

Additional Information Civil Engineering Response – Transportation Planning

Residential Development at Clonburris, Adamstown, Co. Dublin

October 2023

Waterman Moylan Consulting Engineers Limited

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Client Name: Clear Real Estate Holdings Limited
Document Reference: 21-055r.011 Additional Information Response
Project Number: 21-055

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015 and BS EN ISO 14001: 2015)

Issue	Date	Prepared by	Checked by	Approved by
1	26 October 2023	Richard Miles	Mark Duignan	<i>Mark Duignan</i>

Comments

Disclaimer

This report has been prepared by Waterman Moylan, with all reasonable skill, care and diligence within the terms of the Contract with the Client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the Client.

We disclaim any responsibility to the Client and others in respect of any matters outside the scope of the above.

This report is confidential to the Client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

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1. Introduction

1.1 Context

This report forms part of a submission to South Dublin County Council (SDCC), in response to their request for additional information for the proposed residential development on lands at Clonburris, Adamstown, Co. Dublin, part of the Clonburris Strategic Development Zone (SDZ). This report addresses the civil engineering transportation planning items raised in SDCC's additional information request.

1.2 Planning Application Details

Local Authority: South Dublin County Council
Planning Reference: SDZ23A/0004
Decision Date: 06 April 2023
Applicant: Clear Real Estate Holdings Limited
Location: Clonburris, Adamstown, Lucan, Co. Dublin

1.3 Summary of Report

This section of the report has been prepared by Waterman Moylan in support of the proposed amended layout submission made by the design team and addressed under separate cover in response to SDCC's request for additional information.

This Applicant proposes an alternative layout to that submitted for planning to address the items raised within; including the relocation of apartment units in response to RFI item 1b (refer Architectural submission under separate cover), adjustment to street layout in response to RFI item 1e; and adjustment of layout to retain existing hedgerow at the southern end of the scheme, in response to RFI item 2.1 (refer Landscape Architectural submission under separate cover).

For due diligence, the engineering layouts have been amended to ensure that the road levels and drainage layout have been fully considered and the amended road layout drawings have been appended to this document and revised as clouded as part of the Waterman Moylan Civil Engineering response to item 1e.

It is noted that there are no significant changes to the proposed engineering strategies as part of this revised submission. The road layout, drainage layout (including SuDS strategy and attenuation) and watermain layout strategy remain consistent with the previously submitted planning application documentation, with marginal adjustments to accommodate the proposed layout changes to some of the buildings behind the public footpath

Section 2 of this report addresses the engineering items included in South Dublin County Council's request for additional information. For clarity, the items from South Dublin County Council's additional information request are set out in bold italics, with the Applicant's response provided below each item.

2. Response to Civil Engineering Items

2.1 Additional Information Request Item No.1e – Transport Planning

- 1e. *Intimate Local Street 2: South end of street widens to 22.6m between frontages, with perpendicular parking. The applicant is requested to redesign this portion of the street to ensure in keeping with scheme road layout and requirements for intimate local streets.*

Response:

Please refer to the appended revised Additional Information roads layout drawing 21-055- P1102B, where intimate local street 2 has been altered to align with the requirements for intimate local streets over its full length, replacing the formerly perpendicular parking at the southern end with parallel parking.

As has been noted in section 1.3, there are no significant changes to the proposed engineering strategies as part of this revised submission. The road layout, drainage and watermain strategy remain consistent with the previously submitted planning application documentation, with marginal adjustments to accommodate requests for A.I. information items. For due diligence, the engineering layouts roads layouts have been amended and revised. Additional Information roads drawings have been appended to this document as Appendix A.

Revised Autotracking for a refuse vehicle, drawing 21-055-P1111A has similarly been appended for completeness.

2.2 Additional Information Request Item No.2.5 – Transport Planning

- 2.5. *Park: Arrangement/grouping of trees in the park area to the north of local streets 6 to be agreed with Public Realm (icolleran@sdblincoco.ie) prior to resubmission. Where wildflower meadows are proposed sufficient space should be provided between trees/tree groups to allow for maintenance by large tractor with zero grazer. Avoid wildflower seed mixes for meadows. May be used in bioswales. Boundary detail to be agreed which excludes vehicles – maintenance entrance required.*

Response:

This response is to be read in conjunction with the BSM Landscape Architectural response, through which the requirements of Item 2 of the Additional Information request have been agreed with the Parks and Landscape Department.

We also refer you to the appended revised Additional Information drawing 21-055-P1102B, which indicates the location of proposed landscape maintenance access via 3.5m pathway, with a proposed lockable removable bollard to exclude public vehicular access.

2.3 Additional Information Request Item No.4.1 – Transport Planning

(For Items 4.3-4.4, please refer to Architectural and Landscape Architectural responses supplied under separate cover)

4. 1. Applicant to provide a written rationale as to how the issues raised in the applicant Road Safety Audit were addressed.

Response:

Please refer to the applicable “Final” Stage 1-2 Quality Audit (QA) Report undertaken by Bruton Consulting Engineers, appended to this Additional Information report. As has been summarised in Section 1.3 of this report, the layout submitted as part of the original planning application has been altered, to accommodate the layout changes to some of the buildings behind the public footpath, to address the items of the request for information.

