

**Title: QUALITY AUDIT**

**INCLUDING**

**Road Safety Audit, Access Audit, Cycle Audit and Walking Audit.**

**For;**

**Mixed Use Development at Former Blakes and Esmonde Motors Site, Stillorgan Co. Dublin.**

**Client: Cairn Homes/Waterman Moylan.**

**Date: February 2022**

**Report reference: 1390R01**

**VERSION: FINAL (March 2022)**

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## 1.0 Introduction

This report was prepared in response to a request from Mr. Niall Cawley, Waterman Moylan Consulting Engineers, for a Quality Audit for a proposed mixed use development at the former Blakes and Esmonde Motors site in Stillorgan, Co. Dublin.

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 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 Quality 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 15<sup>th</sup> of February 2022. The weather at the time of the site visit was dry and the road surface was damp.

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**.

## 2.0 Background

It is proposed to construct a Strategic Housing Development (SHD) on the former Blakes and Esmonde Motors site in Stillorgan, Co. Dublin.

The proposal is a mixed-use scheme of “Built to Rent” BTR apartments, retail/commercial, childcare and residents’ facilities laid out in 6 no. blocks ranging in height from 3-9 storeys (over basement) comprising 377 no. apartment units (21 no. studios, 189 no. 1 beds, 159 no. 2 beds, & 8 no. 3 beds).

- Building 1 (Part 3 - 6 & 7 storeys) consists of 77 no. apartments comprising 13 no. studio apartments, 30 no. 1 bedroom apartments, 33 no. 2 bedroom apartments, 1 no. 3 bedroom apartment.
- Building 2 (Part 3 – 5, 7 & 8 storeys) consists of 95 no. apartments comprising 7 no. studio apartments, 57 no. 1 bedroom apartments, 24 no. 2 bedroom apartments, 7 no. 3 bedroom apartments.
- Building 3 (9 storeys) consists of 54 no. apartments comprising 18 no. 1 bedroom apartments and 24 no. 2 bedroom apartments.
- Building 4 (7 storeys) consists of 60 no. apartments comprising 42 no. 1 bedroom apartments & 18 no. 2 bedroom apartments.
- Building 5 (7 storeys, with lower ground floor to the west) consists of 62 no. units comprising 1 no. studio apartment, 26 no. 1 bedroom apartments, & 35 no. 2 bedroom apartments.
- Building 6 (5 & 6 storeys, with lower ground floor to the south) consists of 29 no. units comprising 16 no. 1 bedroom apartments and 13 no. 2 bedroom apartments.
- The development also includes: c. 841 sq.m. retail / restaurant / café floorspace (5 no. units at ground floor/lower ground floor/plaza levels), a (double height part) community sports hall including ancillary areas (c. 906 sq. m), and a creche of c. 215 sq. m:
  - Residential amenity floorspace (c. 1,257 sq. m).
  - Public open space, communal open space for resident access only;
  - Basement car parking spaces (119 no.) and 1 no. set down surface car parking space as well as 771 no. cycle spaces and vehicular access to the site will be from ‘The Hill’.

The application provides for upgrades to the public road network in compliance with the Stillorgan Village Area Movement Framework Plan and the Roads Department. The proposed works to the public realm include: -

- (a) Retention of the existing layout at the junction of Lower Kilmacud Road with the N11 Stillorgan Road.
- (b) Retention of the existing four lane link on Lower Kilmacud Road between the N11 Stillorgan By-Pass and Dublin Road.
- (c) Closure of the existing left turn slip from the Lower Kilmacud Road to The Hill.
- (d) Alterations to the existing street layout on The Hill comprising right turn to Lower Kilmacud Road, extended loading bays, on-street car parking and widened footpath on the west side.

Vehicular access to the car parking in the north and south basements will be from two shared locations

on The Hill. Access to the cycle parking will be from the same two shared locations on The Hill via internal stairs and lifts. Pedestrian access will be from a number of locations on Lower Kilmacud Road and The Hill.

Servicing and deliveries will be accommodated on The Hill. Waste storage for the residential blocks will be located in the basement under each block. A centralised waste storage area with access from ground level will be provided for the non-residential elements of the development. Bins will be collected weekly from the bin collection area on The Hill.

