

Mixed Use Development, Carrigaline, Co Cork.



Quality Audit

Document Control Sheet

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1.0 Introduction

This report describes a Quality Audit undertaken on a proposed mixed-use development at Carrigaline Co Cork, on behalf of Reside Investments Ltd.

The Quality Audit will demonstrate appropriate consideration has been given to all relevant aspects of the development in accordance with the Design Manual for Urban Roads and Streets (DMURS).

The proposed development consists of 202 apartments and 22 Townhouses as well as a large retail outlet and 2 No small retail units and a creche with associated underground parking. Parking for the facility will be located in the basement of the complex as well as a small number at surface level. Access to the proposed development will be from the new Carrigaline Western Relief Road (CWRR) which is currently under construction

The audit was undertaken by Martin Hanley, BE CEng MIEI who is a Chartered Engineer with 38-years post graduate experience in Civil Engineering projects including 30 years' experience in road design traffic engineering and road safety audits and more recently preparing Quality Audits.

The audit comprised an examination of the drawings relating to the scheme supplied by the design office. A site visit was carried out by the auditor on 25th April 2022 during daylight hours. Weather conditions during the inspection were dry and calm and the road surface was dry. Photographs were taken during the inspection and can be seen in Appendix A of the report.

This quality audit includes the following audits:

- Stage 1 Road Safety Audit (Separate Report)
- Access Audit
- Cycle Audit
- Walking Audit

The report will be broken down into several sections to include the results of the Access Audit, Cycle Audit and Walking Audit. **The Stage 1 Road Safety Audit is provided as a separate report.**

Appendix B describes the documents examined by the auditor.

2.0 Site Location

The proposed development will access onto the newly constructed Carrigaline Western Relief Road. The Carrigaline Western Relief Road will provide a new Link Road connection between Ballea Road R613 to the north and Kilmoney Road R611 to the south. The relief road will provide significant traffic relief to Main Street Carrigaline. The proposed development is located just 350m from Main Street Carrigaline.

