

BMCE

Proposed Residential Development at  
Site 10, Northern Cross, Malahide Road

Quality Audit

# BMCE

## Proposed Residential Development at Site 10, Northern Cross, Malahide Road

### Quality Audit

<b>Document Ref:</b>	<b>P22-088-UQA-GEN-RP-001</b>
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Rev	Prepared By	Reviewed By	Approved By	Issue Date	Reason for Revision
4.0	AP	PJM	PJM	10 <sup>th</sup> August 2022	Revised Final Report
3.0	AP	PJM	PJM	3 <sup>rd</sup> August 2022	Updated Draft Report
2.0	AP	PJM	PJM	28 <sup>th</sup> June 2022	Final Report
1.0	AP	PJM	PJM	23 <sup>rd</sup> June 2022	Draft Report

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# 1 Introduction

## 1.1 General

This report was prepared in response to a request from Mr Michael Hughes of BMCE to provide a Quality Audit of a proposed Residential Development at Site 10, Northern Cross, Malahide Road. This Quality Audit shall consider the following elements: -

- Road Safety Audit;
- Access Audit;
- Walking Audit;
- Non-Motorised User Audit; and
- Cycle Audit.

The Quality Audit followed a site visit on the 22<sup>nd</sup> June 2022. At the time of the site visit the Weather conditions during the site visit were dry and the road surface was dry. Traffic volumes during the site visit were low, pedestrian and cyclist volumes were low and traffic speeds were considered to be generally within the posted speed limit.

This report contains three primary sections, with each section focussing on different implications for the users of the scheme. The Road Safety Audit identifies safety implications of the scheme, whilst the Accessibility & Walking Audit focusses on accessibility implications for vehicles and pedestrians associated with the development. Finally, the Non-Motorised User and Cycle Audit predominantly focusses on cycle use, as pedestrians have been discussed as part of the accessibility and walking audit, and there are currently no requirements for equestrians as part of this development.

## 2 Background

The proposed development would be located on a site in Northern Cross, Malahide Road, Co. Dublin (see Figure 2.1) which has previously been used as a car park, and which is currently being used as construction compound for an adjacent development.

The land use in the surrounding area is a mix of residential, commercial and industrial. The development is bounded to the west by Mayne River Avenue, which leads to the R139 Regional Road, to the east by the Mayne River Street, which leads to the R107 (Malahide Road), to the south by an existing commercial development, and to the north by the Mayne River.

The proposed development would consist of a residential complex, distributed across two multi-storey blocks, commercial units, parking facilities for cars and bicycles at surface level, and a basement carpark.

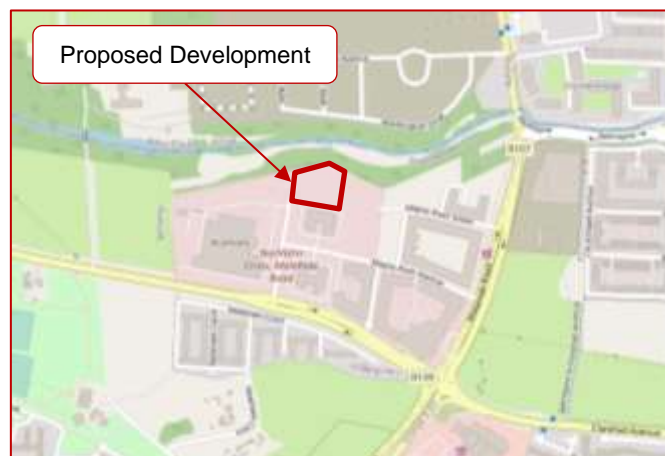


FIGURE 2.1: SITE LOCATION PLAN

Malahide Road, which forms part of the R107, runs in a north-south direction and is a two-way dual-carriageway with pedestrian footpaths and public lighting on both sides, and cycle track on its western side. Gaps in the central median are provided for right-turns into adjacent developments. Malahide Road starts southwest of the development site at its junction with the R807 (Clontarf Road) and becomes the Dublin Road north of its junction with the R106 (Swords Road), approximately 4.85km north of the proposed development.

The R139 is an undivided four lane road running in an east-west direction. It is approximately 3km in length and extends between its junction with the M1 Motorway to the west and its junction with the R107 to the east. Footpaths and public lighting are provided on both sides of the road.