For the purposes of due diligence, the altered Additional Information layout has been supplied to the Road Safety Auditor for comment, who has confirmed that the layout changes have not brought about any further issues to add to the Quality Audit. The revised QA report including commentary to this effect snip are appended as Appendix B of this report and the snip extract statement is supplied below as *Figure 1*.

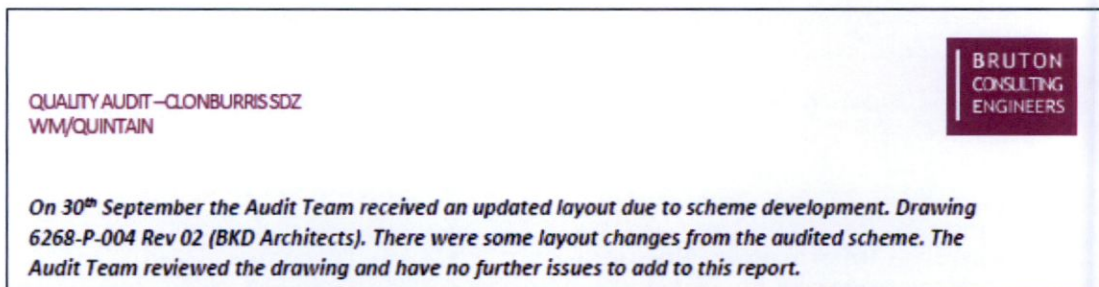


Figure 1 | Road Safety Auditor – Additional Information Layout Statement

The updated roads layout drawings 21-055-P1101B & 21-055-P1102B have been appended in Appendix A of this report, incorporating the resultant agreed outcomes of the Quality Audit report.

Each of the problems identified in the Quality Audit Report are summarised within the final version report, with recommendations as to how these issues can be addressed similarly supplied. The recommended measures for each problem were reviewed in detail and either accepted or alternative measures were proposed to address the identified concerns.

The feedback form supplied as part of the Quality Report provides a written rationale as to how each issue raised has been addressed or responded to, under the “Alternative Measures” column.

The problems and rationale for addressing are summarised below, and it is noted that these should be read in tandem with the appended Final Quality Audit Report.

Problem 1:

Issue

It is proposed to provide raised tables at many internal junctions. If there is too small of a kerb upstand

drivers may cut the corners given the tight radii and mount the footpaths. This could lead to breaking of the tactile paving which would become a trip hazard for pedestrians.

Auditor Recommendation

It is recommended that suitable kerb upstands be provided at the raised table areas that will make it unattractive for drivers to mount the kerb. The kerbs will need to be flush at the crossing points.

Written Rationale to address:

Recommendation accepted. Raised ramps are to be 75mm high, leaving a 50mm kerb upstand. The kerb is only to be flush 0-6mm at crossing point and raised in between to 50mm height to prevent kerb overrun.

Problem 2:

Issue

The junction of Road 1 and Road 2 is at an acute approach angle. Drivers giving way at the top of Road 2 might not be able to look over their shoulder to drivers approaching from Road 1 especially if they have limited neck mobility. This could lead to collisions. The priority at the junction is also unclear.

Auditor Recommendation

It is recommended that the junction layout be clearly defined so that adequate visibility is provided, and priority is clear.

Written Rationale to address:

Recommendation accepted. It is proposed to alter the road layout at the junction between Roads 1 and 2, to improve the angle of approach and provide adequate visibility for all. It is also proposed to provide a raised table across this junction. Priority at this junction is proposed to be clearly defined via the introduction of a STOP sign and line on approach to the raised table from road 2. These changes have been incorporated into the roads layout.

Problem 3:

Issue

There will be a desire line for pedestrians and cyclists to travel from the R120 Newcastle Road into the development at the most northern point. Without adequate facilities being provided there may be gaps made by those users which could be slips and falls on the embankment in wet conditions.

Auditor Recommendation

It is recommended that the feasibility of providing a pedestrian and cycle link with suitable gradients be assessed.

Written Rationale to address:

Alternative Measures are proposed. Given both the constraints of the existing site conditions and the layout of the infrastructure planning permission, it is deemed unfeasible to provide a usable pedestrian/cycle connection between the R120 and the railway overbridge due to the 6m change in level from the existing green field level up to the N52 bridge level. It is proposed that a pedestrian/cyclist linkage to the R120 shall be afforded via the internal street layout linkage to the Clonburris New Link Street/Avenue permitted under "SDZ 20A-0021", which affords high-quality off-road cycle tracks and footway.

Problem 4:**Issue**

There is a missing link of footpath between Apartment Block 1 and the section of Road 1 to the east of the junction with Road 2. This could lead to pedestrians travelling on the carriageway which has not been designed as a shared use surface. Visitors parking in front of Apartment Block 1 would also have to travel along the carriageway to the access point to the building.

Auditor Recommendation

It is recommended that the grassed verge to the rear of the perpendicular parking spaces be changed to a footpath and that a suitable crossing of Road 1 be provided.

Written Rationale to address:

Recommendation accepted. We are now proposing a raised crossing at the northern end of the scheme, providing a safe VRU linkage point between the apartments and the path on the northern boundary. This is proposed to link with a new footpath that passes through the open space fronting the apartments, affording direct and safe access and desire line path linkages for residents and VRUs.

