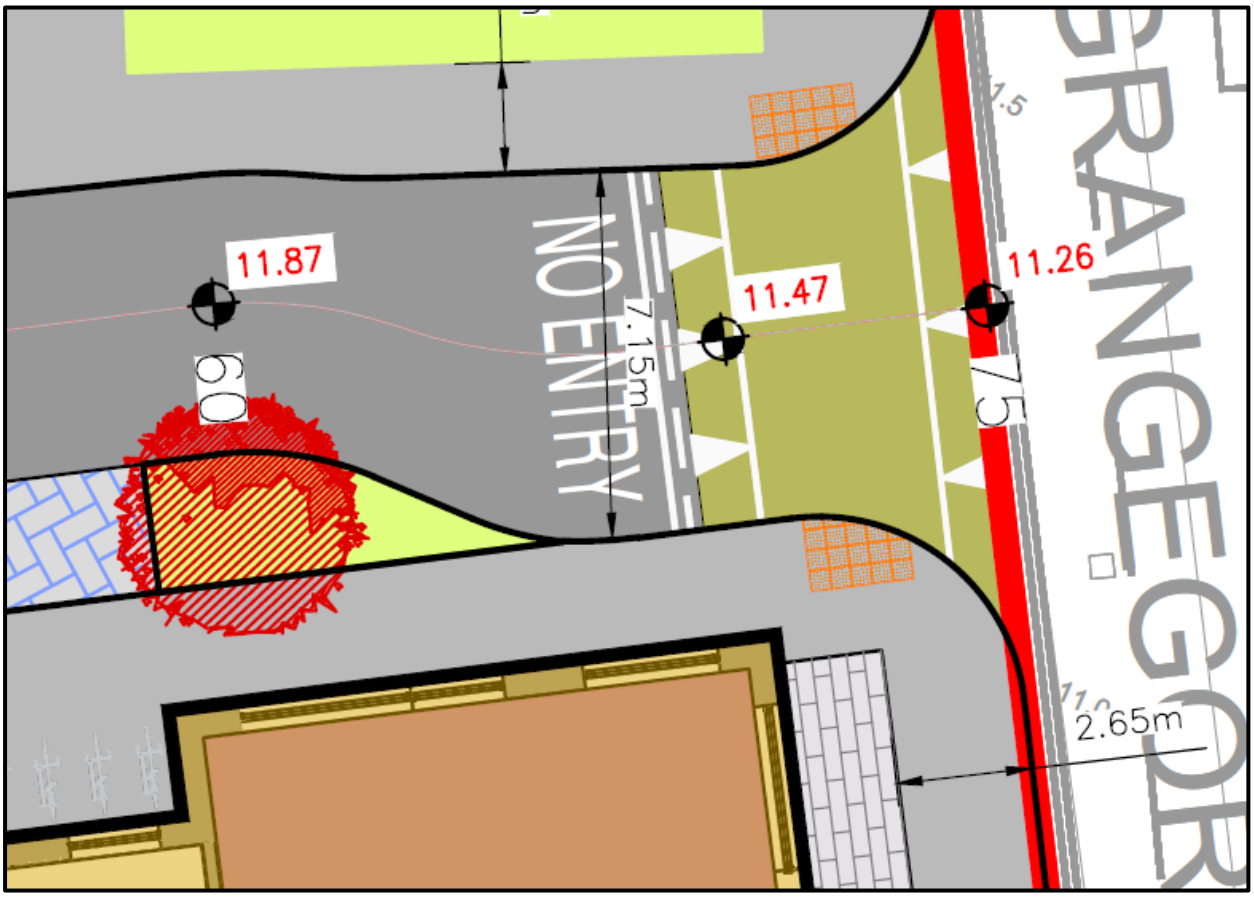


Recommendation:
The design team should ensure that this sign is relocated away from the crossing point to mitigate the safety risk.

Problem No.8: Disabled Parking Sign
Location: Identified Location
The audit team note that there is a risk that the proposed disabled parking sign may impact on the ability for users to open car doors once parked.

Recommendation:
The design team should ensure that this sign is positioned such that it does not impeded users from exiting their vehicles and that it does not restrict vulnerable users' movement on footpaths.