Vehicular entry to the proposed development would be via an internal road passing through its western and northern extents. This would be a two-way single carriageway road running in a southwest-northeast direction, approximately 250m in length.

## 3 Road Safety Audit

### 3.1 Introduction

This Road Safety Audit has been carried out in accordance with the requirements of GE-STY-01024 (previously NRA HD19/15) dated December 2017, contained on the Transport Infrastructure Ireland (TII) Publication's website.

The members of the Road Safety Audit Team are independent of the design team, and include: -

**Mr. Peter Monahan**

(BE MSc CEng FIEI RSACert)  
Road Safety Audit Team Leader

**Mr. Antonis Papadakis**

(MSc, MIEI)  
Road Safety Audit Team Member

The Audit took place during June and August 2022 and comprised an examination of the documents provided by the designers (see Section 3.7). A site visit was undertaken on the 22<sup>nd</sup> June 2022. Traffic volumes were low and speeds were low, as were pedestrian and cycle numbers.

Where problems are relevant to specific locations these are shown on drawing extracts within the main body of the report. Where problems are general to the proposals sample drawing extracts are within the main body of the report, where considered necessary. Road safety problem locations are shown in .

The scheme has been examined and this report compiled in respect of the consideration of those matters that have an adverse effect on road safety and considers the perspective of all road users. It has not been examined or verified for compliance with any other standards or criteria. The problems identified in this report are considered to require action in order to improve the safety of the scheme and minimise collision occurrence.

If any of the recommendations within this road safety audit report are not accepted, a written response is required, stating reasons for non-acceptance. Comments made within the report under the heading of Observations are intended to be for information only. Written responses to Observations are not required.

### 3.2 Items Not Submitted for Auditing

Details of the following items were not submitted for audit; therefore, no specific problems have been identified at this stage relating to these design elements, however where the absence of this information has given rise to a safety concern it has been commented upon in Section 3.3: -

- Landscaping; and
- Visibility splays.

### 3.3 Road Safety Audit

#### 3.3.1 Problem

*Drawing:* Drawing no. BTNC-BMD-00-ZZ-DR-C-1020 (Rev. PL6)

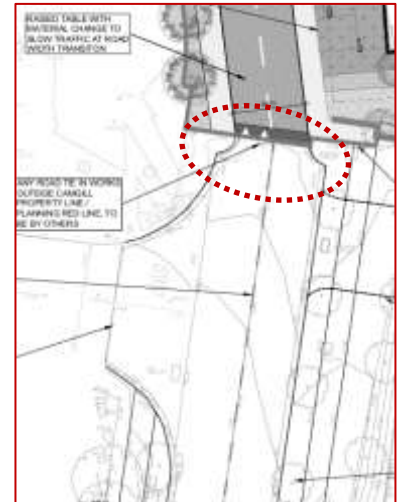
*Summary:* Sudden reduction in carriageway width at south-western entrance to proposed development.

The proposed carriageway width on the internal road is narrower than the existing carriageway width immediately south of the entrance on the south-western corner of the proposed development.

The drawings provided indicate a relatively sudden narrowing at this location, which could present a hazard to northbound vehicles entering the site resulting in a vehicle mounting the kerb and striking a pedestrian within the footpath or to sudden avoidance manoeuvres leading to low-speed head-on collisions with vehicles exiting the development at this location.

#### Recommendation

During the design development the proposed road layout at this location should be amended to remove any sudden reduction in carriageway width at this location, so that there is a smooth transition between the existing carriageway and the proposed carriageway at this tie-in.



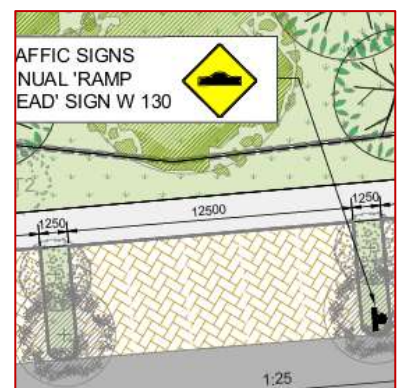
#### 3.3.2 Problem

*Drawing:* Drawing no. BTNC-BMD-00-ZZ-DR-C-1020 (Rev. PL6)

*Summary:* The proposed location of trees may reduce inter-visibility between some road users.

Trees have been indicated within the islands adjacent to some of the parking spaces and at locations of proposed road signs.