Problem 5:**Issue**

There is no proposed gap in the verge for pedestrians to access the residential units/internal roads at the junction of Road 9 and at the crossing point at house no. 373. This could lead to slips and falls in the grassed verge.

Auditor Recommendation

Provide suitable gaps in the verge at the pedestrian desire lines.

Written Rationale to address:

Recommendation accepted. Drawings have been updated to show the addition of gaps in the verges for pedestrian access in the requested locations.

2.4 Additional Information Request Item No.4.2 – Transport Planning

(For Items 4.3-4.4, please refer to Architectural and Landscape Architectural responses supplied under separate cover)

EV car-parking provision must increase to a minimum of 108 spaces in line with min 20% requirement in CDP 2022-2028.

Response:

This response is to be read in conjunction with the BKD Architectural response.

Layout adjustments brought about as part of the additional information process have resulted in an upward revision of the number of units from that originally submitted for planning, from 385 units to 396 units. For due diligence and to take full account of the amended unit numbers and layout

amendments, the following sections 2.4.1 and 2.4.2 summarise the car parking development plan requirements and current layout parking proposals, including the requirement for 20% electrical vehicle parking provision.

Similarly, for due diligence, owing to the layout amendments made to address AI items, under Sections 2.5 and 2.6 of this report, an updated summary of cycle parking proposals and traffic and transport assessment conclusions have been supplied, applicable to the additional information layout.

2.4.1 Car Parking Required

The Design Standards for New Apartments is also assessed within this report but as a guideline. For the purposes assessing the requirement for the Proposed Development, the Clonburris SDZ Planning Scheme will take precedence as these are the maximum figures for car parking and minimum standards for cycle parking. The Clonburris SDZ Planning Scheme standards are set out under the *South Dublin County Council Development Plan 2022 – 2028*.

Based on the SDCCDP standards, *Table 1* below, sets out the number of parking spaces required for the Proposed development.

The current site layout has apartments and duplexes in the northwest corner and therefore Zone 2 will be applied to this area. The houses will use Zone 1 classification.

Unit Type	Zone	Standard Applied	No. of units	No. of Bedroom		Total
Houses	1	2 spaces per unit	139	3 – Bedroom +	139	278
Duplexes and Apartments – Zone 1	1	1 space	157	1 – Bedroom	31	31
	1	1.25 space		2 – Bedroom	80	100
	1	1.5 spaces		3 – Bedroom +	46	69
Subtotal (zone 1)			296			478
Duplexes and Apartments – Zone 2	2	0.75 space	100	1 – Bedroom	24	18
	2	1 space		2 – Bedroom	51	51
	2	1.25 spaces		3 – Bedroom +	25	31
Subtotal (zone 2)						100
Total (Zone 1+ Zone 2)	-	-	396	-	-	578

Table 2 | Proposed Development - Car Parking Requirement

2.4.2 Car Parking Proposed

Based on the *Design Standards for New Apartments – December 2022*, the development site being located in an Intermediate Urban Location, the apartment guidelines state that “planning authorities must consider a reduced overall car parking standard and apply an appropriate maximum car parking standard”.

In this regard it is considered that a parking standard for Houses, Duplexes and Apartments in Zone 1 adopt a standard of 1.33 spaces per unit while the Apartments and Duplexes in Zone 2 adopt of a standard of 0.8 space per unit.

ZONE 1			
Unit type	No. of units	Space provided	Total
Houses, Duplexes and Apartment	296	1.33	395
Disabled Parking (5%)			21
Sub-Total			416
ZONE 2			
Unit type	No. of units	Space provided	Total
Duplexes and Apartment	132	0.8	76
<i>Semi Basement parking</i>			40
<i>On street parking</i>			36
Disabled Parking (5%)			5
Sub-Total			81
OVERALL TOTAL			497

Table 3 | Proposed Development - Car Parking Proposed

As a requirement, at least 5% of the allocated car parking spaces must be disabled parking. Additionally, 20% of the allocated car parking spaces support electric charging ports. Therefore, included in the 497 total car parking spaces are 26 disabled spaces and 99 EV charge spaces, as has been further detailed in the Architectural RFI response and electrical engineering e-charging layout drawings 21-055-E1004 sheets 1 and 2, supplied under separate cover.

The proposed developments on-site car parking spaces will remain within the control of the appointed management company.

2.5 Cycle Parking

As discussed in Section 2.4, for due diligence, owing to the layout amendments made to address AI items, cycle parking proposals applicable to the additional information layout are summarised as follows in Section 2.5:

To determine the appropriate amount of cycle parking for the proposed development, reference will be made to the following guidelines/policies:

- South Dublin County Council Development Plan 2022-2028.

- Design Standard for New Apartments – Dec 2022.
- The Clonburris Strategic Development Zone Planning Scheme (May 2019).

2.5.1 South Dublin County Council Development 2022-2028

Cycle parking standards for the Clonburris SDZ Planning Scheme also use the SDCC Development 2022– 2028 as the minimum cycle parking standards.

Table 12.23 of the Development Plan sets out Minimum Bicycle Parking rates for all new development in the County. Bicycle parking rates are divided into two main categories:

- **Long Term:** These are to be designed for use by residents and employees. Such spaces should be located in a secure area that is not freely accessible to the general public.
- **Short Stay:** These are to be designed for ease of use by the general public. Such spaces should be located in highly visible areas that are easy to access and allow for cargo bikes.

