



**OCSC**

O'CONNOR | SUTTON | CRONIN

Multidisciplinary  
Consulting Engineers

**PROPOSED STRATEGIC HOUSING DEVELOPMENT  
'THE CONNOLLY QUARTER': DESIGNERS' RESPONSE  
TO QUALITY & ROAD SAFETY AUDITS**

**OXLEY HOLDINGS LIMITED**

**PROJECT NO. 0635**

**30<sup>th</sup> SEPTEMBER 2019**



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# **Proposed Strategic Housing Development**

## **'The Connolly Quarter'**

**Designers' Response to Quality & Road  
Safety Audits**



## NOTICE

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### DOCUMENT CONTROL & HISTORY

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**O'CONNOR SUTTON CRONIN & ASSOCIATES**  
**MULTIDISCIPLINARY CONSULTING ENGINEERS**  
**REDEVELOPMENT AT CONNOLLY STATION DUBLIN**  
**DESIGNERS' RESPONSE TO QUALITY & ROAD SAFETY AUDITS**  
**PROJECT NO. 0635**

**30<sup>th</sup> SEPTEMBER 2019**

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**APPENDIX A:      QUALITY & ROAD SAFETY AUDIT REPORT**

## 1. EXECUTIVE SUMMARY

O'Connor Sutton Cronin & Associates, Multidisciplinary Consulting Engineers (OCSC) appointed Bruton Consulting Engineers, on behalf of its client Oxley Holdings Limited, to undertake an independent Quality Audit and Road Safety Audit to support a planning application for the redevelopment of a site at Connolly Station Car Park, Dublin 1. As part of the redevelopment works, and in order to gain access to basement and other level car parking areas within the site, a new junction is being formed off Oriel Street west of its junction with Seville Place and close to the existing Oriel Street/Oriel Hall junction

The Study Areas for the Quality Audit and Road Safety Audit were agreed with Dublin City Council and, for the Quality Audit, comprised an extended area from Busáras in the southwest to Custom House and North Wall Quays in the south, Guild Street in the east and Seville Place in the northeast.

This report forms a detailed and integrated Designers' Response to each of the various problems and comments set out in the Quality Audit and Road Safety Audit.

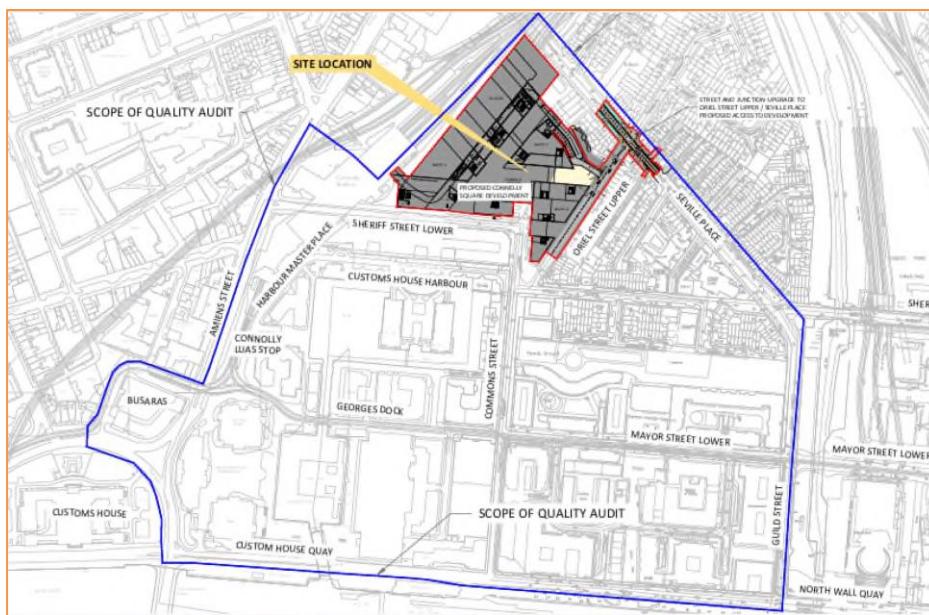
The designers and applicants are mindful of the condition of some areas of public realm in the general area, including those raised in the Quality Audit. The applicants are satisfied to work with the Roads and Planning Authority in respect of specified design and improvement works to the relevant areas of public realm.