1.1 Local Road Network

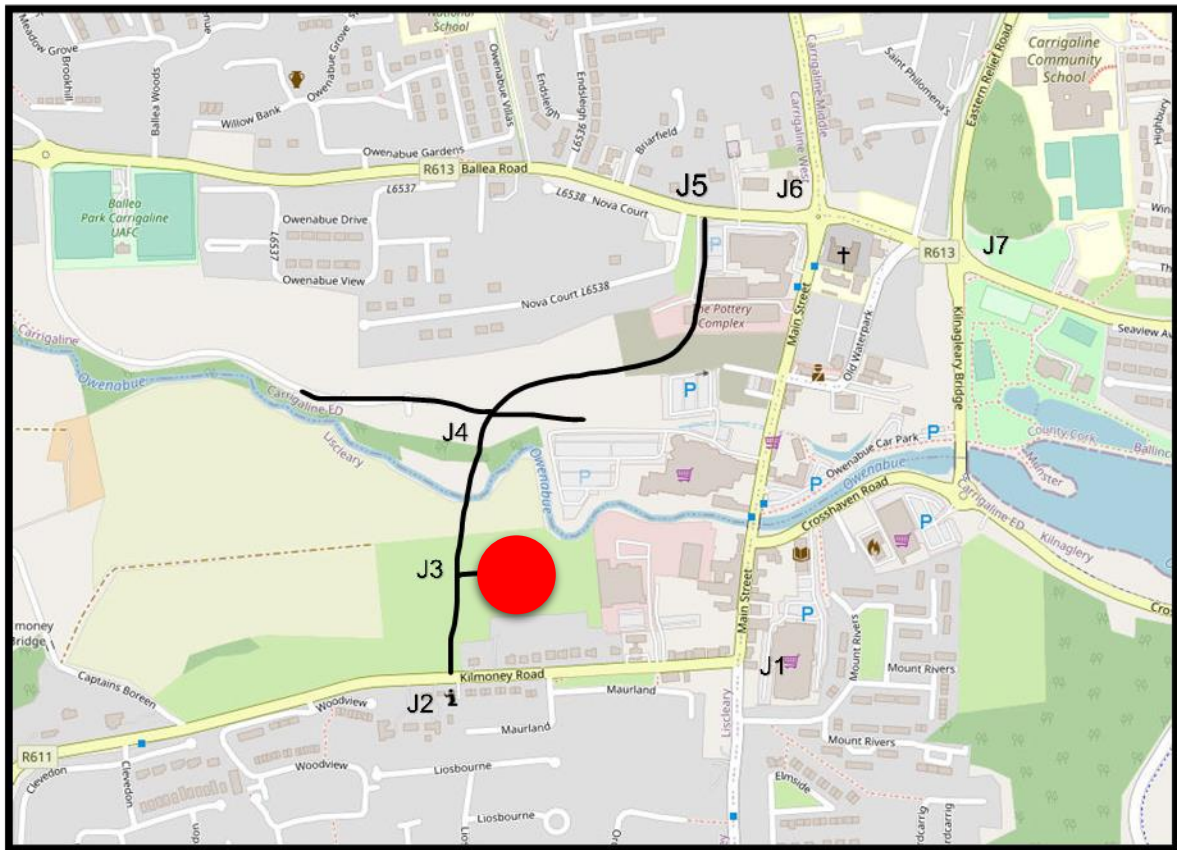


Figure 1.1 Site Location Map

3.0 Existing Site Observations

3.1 Roads

The proposed development will access onto the newly constructed Carrigaline Western Relief Road. The Carrigaline Western Relief Road will provide a new Link Road connection between Ballea Road R613 to the north and Kilmoney Road R611 to the south. The relief road will provide significant traffic relief to Main Street Carrigaline. Completion of the CWRR is expected in Q3 2022.

3.2 Traffic

3.2.1 Vehicular Traffic

The Carrigaline Western Relief Road will provide a new Link Road connection between Ballea Road R613 to the north and Kilmoney Road R611 to the south. Traffic volumes on these roads are generally high with traffic congestion observed particularly on Main Street. The site visit was undertaken on the 25th of April 2022 between during daylight hours. Pedestrian movements were high and cycle numbers were generally low.

The speed limit on all roads in the vicinity of the proposed Development is 50kph. From site observations it appears that this speed limit is generally observed but would be lower during times of traffic congestion. There are no proposals shown to further reduce the speed limit for the roads accessing the development.

3.2.2 Pedestrians and Cyclists

New footpath and cycle facilities will be provided with the opening of the Carrigaline Western Relief Road expected in Q3 2022. Bus stops will also be provided along the Relief Road located just 200m north of the proposed Development. A cycle path will also be provided along the Owenabue River running east west to the north of the proposed Development.

3.2.3 Street Lighting

Public lighting is provided on the Ballea Road, Kilmoney Road and Main Street Carrigaline in close proximity to the Development. The Carrigaline Western Relief Road will also have public lighting provided. The site visit was undertaken in daylight hours and therefore, the performance of the lighting was not observed.

3.2.4 Road Collisions

Road Collision Data available on the Road Safety Authority Database within the period 2005 to 2016 - see Figure 3.1 - recorded some minor collision in the immediate vicinity of the proposed development. The map shows a number of minor collisions on the Ballea Road and Kilmoney Road and two serious collisions on Main Street Carrigaline.