It is unclear what type of trees are proposed at these locations, but should the canopy be too low it could impede visibility for drivers exiting from parking spaces towards approaching vehicles, or obscure the sign face resulting in drivers being insufficiently aware of the upcoming road layout.



#### Recommendation

Ensure trees are located outside visibility splays or that the tree type/species selected is such that it will not impede visibility or obscure signs.

#### 3.3.3 Problem

*Drawing:* Drawing no. BTNC-BMD-00-ZZ-DR-C-1020 (Rev. PL6)

*Summary:* Absence of dropped kerbs and tactile paving at the proposed mobility-impaired parking spaces.

Mobility-impaired parking spaces have been indicated within the development, however dropped kerbs and tactile paving have not been indicated adjacent these spaces.



The absence of dropped kerbs could lead to difficulties for mobility-impaired pedestrians accessing the footpath once they leave their vehicle, while a failure to provide tactile paving at dropped kerbs may lead to visually-impaired pedestrians inadvertently entering the carriageway where there is an increased risk of being struck by a vehicle.

### Recommendation

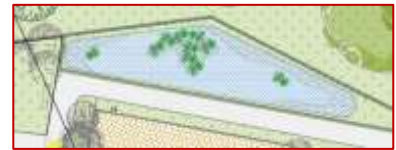
Provide dropped kerbs & tactile paving at mobility impaired parking spaces to permit safe access to/from the footways and parked vehicles.

#### 3.3.4 Problem

*Location: Drawing no. BTNC-BMD-00-ZZ-DR-C-1020 (Rev. PL6)*

*Summary: Edge protection has not been indicated at the proposed "Bio Retention Pond".*

A "Bio Retention Pond" is indicated adjacent to a footpath in the northern portion of the site. It is unclear from the information provided what the depth of this pond will be, and what the profile of the pond side-slopes will be, and no edge protection has been indicated at the pond.



The location of the pond could increase the risk of pedestrians, in particular young children or inattentive pedestrians, slipping, tripping or falling into the pond.

### Recommendation

Should the pond be deep, or have steep sides, then measures to prevent inadvertent entry (e.g. edge protection) should be provided.

#### 3.3.5 Problem

*Drawing: Drawing no. BTNC-BMD-00-ZZ-DR-C-1020 (Rev. PL6)*

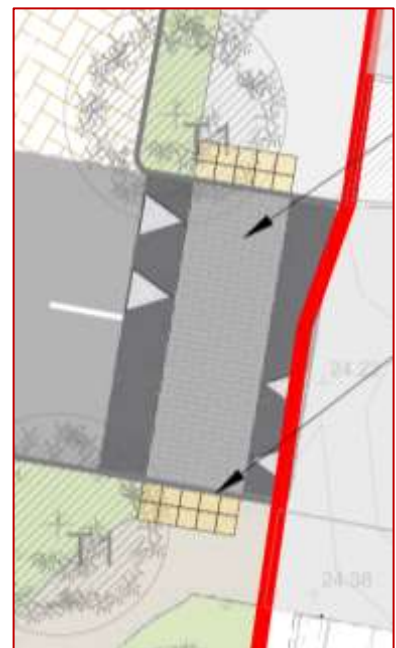
*Summary: Tactile paving at in-line uncontrolled pedestrian crossing is not of the required depth.*

An uncontrolled pedestrian crossing of the internal road at the eastern boundary is proposed, on a raised-table.

The depth of the tactile paving indicated on the approaches to this crossing are insufficient for an in-line approach, possibly resulting in a visually-impaired pedestrian inadvertently stepping over the tactile paving and failing to recognise that they are entering a carriageway/crossing.

### Recommendation

Tactile paving with a minimum depth of 1.2m, measured parallel to the direction of an approaching pedestrian, should be provided either side of the crossing.





### 3.3.6 Problem

*Drawing: Drawing no. BTNC-BMD-00-ZZ-DR-C-1020 (Rev. PL6)*

*Summary: Potential for visually-impaired pedestrians to fall down cycle ramps in concourse area.*

A ramp is indicated between the residential development surface concourse area between the two blocks and the underground carpark. Visually impaired pedestrians may be insufficiently aware of the ramp, leading to trips and falls.

In addition, it is unclear what edge-protection measures are proposed around the ramp to prevent falls from height.