Existing public transport in the area of Stillorgan Village Centre is primarily bus based with links to the DART at Blackrock and LUAS at Kilmacud. The bus services include: -

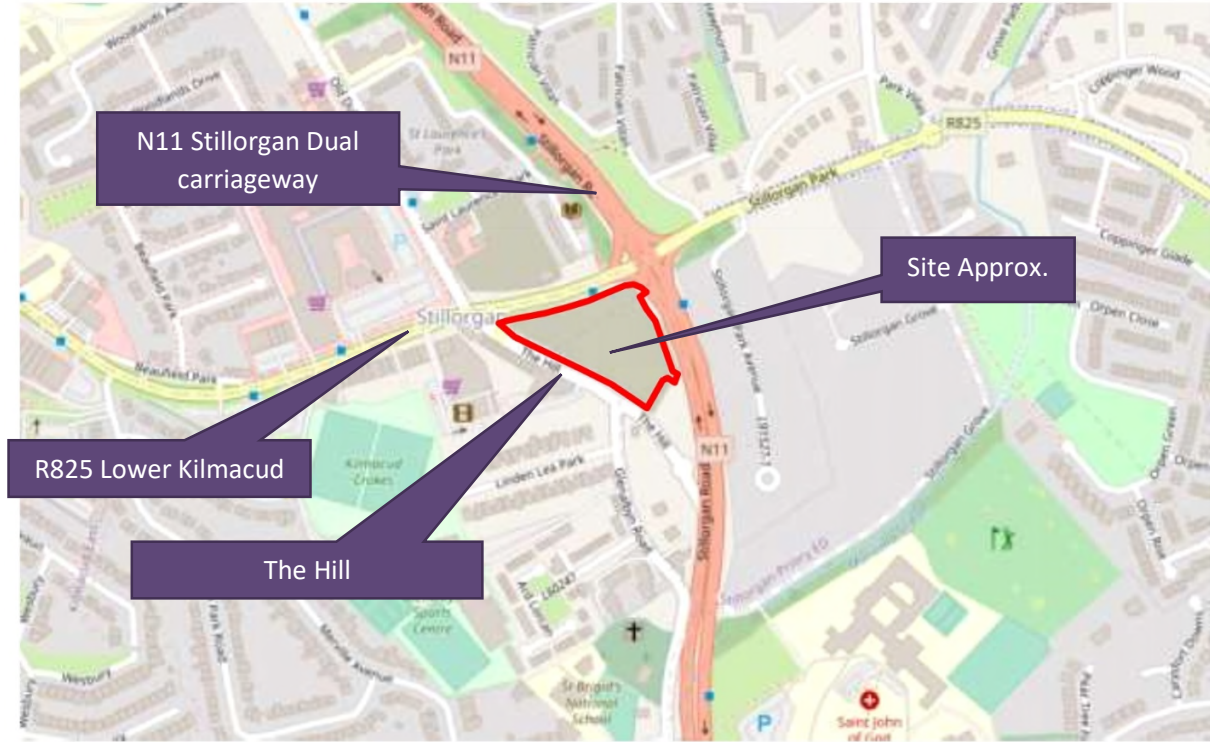
- Dublin Bus stage services
- GoAhead stage services
- Aircoach Links (Airport)
- Wexford Bus

The primary bus stops in the Stillorgan area are located on the N11 at the junction with Lower Kilmacud Road, less than 5 minutes' walk from the proposed development.

The speed limit on the N11 is 60km/hr The speed limit on Lower Kilmacud Road and The Hill is 50km/hr.