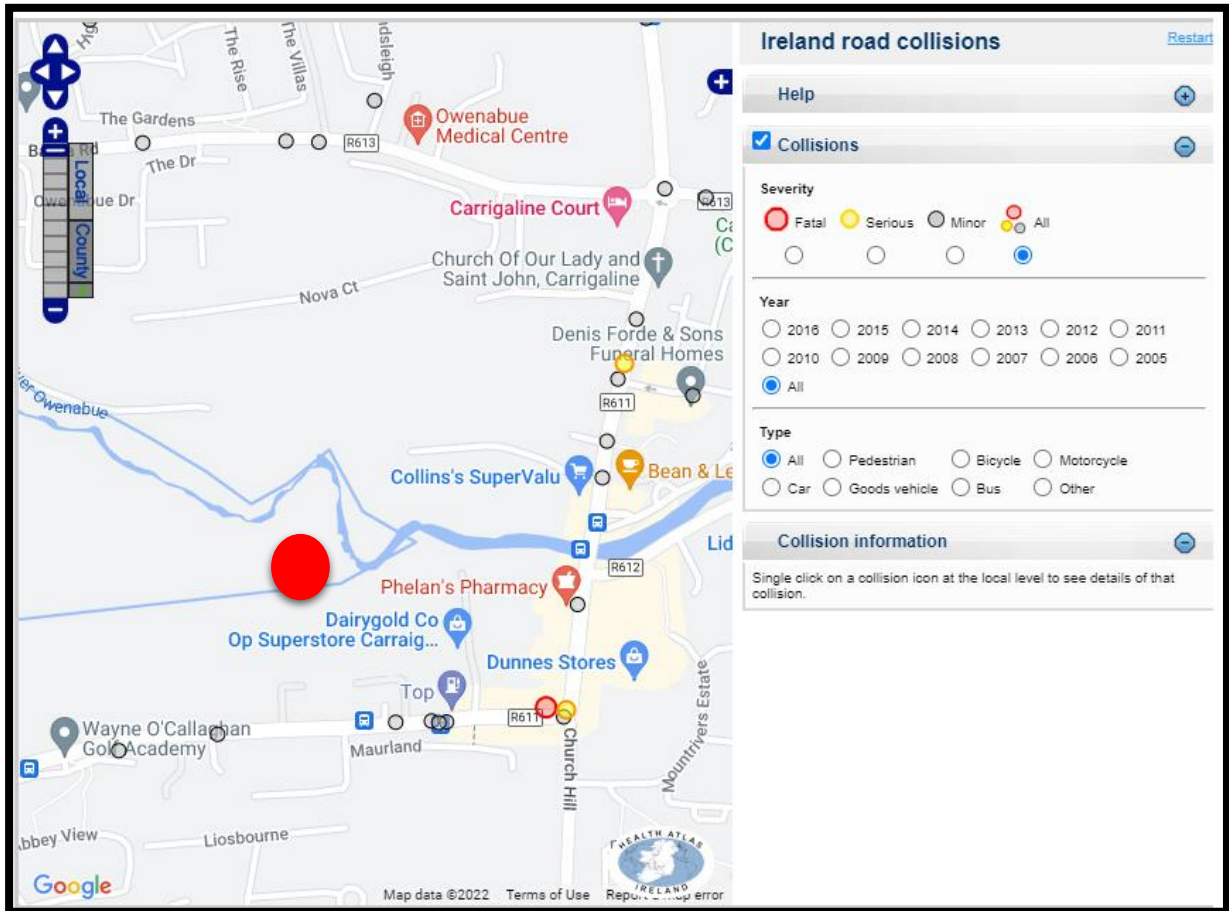


Fig 3.1 RSA Road Collision Data.

4.0 Access Audit

4.1 Overview

The surrounding existing roads adjacent to the development are not subject to the planning application for which this report is required, and therefore this audit is confined to the proposed alterations to the existing infrastructure and the proposed development itself. The scope of the Audit is therefore confined to the proposed development and the infrastructure area around the proposed Development.

The Access Audit identifies a range of barriers that potentially restrict access for disabled people in the external and internal built environments.

For the purposes of the access assessment, the environment's features have been broken down into its constituent features. Each feature is assessed for conformity against certain access criteria. These criteria are derived from the following range of Best Practice sources, guidelines, standards, publications, and legislation:

- The Disability Act 2005 and related Sectoral Plans
- British Standards Institute BS8300:2001 and BS5588
- Building Regulations 2000, Technical Guidance Document M -Access for People with Disabilities (Department of the Environment, Heritage, and Local Government)
Buildings for Everyone Access and use for all citizens (National Disability Authority)
Access to the Historic Environment -Meeting the needs of Disabled People.
- Traffic Management Guidelines (Irish Government Publications 2003)
- Design Manual for Urban Roads and Streets (Department of Transport, Tourism and Sport)
- Access Auditing of the Built Environment guidelines (National Disability Authority)
- Inclusive Mobility A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure (Department of Transport United Kingdom)
- Guidance on the use of Tactile Paving Surfaces: UK Department for Transport

Where a site feature does not conform to this guidance, an explanation as to the potential restriction on access is provided, together with a suggested action and the priority in which such actions should be undertaken.