For the purposes of this assessment and based on the SDCC Development Plan, duplexes will fall under the same classification as apartments for both short term and long-term stay. For houses, cycle parking is provided in-curtilage.

Unit Type	Long Term	Short Term
Apartment/Duplexes	1 per bedroom	1 per two apartments

Table 4 | Cycle Parking required

2.5.2 Design Standard for New Apartments – December 2022

The following extracts from the “Design Standards for New Apartments – December 2022” summarise the guidelines for cycle parking:

“Quantity – a general minimum standard of 1 cycle storage space per bedroom shall be applied. For studio units, at least 1 cycle storage space shall be provided. Visitor cycle parking shall also be provided at a standard of 1 space per 2 residential units. Any deviation from these standards shall be at the discretion of the planning authority and shall be justified with respect to factors such as location, quality of facilities proposed, flexibility for future enhancement/enlargement, etc.”

2.5.3 Cycle Parking Required

Based on the Sustainable Urban Housing: Design standards requirement, *Table 14* below, sets out the number of bicycle parking spaces required for the Proposed development.

BIKE SPACES REQUIRED-Blocks 1,2,3,4,5,6,7,8,9,10			
Duplex			
Unit type	no. of units	space required	Total
2 bed	71	2	142
3 bed	71	3	213

0.5 per unit (vis.)	142	0.5	71
Sub-Total			426
BIKE SPACES REQUIRED-Blocks 1,2,3,4			
Apartments (Blocks 1&2)			
Unit type	no. of units	space required	Total
1 bed	56	1	56
2 bed	59	2	118
3 bed +	0	3	0
0.5 per unit (visitors)	115	0.5	58
Sub-Total			232
OVERALL TOTAL			658

Table 5 | Proposed Development - Cycle Parking Requirement

2.5.4 Cycle Parking Proposed

The number of bicycle parking spaces projected to serve the proposed development is presented in *Table 15* below.

BIKE SPACES PROVIDED-Blocks 1,2,3,4,5,6,7,8,9,10	
Duplex - Terraces	
	Total
Bicycle Parking	348
Visitor Bicycle Parking	98
Cargo Bike Parking	29
Visitor Cargo Bike Parking	30
Sub-Total	505
BIKE SPACES PROVIDED-Blocks 1 and 2	
Apartments (Blocks 1&2)	
	Total
Bicycle	226
Visitor Bicycle	48
Cargo bike	6
Visitor Cargo Bike Parking	12
Sub-Total	292
OVERALL TOTAL	
	797

Table 6 | Cycle Parking Provided

2.6 Parking Conclusion and Traffic and Transportation Assessment

The following section summarises parking provision for the proposed AI layout. Similarly, traffic and transport conclusions applicable to the additional information layout have been summarised for completeness.

A total of 797 cycle parking spaces will be provided for the proposed development, inclusive of 574 residential cycle spaces, 146 visitor spaces, 35 cargo spaces and 42 visitor cargo spaces.

Approximately 20 % of the proposed (non-visitor) cycle spaces shall accommodate EV charging. It is proposed that there shall be 122 secured EV charging spaces (115 secured EV charging spaces for bicycles and 7 secured EV charging spaces for cargo bicycles).

Adequate provision has been made for cycle parking space since the required minimum of 658 cycle parking spaces has been surpassed.

It is considered that the proposed provision of 497 car park spaces and 797 bicycle parking spaces, at the proposed development is appropriate due to the following:

- High quality and frequent public transport services available in close proximity to the subject site (9-minute walk, 750m to the closest bus stops);
- A much higher cycle parking provision is proposed compared to the development plan minimum requirement thereby ensuring travel by bicycle to / from the subject development site is a viable mode of travel;
- The availability of car share vehicles in the locality in addition to the provisions of a residents dedicated GoCar vehicle (9-minute walk, 750m to the closest GoCar);
- According to the Census in 2022, there are low levels of car ownership in residential areas in close proximity to the Proposed Development (1.38 in 2022 Census, reduced from 1.44 per unit in 2016 Census);
- The existence of a robust and achievable Travel Plan as issued for Planning, encouraging sustainable travel modes.

The above summarised parking figures are a marginal reduction from the quantum proposed in the original planning submission.

It is also noted that the findings of the traffic and transport assessment submitted for planning remain true and accurate. The conclusions and findings are summarised as follows:

- The proposed development will be ideally situated to benefit from an inclusive range of public transport, bus, and rail connections thereby providing very high levels of accessibility. Additionally, the range and proximity of future public transport services will, when implemented, further improve the accessibility of the proposed development. In this regard, we refer you to section 5 of the TTA submitted for planning.
- The provision of additional footpaths and cycle lanes as indicated in The NTA's Cycle Network Plan for the Greater Dublin Area will enhance the attraction of walking and cycling in the vicinity of the proposed development.