#### Recommendation

Measures should be provided to advise visually impaired pedestrians of the potential height hazard and edge protection provided to prevent falls from height.

### 3.3.7 Problem

*Drawing: Drawing no. BTNC-BMD-00-ZZ-DR-C-1020 (Rev. PL6)*

*Summary: Intervisibility between drivers exiting the basement carpark ramp and pedestrians crossing the carpark access may be restricted by the boundary wall leading to an increased risk of vehicle-pedestrian collisions.*

An uncontrolled pedestrian crossing has been indicated across the access/egress to/from the basement carpark. It is unclear if there would be adequate inter-visibility between a driver exiting from the underground car park and a pedestrian approaching from the west towards the uncontrolled crossing of the car park access ramp.

Should there be insufficient inter-visibility, this could result in an exiting driver being unaware of a pedestrian about to commence a crossing, leading to possible vehicular/pedestrian collisions.



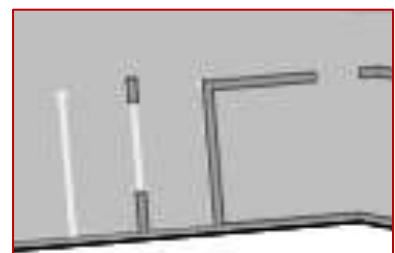
#### Recommendation

Adequate inter-visibility should be provided between drivers of vehicles exiting the underground car park and pedestrians approaching the uncontrolled pedestrian crossing of the car park exit ramp.

## 3.4 Observations

3.4.1 A number of the underground car parking spaces are indicated as possibly being narrower than 2.4m, as a result of structural element positions. In one case the parking space appears to be approximately 2.2m in width with a wall along one side.

Parking spaces of insufficient width can lead to difficulties for vehicle occupants entering/exiting the vehicle, leading to possible material damage upon entry/exit to the vehicle.



### 3.5 Road Safety Audit Team Statement

We certify that we have examined the drawings referred to in this report. The examination has been carried out 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.

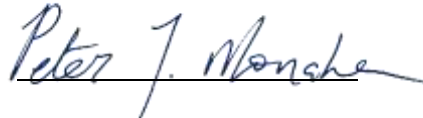
The problems identified have been noted in this report together with associated safety improvement suggestions, which we would recommend should be studied for implementation.

The Road Safety Audit Team has not been involved in the design of this scheme.

#### ROAD SAFETY AUDIT TEAM LEADER

Peter Monahan

Signed:



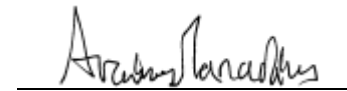
Dated:

10<sup>th</sup> August 2022

#### ROAD SAFETY AUDIT TEAM MEMBER

Antonios Papadakis

Signed:



Dated:

10<sup>th</sup> August 2022

### 3.6 Road Safety Audit Brief Checklist

Have the following been included in the audit brief?: (if 'No', reasons should be given below)

	Yes	No
1. The Design Brief	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Departures from Standard	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Scheme Drawings	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Scheme Details such as signs schedules, traffic signal staging	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Collision data for existing roads affected by scheme	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Traffic surveys	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Previous Road Safety Audit Reports and Designer's Responses/Feedback Form	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Previous Exception Reports	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Start date for construction and expected opening date	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Any elements to be excluded from audit	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Any other information?</b> (if 'Yes', describe below)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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**3.7 Documents Submitted to the Road Safety Audit Team**