The Disability Act 2005 and the National Disability Authority's initiatives build on relationships and practices which currently exist among councils, city planners, building professionals and community groups to make services in Ireland more accessible to people with disabilities. In addition to people who use wheelchairs or have restricted mobility, there are many people affected by some degree of hearing loss, learning disability, visual impairment, or conditions such as arthritis. This access assessment considers the needs of all potential users from a universal access perspective. The audit is an organisation's first step in identifying physical barriers that people with disabilities may encounter when engaging with the community, public services, and facilities..

4.2 Paths and Pavements in Streets, Road, and Public places

Streets, Roadways and Access for vehicle routes would have a footway provided for the safety of pedestrians particularly in cities, built-up urban areas, developed towns and village environments

Ref	Feature	Conforms	Access Comment	Action
4.2.1	Are the footways a minimum width of 1.5m (1.8-2.0m in high volume areas)	Yes		None
4.2.2	Is the main footway clear of obstructions that would impede wheelchair users or be a trip hazard to sight impaired users?	Yes	No obstructions visible on the drawings	None
4.2.3	Are all surface water gullies / slot drains outside of the desire line or less than 13mm wide and set at right angles to the line of traffic?	Yes	Drainage details provided	None
4.2.4	Are all paving materials suitable for the passage of sight impaired, arthritic and wheelchair users?	Yes	Materials indicated on the drawings	None
4.2.5	Is the footpath clear of obstacles? mounted more than 300mm above ground and protruding into the footpath by more than 100mm	Yes	No obstacles indicated on the drawings	None
4.2.6	Is the footway route to an acceptable gradient of less than 1:20	Yes		None
4.2.7	Is the footway route clear of abrupt changes in level with crossfalls less than 2.5%	Yes		None
4.2.8	Is the footway clear of physical obstructions or windows, doors, and gates that open onto the access route?	Yes		None
4.2.9	Are the footway routes clear of headroom hazards (2.1m or 2.3m if shared with cyclists)?	Yes		None
4.2.10	Is the footway route clear of any slip, trip hazards for sight impaired users?	Yes		None
4.2.11	Is the footpath clear of and advertising 'A' boards	Yes		None
4.2.12	Is the footway shared with cyclists or abutting a cycle lane where cyclists may encroach?	Yes		None

4.2.13	Is the footway or public area adequately illuminated for night-time use?	Yes	Street lighting design provided.	None.
4.2.14	Is suitable tactile surfacing provided at all pedestrian crossing locations	Yes	Tactile paving is provided to all pedestrian crossings in accordance with the Traffic Management Guidelines.	None

4.3 Public Seating in the Street or Public Area

It is recommended that seating should be provided to public areas or within a street environment at intervals of approx. 50 metres, particularly in streets and pavements that have inclines or slopes to give rest points for persons with mobility-impairments, also to provide a wheelchair rest position on hillside streets, sloping footways and other public areas.

<i>Ref</i>	<i>Feature</i>	<i>Conforms</i>	<i>Access Comment</i>	<i>Action</i>
4.3.1	Is seating provided at intervals of approximately 50m	Yes	Seating shown on the drawings	None
4.3.2	Is seating provided at inclines or slopes as rest points for mobility impaired users?	Yes	Gradients not provided, although it is unlikely they will be significant.	None
4.3.3	Are flat areas provided at regular intervals on inclines or slopes as rest point for mobility assisted (wheelchair, frames, stick) users?	Yes	Levels shown on the drawings although it is unlikely there will be inclines.	None

4.4 Un-controlled Pedestrian Crossings

The proposals include for un-controlled crossing at the entrance to the Development.