- Where public transport is not being utilised, the proposed development has made provision for adequate, and safe, parking spaces.
- By the Opening Year of 2026, the number of trips generated is deemed to have a slight impact on the surrounding network.
- The resulting percentage increase in traffic flows as a result of the traffic generated by the proposed development has exceeded the 10% threshold at certain junctions. The impact at the affected intersections is defined below, as per the planning submitted TTA:
 - **Junction 4 (Access to Proposed Development (R120(N) / Hayden's Lane / R120(S) / Kilsaran Lucan Site Entrance)** has been modelled based on its current configuration of a Priority Crossroad and the results indicate that this junction will operate well within capacity for the assessed year of 2041 which includes for existing traffic growth and the inclusion of the proposed development trips.
 - **Junction 5 (R120 (N) / R120 (S) / Newcastle Road)** has been modelled based on its current configuration of a Priority T-Junction and the results indicate that this junction will operate well within capacity for the assessed year of 2041 which includes for existing traffic growth and the inclusion of the proposed development trips.
- Based on the anticipated levels of traffic generated by the proposed development, the existing and future road infrastructure, it is considered that the impact on the surrounding road network will be negligible/within the available capacity of the impacted junctions. Therefore, it is concluded that there are no significant traffic or transportation related reasons that should prevent the granting of planning permission for the proposed development.

Appendix A – Roads Additional Information Drawings



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Project Name:	Clonburris	
Project No:	21-055	
Project Stage:	Planning - Additional Information	
Day	27	27
Month	01	10
Year	23	23

Dwg No.	Drawing Title	Size																		
P1000	Site Location	A1	/																	
P1010	Road Markings & Signage	A1	/																	
P1100	Road General Arrangement	A1	/																	
P1101	Road Layout Sheet 1 of 2	A1	A	B																
P1102	Road Layout Sheet 2 of 2	A1	A	B																
P1110	Swept Path Layout for a Fire Tender	A1	/																	
P1111	Swept Path Layout for a Refuse Vehicle	A1	/	A																
P1112	Proposed Vehicle Turning Movement for an Arial Platform	A1	/																	
P1120	Road Details and Sections Sheet 1 of 2	A1	/	B																
P1121	Roads Details and Sections Sheet 2 of 2	A1	/	B																
P1200	Drainage General Arrangement	A1	A																	
P1201	Drainage Layout Sheet 1 of 2	A1	A	B																
P1202	Drainage Layout Sheet 2 of 2	A1	A	B																
P1220	Stormwater Drainage Construction Details	A1	/																	
P1221	Public Foul Water Drainage Construction Details	A1	/																	
P1230	Typical Suds Details	A1	/	A																
P1300	Watermain General Arrangement	A1	/																	
P1301	Watermain Layout Sheet 1 of 2	A1	/	A																
P1302	Watermain Layout Sheet 2 of 2	A1	/	A																
P1320	Watermain Construction Details Sheet 1 of 4	A1	/																	
P1321	Watermain Construction Details Sheet 2 of 4	A1	/																	
P1322	Watermain Construction Details Sheet 3 of 4	A1	/																	
P1323	Watermain Construction Details Sheet 4 of 4	A1	/																	
P1400	Overland Flood Route	A1	/																	
	21-055r.011 Additional Information Reponse Transportation Planning Draft	A4	/																	
	21-055r.012 Additional Information Response Drainage Planning	A4	/																	
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For: S = Preliminary, P = Planning, T = Tender, W = Construction, C = Comment, D = Draft			P	P																



Appendix B – Quality Audit

**Title: QUALITY AUDIT
INCLUDING
Road Safety Audit Stage 1-2, Access Audit, Cycle Audit and
Walking Audit.
For;
Adamstown Extension – Clonburriss SDZ Residential
Development**

Client: Waterman Moylan on behalf of Quintain

Date: November 2022

Report reference: 1687R01

VERSION: FINAL (2-10-2023)

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1.0 Introduction

This report was prepared in response to a request from Mr. Richard Miles, Waterman Moylan Consulting Engineers, for a Quality Audit for a proposed residential development as part of the Clonburris Strategic Development Zone (SDZ) on behalf of Quintain.

The Quality Audit has been carried out in accordance with the guidance in the Design Manual for Urban Roads and Streets (DMURS), produced by Department of Transport Tourism and Sport in March 2013 and as updated in June 2019.

This portion of the Quality Audit is a design stage audit and includes a Stage 1&2 Road Safety Audit (in accordance with TII Publication GE-DTY-01024, dated December 2017), an access audit, a walking audit and a cycling audit. (i.e. aspects of a Quality Audit carried out independent of the Design Team and generally included as appendices to the overall Audit)

The Road Safety and Quality Audit Team comprised of;

Team Leader: **Norman Bruton**, BE CEng FIEI, Cert Comp RSA.

TII Road safety Auditor approval number: NB 168446

Team Member: **Owen O'Reilly**, B.SC. Eng Dip Struct. Eng NCEA Civil Dip Civil. Eng CEng MIEI

TII Auditor Approval no. OO 1291756

This portion of the Quality Audit involved the examination of drawings and other material and a site visit by the Audit Team, on the 28th of April 2022 and a follow up visit by the Audit Team Leader on the 13th of October 2022. The weather at the time of the site visit was dry and the road surface was also dry.

The problems raised in this Quality Audit may belong to more than one of the categories of Audit named above. A table has been provided at the start of Section 3 of this report detailing which category of audit each problem is associated with.

Recommendations have been provided to help improve the quality of the design with regard to the areas described above. A feedback form has also been provided for the designer to complete indicating whether or not he/she will accept those recommendations or provide alternative recommendations for implementation.

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

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

A plan drawing showing the problem locations is contained in **Appendix C**.