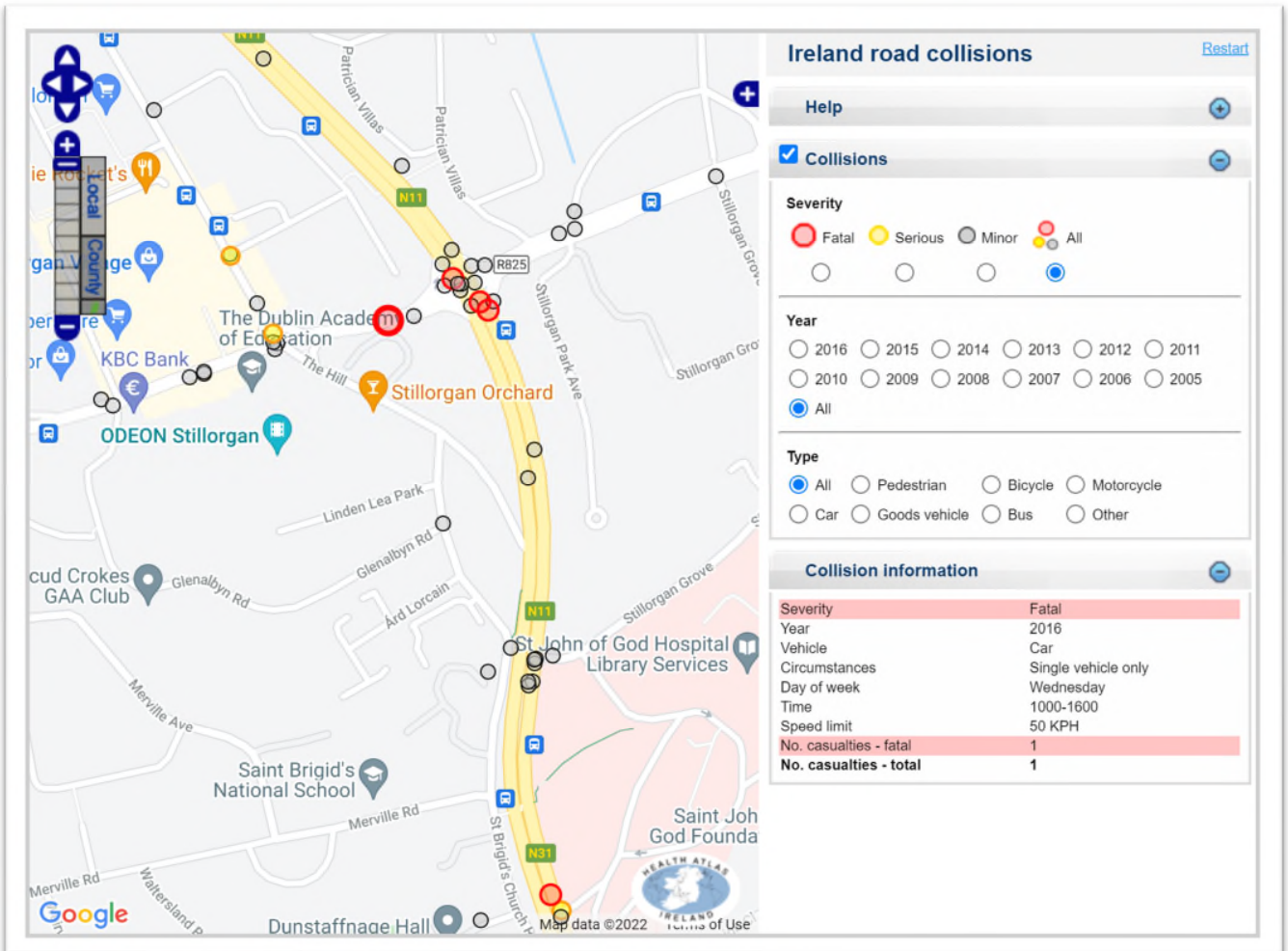
The scheme has been designed in line with the objectives set out in the Design Manual for Urban Roads and Streets (DMURS).

The site location map is shown below.



Site Location Map (image courtesy of openstreetmap.org)

The Road Safety Authority’s website ([www.rsa.ie](http://www.rsa.ie)) shows that there were three fatal collision at the N11 junction and one fatal collision on the R825 in the 12 year period 2005 to 2016. All three fatal collisions at the N11 junction involved pedestrians.



### 3.0 Issues Identified in the Stage 1 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				✓	✓
3.6				✓	✓
3.7				✓	✓
3.8	✓			✓	✓
3.9		✓		✓	✓
3.10		✓		✓	✓

#### 3.1 Problem

*LOCATION*

Drawing 20-071 P011 Rev -Proposed Road and Building Levels, Lower Kilmacud Road.