Problem No.9: Width of Junction
Location: Identified Location
The audit team note that the proposed junction arrangement at Grangegorman Lower Road appears excessively wide for single vehicle entries and could encourage higher speeds of vehicles accessing the development. This creates a safety risk for vulnerable users at the crossing if vehicles enter the development at higher speeds.



Recommendation:
The design team should ensure reduce the width of this access to mitigate the safety risk identified.

6.2.2 General Problems Identified

Problem No.10: Drainage gullies
Location: Proposed Scheme
It is understood that permeable paving is provided on pedestrianised surfaces and car parking bays. However, no road gullies are provided on other surfaces which can lead to flooding.

Recommendation:
The design team should ensure that road gullies are illustrated and appropriately placed all over the layout.

Problem No.11: Public Lighting
Location: Proposed Scheme
The audit team note that the proposed lighting in the vicinity of parking spaces could impede users for exiting their vehicles once parked.

Recommendation:
The design team should ensure that public lighting columns does not restrict users from exiting their vehicles in parking areas. The design team should also ensure that public lighting columns does not restrict the movement of vulnerable users.

7 Audit Team Statement

We certify that we have examined the drawings listed in Appendix A and examined the site by means of a site visit. This examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified to improve the DMURS compliance and safety of the scheme. The issues that we have identified have been noted in the report, together with suggestions for improvement, which we recommend should be studied for implementation.

Audit Team Leader: Adam Price: BEng (Hons), CEng, MIEI
ORS
Signed: 

Date: 24th April 2024

Audit Team Member: Mark Gallagher, MIEI
ORS
Signed: 

Date: 24th April 2024

Audit Team Observer: Ankita Kirtane: B.Arch, MSc, MIEI
ORS

Date: 24th April 2024

Appendix A – Inspected Documents

The audit team reviewed the following documents and drawings provided by Malone O'Regan Consulting Engineers:

(1) SHB4-SSD-DR-MOR-CS-P3-101 Rev 3
(2) SHB4-SSD-DR-MOR-CS-P3-110 Rev 3
(3) SHB4-SSD-DR-MOR-CS-P3-111 Rev 3
(4) SHB4-SSD-DR-MOR-CS-P3-120 Rev 2
(5) SHB4-SSD-DR-MOR-CS-P3-121 Rev 3
(6) SHB4-SSD-DR-MOR-CS-P3-130 Rev 4
(7) SHB4-SSD-DR-MOR-CS-P3-150 Rev 4
(8) SHB5-SSD-SMK-ZZ-SI-DR-E-6033-PL Ducting P03.

Appendix B – Designer Response Form

Job: 231860 – Social Housing Bundle 4, Development at the Stanley Street Depot, Dublin 7

Stage of Audit: Stage 1

Date Audit Completed: 24/04/2024

Problem Reference in Safety Audit Report	To Be Completed by the Designer			To be Completed Audit Team Leader
	Problem Accepted (Yes/No)	Recommendation Accepted (Yes/No)	Alternative Option (Describe) (Only complete if recommendation not accepted)	Alternative Option Accepted by Auditors (Yes/No)
P1	Yes	Yes		
P2	Yes	Yes		
P3	Yes	Yes		
P4	Yes	Yes		
P5	Yes	Yes		
P6	Yes	Yes		
P7	Yes	Yes		
P8	Yes	Yes		
P9	Yes	Yes		
P10	Yes	Yes		
P11	Yes	Yes		
P12	Yes	Yes		
P13	Yes	Yes		