Bruton Consulting Engineers carried out the Road Safety Audits for the roads infrastructure for the SDZ at planning stage in association with DBFL Consulting Engineers (Report refs 864 R01- Stage 1 RSA and 864 R02 Stage 2 RSA dated January 2022). It is assumed that safety issues raised in the Stage 2 RSA will be mitigated at the construction stage as committed to in the feedback form.

On 30th September the Audit Team received an updated layout due to scheme development. Drawing 6268-P-004 Rev 02 (BKD Architects). There were some layout changes from the audited scheme. The Audit Team reviewed the drawing and have no further issues to add to this report.

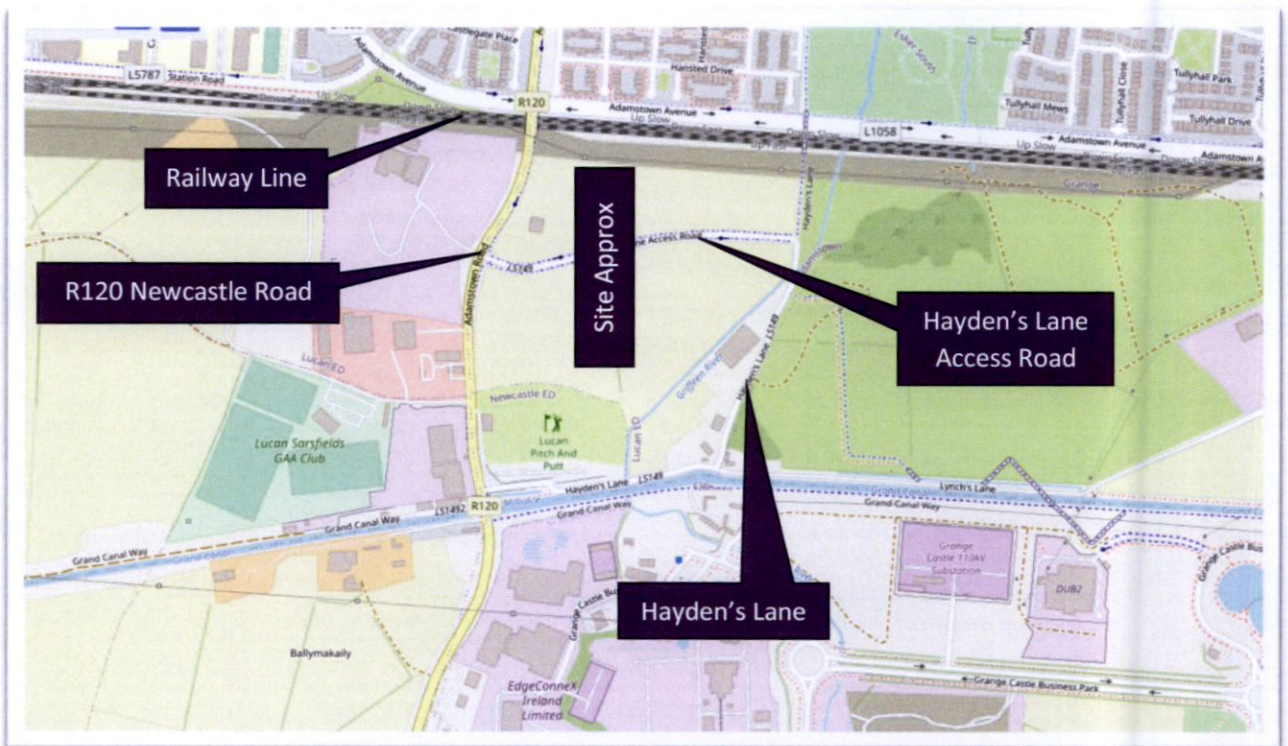
2.0 Background

It is proposed to construct part of the residential scheme associated with Clonburriss SDZ. The area involved would connect with the R120 Newcastle Road and would have residential development both north and south of the Clonburriss new Link Street/Avenue which follows the alignment of the existing Hayden's Lane Access Road. The site is bounded to the north by the railway line and to the south by Newcastle Pitch and Putt grounds.

The Link road layout, cross section etc. has been determined during the SDZ planning. The focus of this Quality Audit is generally on the development as a stand-alone scheme including the internal layout and connectivity.

The design speed within the development is 30km/hr.

The site location map is shown below.



Site Location Map (image courtesy of openstreetmap.org)

The overall scheme extents is shown in the drawing extract below. (The Link Road including the junction on the R120 is not included in the scope of the Audit)



3.0 Issues Identified in This Quality Audit.

Summary Table of Problem Categories

Problem Reference	Access Audit	Walking Audit	Cycling Audit	Road Safety Audit	Quality Audit
3.1		✓		✓	✓
3.2	✓	✓		✓	✓
3.3	✓		✓	✓	✓
3.4	✓	✓		✓	✓
3.5	✓	✓		✓	✓

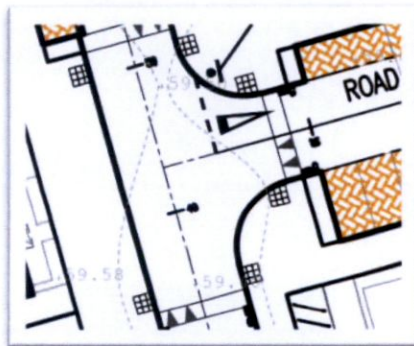
3.1 Problem

LOCATION

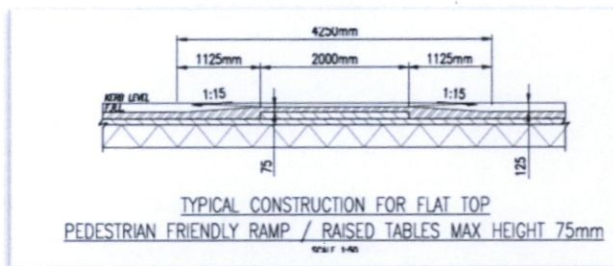
Drawing 21-055 P1010 & P1120 Rev – Nov 2022, Internal junctions.