DOCUMENT/DRAWING TITLE	DOCUMENT/DRAWING NO.	REVISION
Proposed Roads Layout	BTNC-BMD-00-ZZ-DR-C-1020	PL6
Proposed Site Lighting Layout	4150-B (60)-00-01	P01
SITE 10 SHD Residential Development Northern Cross External Lighting Strategy	-	1
Project Deliverable Register	QPF06.01	-
Watermain Details	BTNC-BMD-ZZ-ZZ-DR-C-1220	PL1
Roads Details	BTNC-BMD-ZZ-ZZ-DR-C-1210	PL1
Standard Drainage Details	BTNC-BMD-ZZ-ZZ-DR-C-1200	PL1
Autotrack Analysis Sheet 1	BTNC-BMD-ZZ-ZZ-DR-C-1050	PL1
Autotrack Analysis Sheet 2	BTNC-BMD-ZZ-ZZ-DR-C-1051	PL1
Site location map	BTNC-BMD-00-ZZ-DR-C-1000	PL1
Proposed Drainage Layout	BTNC-BMD-00-ZZ-DR-C-1001	PL1
Proposed Watermain Layout	BTNC-BMD-00-ZZ-DR-C-1002	PL1
Proposed Basement Car Park Arrangement	BTNC-BMD-00-ZZ-DR-C-1003	PL1
Proposed Basement Drainage	BTNC-BMD-00-ZZ-DR-C-1004	PL1
Site Topography with Existing Utilities	BTNC-BMD-00-ZZ-DR-C-1005	PL1
SUDS Layout	BTNC-BMD-00-ZZ-DR-C-1006	PL1
Proposed Roads Layout	BTNC-BMD-00-ZZ-DR-C-1020	PL1
Outline Car Park Management Strategy	21.154-RP-08	PL3
Flood Risk Assessment	21.154-RP-07	PL2
Residential Travel Plan	21.154-RP-06	PL3
DMURS Compliance Statement	21.154-RP-05	PL3
Construction and Demolition Waste Management Plan	21.154-RP-04	PL2
Outline Construction and Environmental Management Plan	21.154-RP-03	PL2
Traffic Impact Assessment	21.154-RP-02	PL3
Parking and Mobility Management Plan	21.154-RP-01	PL3
Infrastructure Report	21.154-IR-01	PL3

### 3.8 Road Safety Audit Feedback Form

Scheme: Proposed Residential Development at Site 10 Northern Cross, Malahide Road

Route No.: Malahide Road

Audit Stage: 1 Date Audit Completed: 10/8/2022

To be Completed by Designer				To be Completed by Audit Team Leader
Paragraph No. in Safety Audit Report	Problem Accepted (Yes/No)	Recommended Measure(s) Accepted (Yes/No)	Describe Alternative Measure(s). Give reasons for not accepting recommended measure	Alternative Measures or Reasons Accepted by Auditors (Yes/No)
3.3.1	YES	YES	The final road / kerblines alignment and tie in at the south west corner of the site shall be agreed at detailed design stage (and prior to commencement)	
3.3.2	YES	YES		
3.3.3	YES	YES		
3.3.4	YES	YES		
3.3.5	YES	YES		
3.3.6	YES	YES		
3.3.7	YES	YES		