*ISSUE*

There is a discontinuity in the cycle facilities along Kilmacud Road Lower. This will lead to cyclists sharing space with pedestrians and to some cyclists opting to enter the carriageway. This could increase the risk of cyclists being struck by passing vehicles on the busy four lane road.





*RECOMMENDATION*

It is recommended that a cycle track of constant width be provided along the full length of the development with perhaps only a slight throttling at the bus stop area where pedestrian have to cross in line with BusConnects standard details.

3.2 Problem

*LOCATION*

Drawing 20-071 P011 Rev -Proposed Road and Building Levels, Lower Kilmacud Road?N11 Junction

*ISSUE*

It is proposed to start a cycle track on Lower Kilmacud Road after the N11 junction. This cycle track does not tie into any existing facilities. Cyclists turning left from the N11 will have to enter the carriageway at the left turn lane where there is limited width. This could lead to collisions with turning vehicles.



*RECOMMENDATION*

It is recommended that a continuous link be made between the proposed cycle lane and the cycle track along the N11.

3.3 Problem

*LOCATION*

Drawing 20-071 P011 Rev -Proposed Road and Building Levels, N11.

*ISSUE*

There is a raised cycle track along the N11. It is proposed to link a footpath from the development to this cycle track. The mixing of pedestrians and cyclists on the relatively narrow path could lead to collisions.



*RECOMMENDATION*

It is recommended that a segregated footpath be provided for pedestrians or that pedestrians be routed to Kilmacud Road Lower where they have segregated facilities.

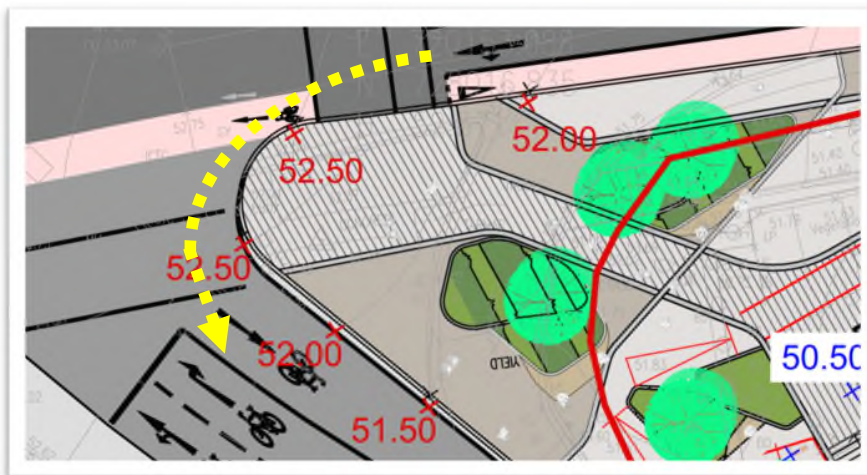
### 3.4 Problem

*LOCATION*

Drawing 20-071 P011 Rev -Proposed Road and Building Levels, Left turn from Lower Kilmacud Road to The Hill.

*ISSUE*

It is unclear if a heavy goods vehicle will be able to undertake the acute left turn from Lower Kilmacud Road to The Hill without entering the right turning lane or crossing the stop line. If this manoeuvre cannot take place this could lead to sudden braking and rear-end collisions.



*RECOMMENDATION*

It is recommended that a swept path analysis be carried out to ensure that the manoeuvre can be easily undertaken. If necessary, the stop line on The Hill should be set back.