ISSUE

It is proposed to provide raised tables at many internal junctions. If there is too small of a kerb upstand drivers may cut the corners given the tight radii and mount the footpaths. This could lead to breaking of the tactile paving which would become a trip hazard for pedestrians.



Example only



RECOMMENDATION

It is recommended that suitable kerb upstands be provided at the raised table areas that will make it unattractive for drivers to mount the kerb. The kerbs will need to be flush at the crossing points.

3.2 Problem

LOCATION

Drawing 21-055 P1010 Rev – Nov 2022, Internal junctions, Road 1 and Road 2.

ISSUE

The junction of Road 1 and Road 2 is at an acute approach angle. Drivers giving way at the top of Road 2 might not be able to look over their shoulder to drivers approaching from Road 1 especially if they have limited neck mobility. This could lead to collisions. The priority at the junction is also unclear.



RECOMMENDATION

It is recommended that the junction layout be clearly defined so that adequate visibility is provided and priority is clear.

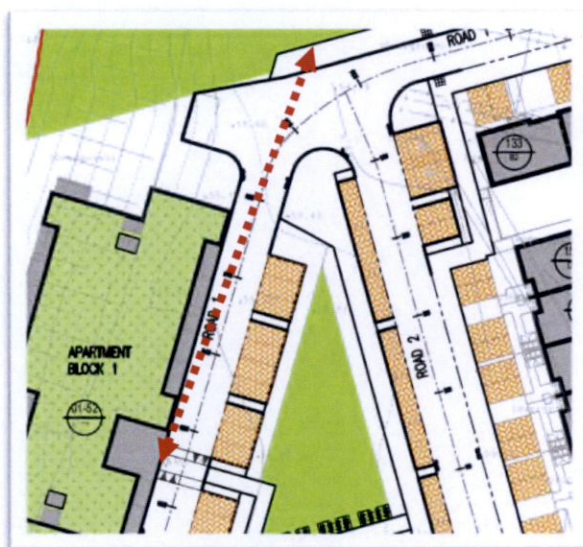
3.4 Problem

LOCATION

Drawing 21-055 P1010 Rev – Nov 2022, Apartment Block 1.

ISSUE

There is a missing link of footpath between Apartment Block 1 and the section of Road 1 to the east of the junction with Road 2. This could lead to pedestrians travelling on the carriageway which has not been designed as a shared use surface. Visitors parking in front of Apartment Block 1 would also have to travel along the carriageway to the access point to the building.



RECOMMENDATION

It is recommended that the grassed verge to the rear of the perpendicular parking spaces be changed to a footpath and that a suitable crossing of Road 1 be provided.

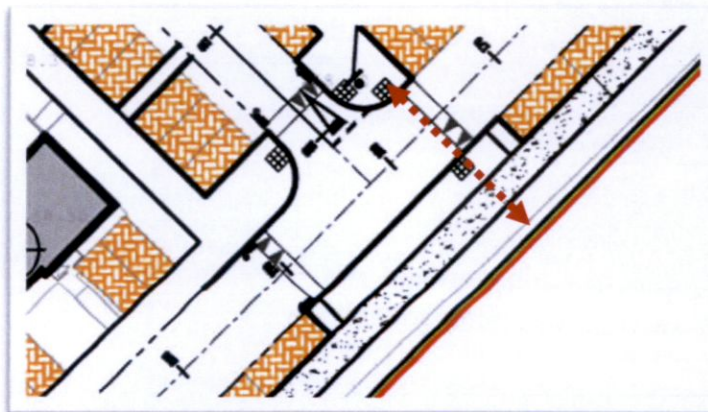
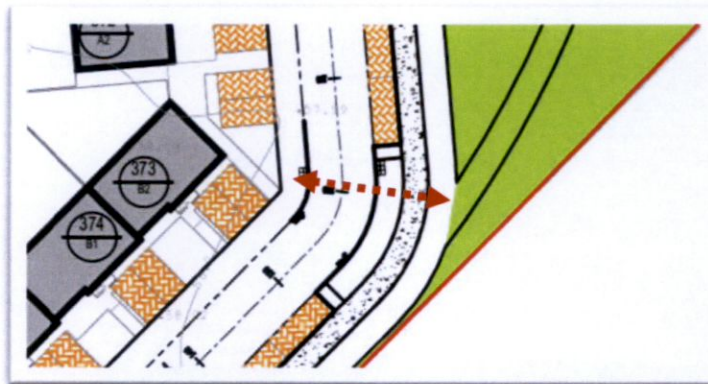
3.5 Problem

LOCATION

Drawing 21-055 P1010 Rev – Nov 2022, Road 4.