Signed: Michael Hughes Designer Date 10 Aug 2022

Signed: Peter J. Monahan Audit Team Leader Date 10 Aug 2022

Signed: Kevin Carron Employer Date 10 Aug 2022

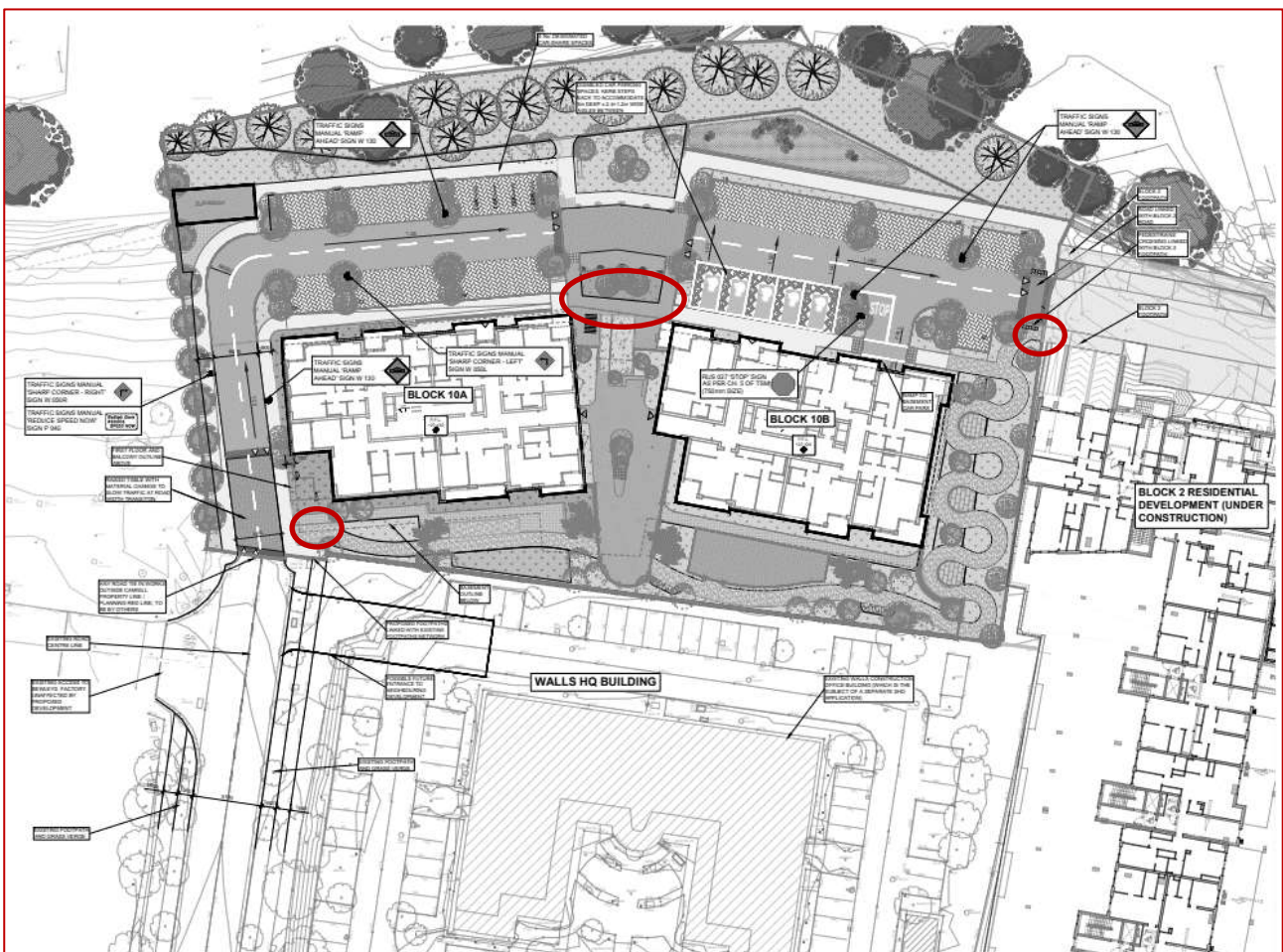
## 4 Accessibility & Walkability Audit

### 4.1 Introduction

A new residential development is proposed on an existing site in Northern Cross, Malahide Road, Co. Dublin.

The proposed development would consist of the construction of 156 residential units in two blocks. Block 10A would contain 75 apartments and Block 10B would contain 81 apartments. The proposed development would also include the provision of 94 car parking spaces, 49 at surface level and 45 at basement level, and 312 bicycle parking spaces, 78 visitor bicycle parking spaces at surface level and 234 secure bicycle parking spaces within the basement level.

A number of pedestrian accesses to the development are proposed at locations on the west and eastern sides of the proposed development, along with a pedestrian/cyclist ramp to the underground car park positioned between the two residential Blocks (see Figure 4.1).



**FIGURE 4.1: PROPOSED DEVELOPMENT LAYOUT INDICATING PEDESTRIAN ACCESSSES**

The existing roads which abut the development have footpaths on both sides. There are two existing t-junctions to the south of the proposed development between Mayne River Avenue and the R139 Regional Road, and to the east between Mayne River Street and the R107 Regional Road (Malahide Road).

These junctions are located approximately 200m and 250m, respectively, from the nearest site access and include pedestrian crossings which link the development area with the wider surrounding road network including the Clarehall Shopping Mall, shops, Coolock, Donaghmede and multiple existing residential developments.

#### 4.1.1 Access to Local Bus Network

There are several bus stops located in the vicinity of the proposed development. The closest bus stops to the proposed development, and the bus routes which serve them, are given in Table 4-1 below. The distance to these bus stops has been measured using the development access junction as the origin point. Residents of the proposed development will therefore have good access to existing bus services, with connections to Dublin City.

**TABLE 4-1 BUS ROUTE NEAR DEVELOPMENT**

Bus Stop (Name)	Bus Stop (Number)	Proximity to the development	Bus Route	Travelling between
Clare Hall	1205	500m	42	Talbot St. to Sand's Hotel (Portmarnock)
			43	Talbot St. to Swords Business Park
Temple View Rise	4596	500m	27	Jobstown to Clare Hall
			15	Ballycullen to Clongriffin

#### 4.1.2 Access to the Dart

The proposed development is located close to Clongriffin Dart stop. The 'Clongriffin' Dart stop is located approximately 2.5km east (30min walk or 12min cycle) from the proposed development, which can also be accessed by bus route 15 (18min).