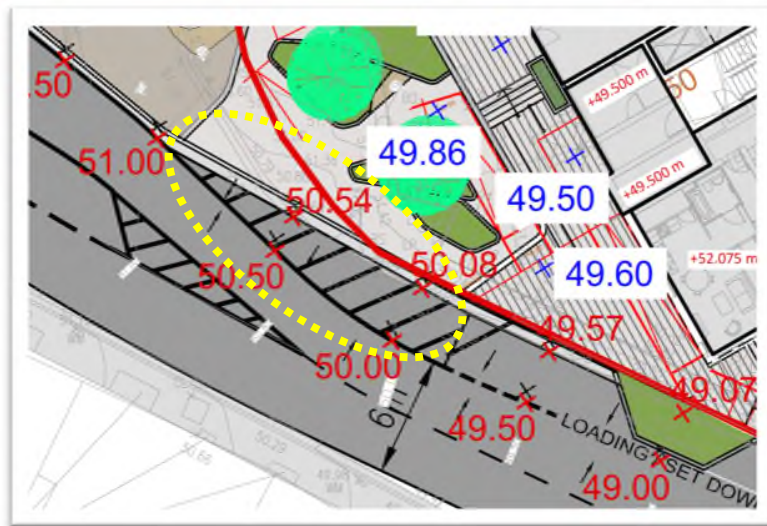
### 3.5 Problem

*LOCATION*

Drawing 20-071 P011 Rev -Proposed Road and Building Levels, The Hill.

*PROBLEM*

There is a risk that the hatched area in advance of the loading bays/set-down area on The Hill will be used as a parking area for those using the retail units on the opposite side of the development. This could lead side-swipe collisions of passing vehicles.



*RECOMMENDATION*

It is recommended that a solid buildout be provided to avoid parking and to help define the road layout for drivers.

### 3.6 Problem

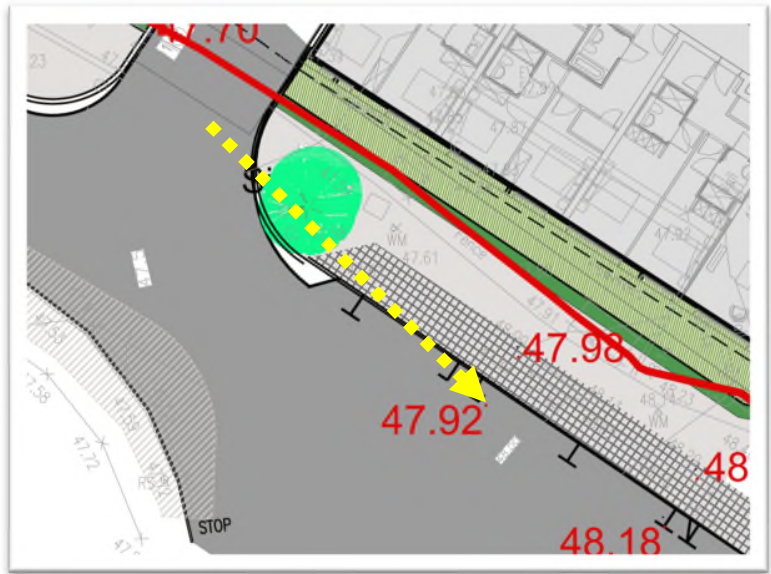
*LOCATION*

Drawing 20-071 P012 Rev -Proposed Road and Building Levels, The Hill.

*ISSUE*

There are 4 no. car parking spaces to the south east of the south basement access on The Hill. Vehicles parked in these spaces may block a drivers visibility to their left as they exit the basement.





*RECOMMENDATION*

It is recommended that the spaces be provided outside the visibility splay.

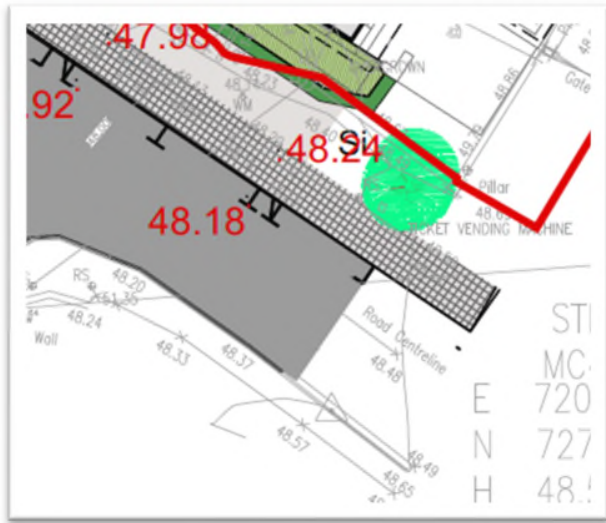
**3.7 Problem**

*LOCATION*

Drawing 20-071 P012 Rev -Proposed Road and Building Levels, The Hill.