ISSUE

There is no proposed gap in the verge for pedestrians to access the residential units/internal roads at the junction of Road 9 and at the crossing point at house no. 373. This could lead to slips and falls in the grassed verge.



RECOMMENDATION

Provide suitable gaps in the verge at the pedestrian desire lines.

4 Observations

4.1 Observation

It is assumed that the yield signs and markings at the end of Road 1 are graphical errors and will be on the opposite side of the carriageway.

4.2 Observation

Public lighting details have not been provided to the Audit Team.

5 Quality Audit Statement

This portion of the Quality Audit has been carried out in accordance with the guidance given in DMURS and takes into consideration the principles approaches and standards of that Manual.

The quality audit has been carried out by the persons named below who have not been involved in any design work on this scheme as a member of the Design Team.

Norman Bruton

Signed:



(Quality Audit Team Leader)

Dated:

02-10-2023

Owen O'Reilly

Signed:



(Quality Audit Team Member)

Dated:

02-10-2023

Appendix A

List of Material Supplied for this Quality Audit;

Drawing 21-055-P1111 Swept Path Layout for a Refuse Vehicle
Drawing 21-055-P1112 Swept Path Layout for a Aerial Platform
Drawing 21-055-P1120 Road Details and Sections
Drawing 6268-P-003-004 - Proposed Site & Master Plan-6268-P-004
Drawing 21-055-P1010 Road Markings & Signage
Drawing 21-055-P1100 Road General Arrangement
Drawing 21-055-P1101 Road Layout, Sheet 1 of 2
Drawing 21-055-P1102 Road Layout, Sheet 2 of 2
Drawing 21-055-P1110 Swept Path Layout for a Fire Tender

Updated Drawing Received on in September 2023.

Drawing 6268-P-004 Rev 02 (BKD Architects)

Appendix B

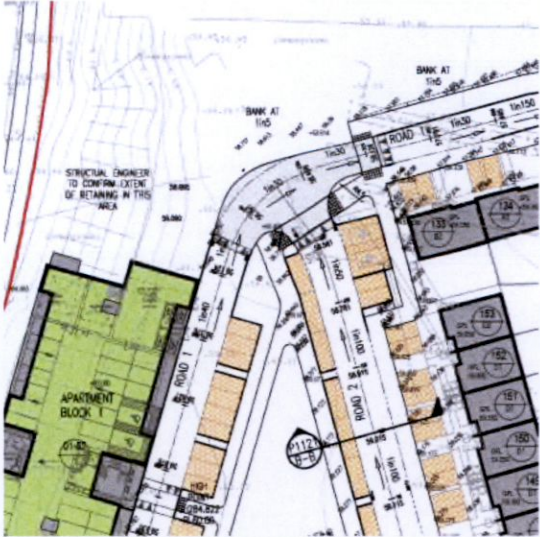
Feedback Form


QUALITY AUDIT FORM – FEEDBACK ON QUALITY AUDIT REPORT

Scheme: Clonburris SDZ, Quintain

Quality Audit- Stage 1 (Planning)

Date Audit (site visit) Completed 13-10-2022

Paragraph No. in Quality Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
3.1	Yes	Yes	Raised ramp to be 75mm high, leaving 50mm kerb upstand. The kerb is only to be flush 0-6mm at crossing point and raised in between to 50mm height to prevent kerb overrun.	
3.2	Yes	Yes	<p>It is proposed to alter the road layout at the junction between Roads 1 and 2 (shown in image snip below), to improve the angle of approach and provide adequate visibility for all. It is also proposed to provide a raised table across this junction. Priority at this junction is proposed to be clearly defined via the introduction of a STOP on approach to the raised table from road 2.</p> 	
3.3	Yes	Yes, assessment undertaken,	Given both the constraints of the existing site conditions and the layout of the infrastructure planning permission, it is deemed unfeasible	Yes

Paragraph No. in Quality Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
		alternative measures proposed	<p>to provide a usable cycle connection between the R120 and the railway overbridge. In this regard, we refer you to the feasibility report prepared by BSM. Please refer separate attached draft document.</p> <p>It is propose to provide an alternative off-road cycle connection to cross the railway. This route will pass along the northern edge of the proposed open space (adjacent to the railway boundary) before turning south and connecting to the junction of the overbridge ramp and the link road. The proposed off-road cycle track is shown in orange below.</p> <p>Cyclist connecting to the R120 can follow a combination of Local Streets and segregated cycle lanes along the link road. (Shown in Purple in the image below)</p> 	
3.4	Yes	Yes	<p>We are proposing a raised crossing at the northern end of the scheme, providing a safe VRU linkage point between the apartments and the path on the northern boundary. This is proposed to link with a new footpath that passes through the open space fronting the apartments, affording direct and safe access and desire line path linkages for residents and VRUs.</p>	

Paragraph No. in Quality Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
3.5	Yes	Yes	Drawings to be updated to show the addition of gaps in the verges for pedestrian access.	

Signed..... *Richard Lister*
Design Team Leader

Date08/12/22.....

Signed..... *Norman Bruton*
Audit Team Leader

Date:02/10/2023.....

Note: No changes required due to September 2023 update.

Appendix C

Problem Location Plan.