Ref	Feature	Conforms	Access Comment	Action
4.4.1	Does the crossing have tactile paving in compliance with the standards and in buff colour	Yes	Tactile paving is provided to all pedestrian crossings in accordance with the Traffic Management Guidelines.	None
4.4.2	Does the un-controlled crossing have dished kerbs with an unobstructed width of 1200mm.	Yes	Dished kerbs provided.	None
4.4.3	Are the kerbs lowered to form a dished kerb approach gradient no greater than 1:12 and an upstand above road level no greater than 6mm	Yes	Provided	None
4.4.4	Is the crossing free of road gullies, gratings or channels that may cause wheelchair or stick users problems	Yes	No service covers shown on the drawings.	None
4.4.5	Is visibility to approaching traffic achieved from all crossing locations and clear of temporary obstructions such as parked vehicles	Yes	Junction sightlines shown on drawing provided.	None
4.4.6	Is the crossing area adequately covered with street lighting	Yes		None

4.5 Disabled User Parking Spaces

For Disabled Parking Spaces within a parking scheme, it is important to provide designated Accessible Parking Spaces to serve the needs of disabled drivers or passengers. These spaces should be located to minimise travel distance for the user from the space to their intended destination.

The number of Disabled User spaces provided will change dependant on the destination i.e., a medical centre will require a greater provision than a crèche.

For this subject mixed-use development scheme, the number of spaces required should be determined from the local Development Plan and in accordance with National standards.

Ref	Feature	Conforms	Access Comment	Action
4.5.1	Are Disabled User Parking spaces provided?	Yes	Disabled User parking spaces should be provided at a rate of 5%	None
4.5.2	Are disabled parking spaces provided with a clearly marked symbol on the road surface to show parking assigned to disabled or mobility impaired drivers or passengers?	Yes		None
4.5.3	Is there a flush kerb to allow wheelchair access to the adjacent footpath	Yes		None
4.5.4	Is there a yellow cross hatch marking to indicate the travel clear route for the user?	Unknown	Details not provided	Design Team to note requirement

4.6 Pedestrian Signage

It is important to provide way-finding signage in the area. It should be noted that information signage should not be positioned too high for persons of short stature and wheelchair users to access. Also, visitors to the area with vision impairment will find it difficult to read signage at high levels.

Information boards benefit blind or visually-impaired persons if essential notes and information are provided in conjunction with existing visual signs, directional routes in Braille and tactile will assist visitors to the area.

Effective colour contrast on signage is essential and is as important as the size of the lettering or symbols. Colours can appear different under various light sources, so when choosing sign colours, ensure that under the same lighting conditions be used in the area where the sign is to be located at night. Particularly avoid red and green colour schemes in signage due to the prevalence of red/green colour blindness.

Ref	Feature	Conforms	Access Comment	Action
4.6.1	Is signage provided to guide the user through the development?	No	Provide a signage scheme to include road names at a minimum	Design Team to note requirement
4.6.2	Are the signs of a suitable size and colour combination?	N/A		
4.6.3	Are the signs mounted at a suitable height so they can be read but not cause a head clearance issue?	N/A		
4.6.4	Are the signs positioned so they do not cause a hazard?	N/A		

5.0 Cycle Audit

Construction costs for the provision of segregated cycleways can be considerable and not always warranted. The provision of cycleways that are remote from the carriageway can raise concerns for the safety of the user as ‘overlooking’ is less likely. The NCM provides guidance on where best to accommodate the cyclist in the public environment i.e., on lightly trafficked/low speed streets designers are generally dictated to create shared streets where cyclists and motor vehicles share the carriageway. On busier/moderate speed streets designers are generally dictated to apply separate cycle lanes/cycle tracks.