*ISSUE*

There is a risk that visitors driving to the development, unfamiliar with the area, may not realise that they cannot continue south on The Hill beyond the Glenalbyn Road junction as it is primarily a one way road except for Gardaí. A lack of warning could lead to drivers travelling south resulting in side-swipe collisions with northbound vehicles or in extreme circumstances wrong way driving on the N11 dual carriageway.



*RECOMMENDATION*

It is recommended that additional warning signage and road markings be provided at the Glengalbyn Road junction so that drivers do not travel beyond the junction and do not have to U-turn.

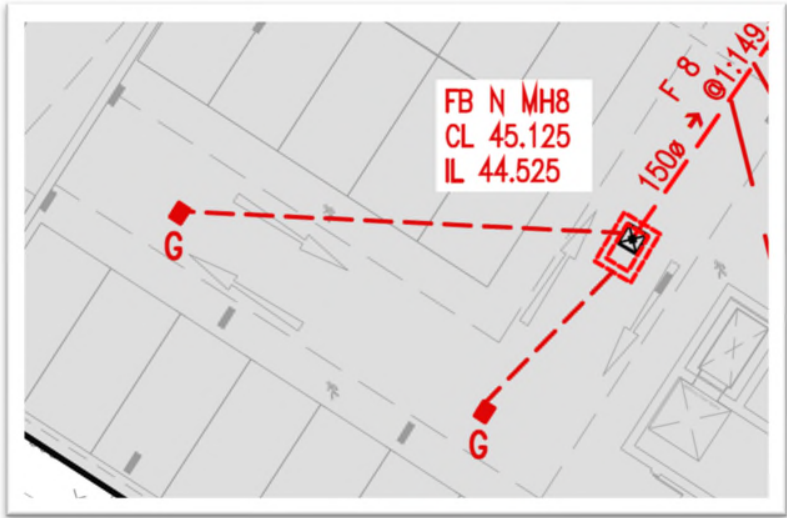
3.8 Problem

*LOCATION*

Drawing 20-071 P023 Rev -Proposed Basement Drainage Layout, Southern Basement.

*ISSUE*

There is a section of the southern basement which has to take two way traffic. It is unclear if there will be sufficient room for two way traffic and pedestrians given the narrow lane width and the presence of structural columns. This could lead to material damage collisions.



*RECOMMENDATION*

It is recommended that the layout be modified if insufficient space is available for two way traffic. It is assumed that column locations are drafting errors at this location and elsewhere within the basements.

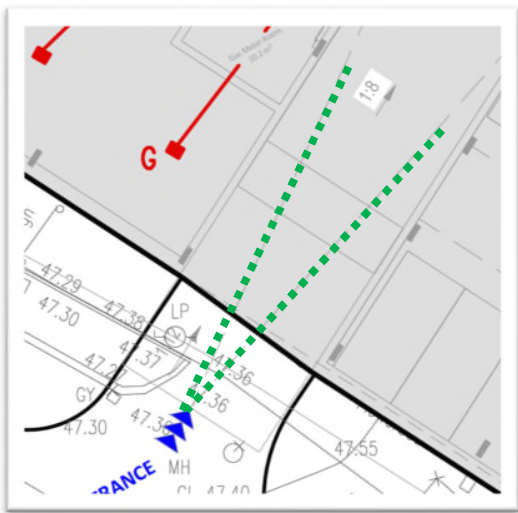
3.9 Problem

*LOCATION*

Drawing 20-071 P023 Rev -Proposed Basement Drainage Layout, Southern Basement.

*ISSUE*

The 1:8 ramp into the southern basement extends into the footpath along The Hill. A steep crossfall on the footpath could lead to falls for the nobility impaired.



*RECOMMENDATION*

It is recommended that the ramp terminates at the rear of the footpath and that normal footpath crossfalls only are provided.

### 3.10 Problem

*LOCATION*

Drawing 20-071 P012 Rev -Proposed Road and Building Levels, The Hill.

*ISSUE*

The access to the southern basement is treated similar to a public road with dominance for vehicular traffic over the footpath. This could lead to drivers exiting the basement at relatively high speeds without due attention for crossing pedestrians.