Signed:……Noel Dillon…… Designer Date:…26/04/2024……

Signed:……Audit Team Leader Date:…26/04/2024

Signed:…… Employer Date:06/09/2024……

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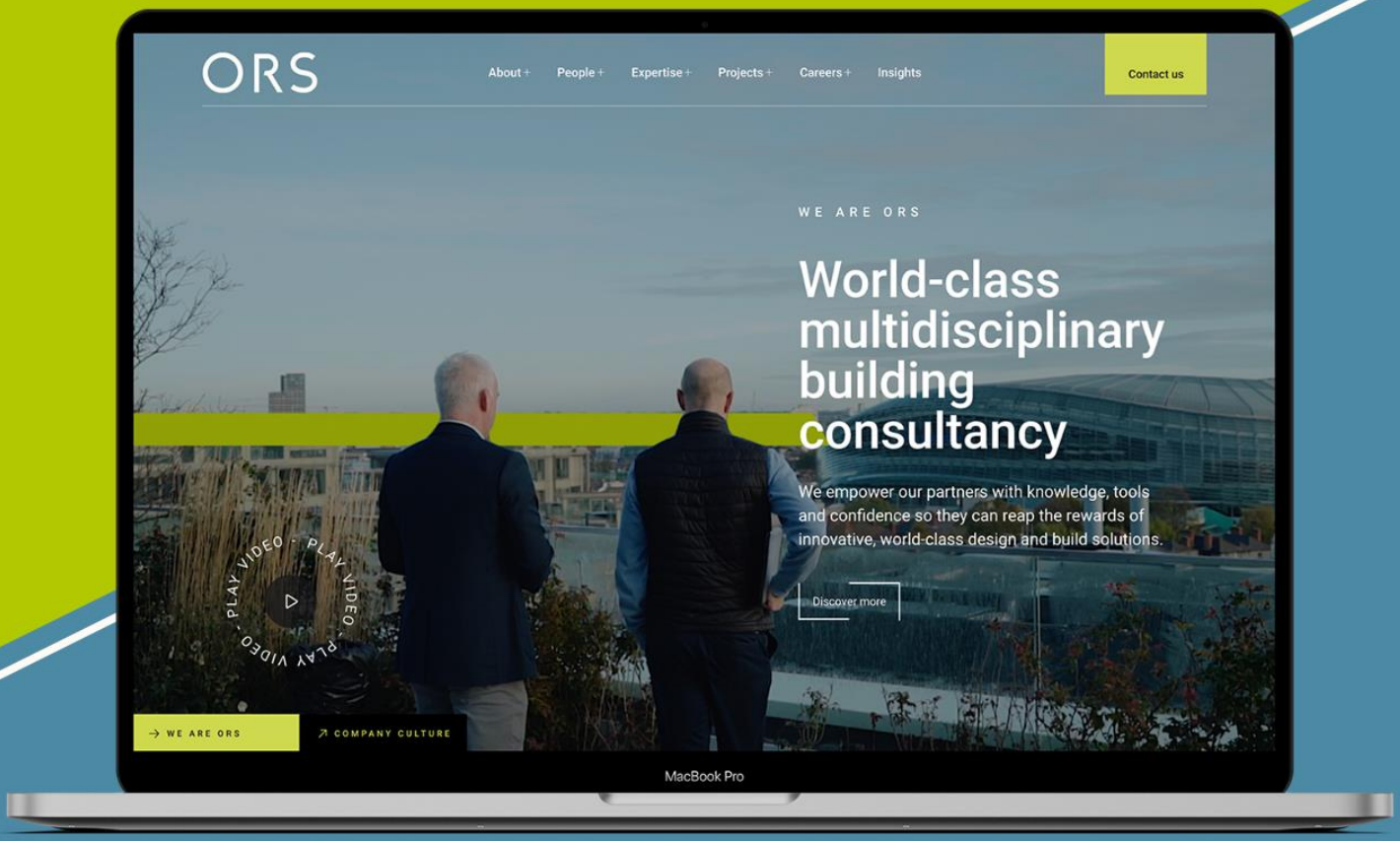

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Block A,
Marlinstown Business Park,
Mullingar, Co. Westmeath,
Ireland, N91 W5NN

Suite: G04, Iconic Offices,
Harmony Row,
Dublin 2, Co. Dublin,
Ireland, D02 H270

Level One, Block B,
Galway Technology Park,
Parkmore, Co. Galway,
Ireland, H91 A2WD

Office 2, Donegal Town,
Enterprise Centre, Lurganboy,
Donegal Town, Co. Donegal,
Ireland, F94 KT35

Office 4, Spencer House,
High Road, Letterkenny,
Co. Donegal,
Ireland, F92 PX8N

NSQ2,
Navigation Square,
Albert Quay, Cork
Ireland, T12 W351