Given its proximity to the Dart station, which connects the development to Dublin City Centre, where railway services are available at Heuston, and Connolly, Train Stations, as well all other locations serviced by LUAS, the development is considered to have high quality access to Dublin's rail, and subsequently light rail and national rail, networks.

#### 4.1.3 Local Amenities

Northern Cross encompasses the area surrounding the proposed development, and includes a number of amenities, as detailed in Table 4-2.

**TABLE 4-2: LOCAL AMENITIES CLOSE TO THE PROPOSED DEVELOPMENT**

Amenity	Distance (approx.)	Journey Time (approx.) Walking/Cycling	Direction from Development
Limitless Health Pharmacy	350m	4min / 1min	East
Northern Cross Medical Centre	300m	4min / 1min	East
Clare Hall Shopping Centre	650m	9min/4min	Southeast
Dolphins Early Education and Childcare	900m	12min/5min	Southeast
Camille Thai Northern Cross restaurant	400m	5min / 1min	Northeast
Thindi Northern Cross restaurant	500m	6min / 2min	Northeast
Noble House Chinese Restaurant	260m	3min / 1min	Southeast
Certa Fuel Clarehall	750m	10min/4min	Southeast
Balgriffin Inn pub	1km	12min/3min	Northwest
St Francis of Assisi Primary School	1.3km	12min/5min	East
Trinity Donaghmede Football Club	1.5km	18min/7min	Northeast
Trinity Sports & Leisure Club & Bar	2km	23min/8min	Southeast

The distance to these amenities, on foot and by bicycle, has also been provided and been measured using the proposed development access junction as the origin point. Given the range of amenities in close proximity to the proposed development, and the comprehensive footpath network between the development and surrounding network, residents of the new development will have good access to local amenities.

## 4.2 Building Accesses

No accessibility issues have been identified relating to Building Accesses.

## 4.3 Pedestrian Crossing Facilities

Accessibility issues relating to Pedestrian Facilities have been discussed in Section 3.3.5

## 4.4 Target Groups

### 4.4.1 Issue

It has been assumed that the proposed footpaths within the proposed development will be vertically segregated (e.g. by a full height kerb) from the adjacent carriageways.

There is a potential lack of footpath definition between the northern sides of the two Blocks, through the concourse/plaza area, which could present difficulties for visually impaired or partially-sighted pedestrians in identifying the route to the opposing path.



### Recommendation

Colour-contrast within the cobbled areas along the route between the paths on either side should be provided.

### 4.4.2 Issue

A gradient has been indicated along the footpath to the northern side of Block 10A of 1V:22H, over approximately 45m, resulting in an overall rise greater than 2m.

No landings have been indicated along this length of external ramp, which could present difficulties for the mobility-impaired or the elderly and independently navigating the section of external path.

### Recommendation

In accordance with guidance published by the National Disability Authority gradients in excess of 1:25 should be treated as external ramps and provided with landings.

Other accessibility issues relating to Mobility Impaired Access have been discussed in Section 3.3.3 & 3.3.6.

## 4.5 Subways

No accessibility issues have been identified relating to Subways.

## 4.6 Junctions

No accessibility issues have been identified relating to Junctions

## 4.7 Signage

No accessibility issues have been identified relating to Junctions



## **4.8 Public Transport**

No accessibility issues have been identified relating to Public Transport.

## **4.9 Lighting**

No accessibility issues have been identified relating to Lighting.

## **4.10 Visibility**

Accessibility issues relating to Visibility have been discussed in Section 3.3.2 & 3.3.7.

## **4.11 Waste Facilities within the Development**

### **4.11.1 Issue**

It is unclear where refuse will be collected from and if, and how, bins will be transported to surface level, if the collection point is located in the basement carpark. Large or heavy bins may have to be transported lengthy distances from bin stores to collection points, resulting in difficulties for maintenance/refuse operatives.

In addition, it is unclear how refuse will be collected from the development, and how refuse trucks will access the collection location. The absence of a detailed refuse strategy could lead to maintenance/refuse operatives and refuse trucks drivers having difficulty in transporting, and accessing, bins respectively.