*RECOMMENDATION*

It is recommended that pedestrians be given more prominence/priority through the use of a crossing with contrasting materials.

## 4 Observations

### 4.1 Observation

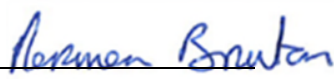
It is assumed that the internal walkways provide accessibility for all to common/green areas and that gradients are provided in accordance with the guidance in Part M of the Building Regulations.




## 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: 10/3/2022

**Owen O'Reilly**                      Signed:   
**(Quality Audit Team Member)** Dated: 10/3/2022

## Appendix A

### List of Material Supplied for this Quality Audit;

- Drawing 20-071-P023-Proposed Basement Drainage Layout
- Drawing 20-071-P001-Site Location Plan
- Drawing 20-071-P010-Proposed Road and Building Levels-GA Plan
- Drawing 20-071-P011-Proposed Road and Building Levels-Sht 1 of 2
- Drawing 20-071-P012-Proposed Road and Building Levels-Sht 2 of 2
- Drawing 20-071-P020-Proposed Drainage Layout-GA Plan
- Drawing 20-071-P021-Proposed Drainage Layout-Sht 1 of 2
- Drawing 20-071-P022-Proposed Drainage Layout-Sht 2 of 2

#### **Material Provided as Background**

- Report 20-071r.102 MMP
- Report 20-071r.103 Car Parking Rationale
- Report 20-071r.104 DMURS
- Report 20-071r.105.CMP
- Report 20-071r.106 T&TA

## Appendix B

### Feedback Form

**QUALITY AUDIT FORM – FEEDBACK ON QUALITY AUDIT REPORT**


Scheme: SHD Blakes Site

Quality Audit- Stage 1


Date Audit (site visit) Completed 15-2-2022

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	See attached updated drawing No. 20-071-P111. The drawings has been updated to reflect a continuous cycle lane except for one section which the cycle lane is broken to allow pedestrians leaving a bus at the bus stop to cross to the footpath	Yes
3.2	Yes	No	The off carriageway area adjacent to the N11 is a cycle lane and not a footpath, this is evident from the junction of N11 and The Hill where the cycle lane drops at crossing point before raising back off road, the cyclelane becomes a shared surface at road crossing at junction of N11 and Lower Kilmacud Road, to join up the both cyclelanes and indicate the shared surface at crossing point we have now indicated ladder and tramlines paving to show same, see attached Waterman Moylan Drawing No. 20-071-P111 which has been updated to reflect same	Yes
3.3	Yes	Yes	We can confirm that this entrance is for cyclists only as it is the entrance to cycle parking with fencing to prevent pedestrians walking through this area and on to cycle track	Yes
3.4	Yes	Yes	Please see attached Waterman Moylan Drawing No. 20-071-P176	Yes

			as required, this indicates how HGV's can maneuver turn	
3.5	Yes	Yes	We can confirm solid build out footpath will be in place rather than hatch line marking, see attached updated drawing no. 20-071-P111 which indicates same.	Yes
3.6	Yes	Yes	see attached drawing no. 20-071-P180 which indicates sightlines at this area as required.	Yes
3.7	Yes	Yes	see attached drawing no. 20-071-P185 which indicates signage at this area as required.	Yes
3.8	Yes	Yes	We can confirm column location were a drafting area and are located off the carriageway, the operation speed of vehicles within the basement are expected to be below 10kmph, due to low operation speeds and irregular vehicles movements, circa 2 per day max, that there is sufficient space for vehicles and pedestrians	Yes
3.9	Yes	Yes	Levels where the footpath crosses the road have now been updated and the crossfall at crossing point is now 1:50, see attached updated drawing no. 20-071-P112 as required	Yes
3.10	Yes	Yes	We have updated the layout to show colored tarmac to indicate the crossing point, see attached updated drawing no. 20-071-P112 as required	Yes

Signed   
Design Team Leader

Date ...03/03/2022.....

Signed   
Audit Team Leader

Date: ...10/3/2022...

## Appendix C

### Problem Location Plan.



# Sheet 1 of 2



# Sheet 2 of 2