5.1 Cycleway Provision

Ref	Feature	Conforms	Access Comment	Action
5.1.1	Are cycle facilities appropriate to the environment?	Yes		N/A
5.1.2	Does the cycleway terminate at an appropriate location?	Yes		N/A
5.1.3	Are the cycle lanes of adequate width (refer to NCM width calculator)	Yes	No dimensions shown on layout drawing	N/A
5.1.4	Is the direction of cycle flow clearly marked in order to avoid conflicts?	No	No markings shown on the drawing	Design Team to note requirement
5.1.5	Is the cycleway suitably segregated from the pedestrian path to prevent pedestrians walking into the cycleway?	Yes	Combined cycle/ Footpath provided	N/A
5.1.6	Is the cycleway to an acceptable gradient with suitable dwell areas at junctions?	Yes		N/A
5.1.7	Is the cycleway surfaced with suitable smooth material?	Unknown	No materials indicated on drawings	Design Team to note requirement
5.1.8	Is suitable signage provided for the cyclists with appropriate cycle symbols?	No	No Signage included on the drawings	Design Team to note requirement
5.1.9	Are suitable and safe bike storage solutions provided at the nodes of demand	Yes		N/A

5.1.10 The combined cycle/pedestrian Riverside link terminates on Main Street Carrigaline. The connectivity of cycle facilities will be maintained by the provision of cycle facilities as part of the Carrigaline Transportation and Public Realm Enhancement Plan’ (CTRPEP)

5.1.11 The combined cycle facilities on the Carrigaline Western Relief Road terminates on Ballea Road. The connectivity of cycle facilities will be maintained by the provision of cycle facilities as part of the Carrigaline Transportation and Public Realm Enhancement Plan.

6.0 Walking Audit

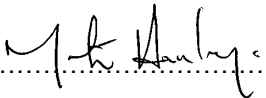
Walking audits examine and evaluate the walking environment in a given area. The audit's purpose is to identify concerns for pedestrians related to the safety, access, comfort, and convenience of the walking environment. Many of the concerns for able-bodied pedestrians are the same as for the disabled users i.e., footpath surface condition, footpath width etc. For that reason, the items of concern raised under the Access Audit have not been repeated in this Walking Audit.

Ref	Feature	Conforms	Access Comment	Action
6.1.1	Does the proposed design adequately cater for the safe passage of existing pedestrian users after completion of the project by reinstating existing facilities or providing alternative new facilities?	Yes	The existing footpath is 'broken' by the access junction. Suitable provision is made at this junction	N/A
6.1.2	Are the footpaths of adequate width to cater for the expected pedestrian numbers	Yes	No dimensions are shown on the drawings	N/A
6.1.3	Do the footpaths terminate at an appropriate location?	Yes	Some footpath termination require further assessment	N/A
6.1.4	Are the footpaths direct without unnecessary diversions, loops etc?	Yes		N/A
6.1.5	Do the footpaths conflict with cycle or motor users	Yes		N/A
6.1.6	Are suitable signs provided to enable wayfinding though the development	Unknown	No Signage included on the drawings	Design Team to note requirement
6.1.7	Are any areas of shared use suitably signed by way of change in environment (surface colour, texture, signage, furniture etc.)	Unknown	No materials indicated on the drawings	Design Team to note requirement

7.0 Audit Statement

I certify that we have examined the drawings and other information listed in Appendix A. 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 safety and comfort in use of the scheme. The problems that we have identified have been noted in the report, together with suggestions for improvement which I recommend should be studied for implementation. No one in the audit team has been involved with the scheme design.

Mr Martin Hanley, BE CEng MIEI

Signed: 

Date : 28/04/2022

Appendix A – Site Photographs



Photo 1: Ballea Road Carrigaline.



Photo 2: Kilmoney Road Carrigaline



Photo 3: Main Street Carrigaline



Photo 4: Access to Riverside Pedestrian / Cycle Link to Main Street

Appendix B – Drawings & Documents Submitted for Information

By Henry J Lyons Architecture & Cunnane Stratton Reynolds Landscape Architects

Proposed Mixed Use Development, Carrigaline Co Cork

Drawing No.	Drawing Title	Scale	Revision
50829-HJL-A-0002	Site Layout Plan	1:500@A1	
21623-2-101	Landscape Masterplan	1:500@A0	
21623-2-210	Riverside Pedestrian Link to Main Street	As indicated	