### **Recommendation**

A refuse strategy for the proposed development should be prepared which clearly outlines how refuse is to be stored, transported and collected and how refuse vehicles are to access the collection point.

## **4.12 Carriageway Markings for Pedestrians**

No accessibility issues have been identified relating to Carriageway Markings for Pedestrians.

## **4.13 Parking**

### **4.13.1 Issue**

Electric Vehicle (EV) parking spaces have not been indicated within the development's surface or basement carpark, however it is likely that a portion of the parking spaces could be required for EVs. These spaces typically require additional width to support a buffer zone to account for potentially different charging port locations on vehicles.

The additional width allows space for electric cables, as well as user access to connect/disconnect the charging cables. All of the parking spaces, with the exception of mobility impaired parking spaces, within the carpark, both in the basement and at surface level, appear to have similar dimensions. There is a risk therefore that, should any of these spaces be designated for EVs as the design progresses, the required space will not be available to accommodate the necessary buffer zone and infrastructure for EV parking spaces.

### **Recommendation**

Should any of the parking spaces within the development be designated as EV parking spaces then sufficient space should be provided at these spaces in accordance with Section 7.6.16 of the Traffic Signs Manual (2019), Chapter 7 'Road Markings.'

## **5 Non-motorised User and Cycle Audit**

### **5.1 External Cycle Provision**

No accessibility issues have been identified relating to External Cycle Provision.

### **5.2 Internal Cycle Provision**

No accessibility issues have been identified relating to Internal Cycle Provision.

### 5.3 Quality Audit Action Plan

Issue	Situation	Action/Adjustment	Priority	Cost
4.3	The tactile paving at the in-line uncontrolled pedestrian crossing at the eastern boundary is not of the required depth for an in-line crossing.	Tactile paving with a minimum depth of 1.2m should be provided either side of the crossing.	1	A
4.4	Absence of dropped kerbs and tactile paving at the mobility impaired parking spaces.	Provide dropped kerbs & tactile paving at mobility impaired parking spaces to permit safe access to/from the footways.	1	A
4.4	Potential for visually-impaired pedestrians to fall down cycle ramps in concourse area.  Unclear if edge protection is proposed around the ramp well.	Measures should be provided to advise visually-impaired pedestrians of the ramp.  Edge protection should be provided to prevent falls from height.	1	A
4.4.1	Lack of footpath definition between the northern sides of the two Blocks could present difficulties for visually-impaired or partially-sighted pedestrians travelling between the paths on either side.	Colour-contrast within the cobbled areas should be provided, connecting the sections of footpath to assist the partially-sighted.	1	A
4.4.2	External ramp without landings.	In accordance with guidance published by the National Disability Authority gradients in excess of 1:25 should be treated as external ramps and provided with landings.	1	A
4.10	The location of trees may reduce inter-visibility between road users or block a driver's view of road signage.	Ensure trees are located outside visibility splays, or that the tree type/species chosen does not result in visibility splays being impeded or signs being obscured.	1	A

Issue	Situation	Action/Adjustment	Priority	Cost
4.10	Intervisibility between drivers exiting the basement carpark ramp and pedestrians crossing the carpark access may be restricted by the boundary wall leading to an increased risk of vehicle-pedestrian collisions.	Adequate inter-visibility should be provided between drivers of vehicles exiting the underground car park and pedestrians approaching the uncontrolled pedestrian crossing of the car park exit ramp.	1	A
4.11	The distance between the bin collection point and bin holding area and the various waste stores within the development is unclear.	Ensure a refuse strategy is developed clearly explaining how refuse is to be stored, safely transported and collected at the locations indicated at surface level and within the basement carpark. The distance that bins need to be transported from their stores to the collection point should be as short as possible.	1	A
4.13.1	Car parking spaces for Electric Vehicles have not been indicated.	Should parking spaces for Electric Vehicles be provided within the development, the layout of these should be in accordance with the Traffic Signs Manual.	1	B

**Priority**

- 1 – Immediate works required;
- 2 – Essential works required within 1 year;
- 3 - Desirable works required within 2 years;
- 4 – Long term works;
- 5 - Specific needs (e.g. pedestrian desire line not catered for)

**Cost (Indicative cost only)**

- A – Up to €2,500
- B – From €2,500 up to €10,000
- C - Between €10,000 up to €20,000

## **Appendix A - Road Safety Audit Problem Locations**