It is a requirement from our Client (the Developer) that the funding of these improvements would be fully offset against development contributions levied against the developer.

## 2. INTRODUCTION

O'Connor Sutton Cronin & Associates, Multidisciplinary Consulting Engineers (OCSC) have been appointed as Civil, Structural & Transportation Engineers by Oxley Holdings Limited in respect of the redevelopment of Connolly Station, Dublin. In that role, OCSC appointed Bruton Consulting Engineers to undertake an independent Quality Audit and Road Safety Audit to support a planning application for the redevelopment of the site.

The Study Area for the Quality Audit was agreed with Dublin City Council and comprised an extended area from Busárus in the southwest to Custom House and North Wall Quays in the south, Guild Street in the east and Seville Place in the northeast – see blue outline in Figure 1.



*Figure 1: Scope of Quality & Road Safety Audits*

As part of the redevelopment works, and in order to gain access to basement and other level car parking areas within the site, a new junction is being formed off Oriel Street west of its junction with Seville Place and close to the existing Oriel Street/Oriel Hall junction – Figure 2 over. An independent Road Safety Audit was carried out in respect of this proposed access and junction.

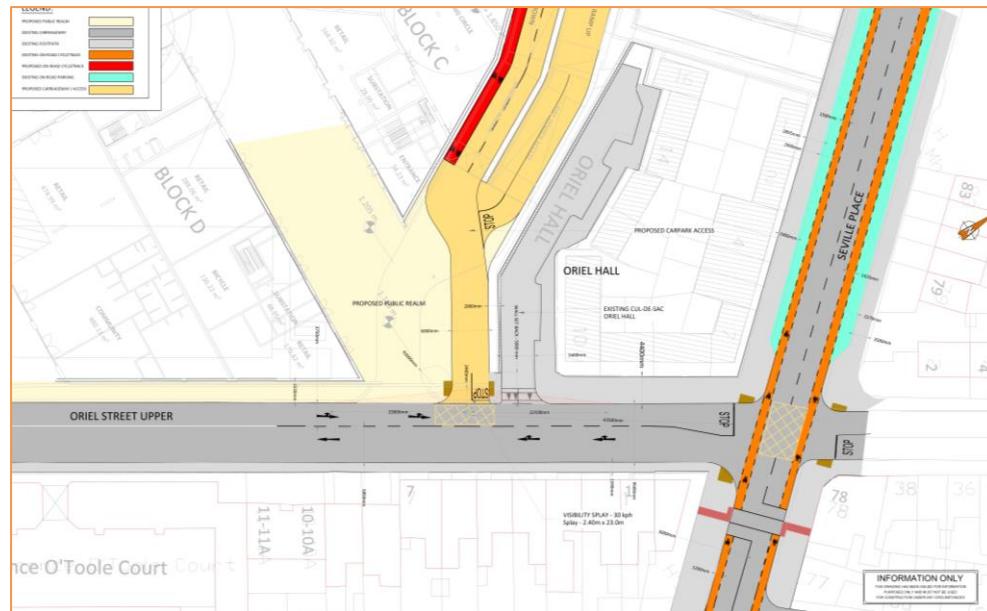


Figure 2: Proposed Access to Site

This report is a Designers' Response to the various issues raised in the Quality Audit & Road Safety Audit. The report includes commitments by the applicants in respect of particular works to be undertaken as part of a proposed planning application. The report follows a standard '*Problem-Recommendation-Response*' format. A copy of the Quality & Road Safety Audit Report is included in full in Appendix A of this report with Figure 3 below useful in locating the various problems raised in the audits.

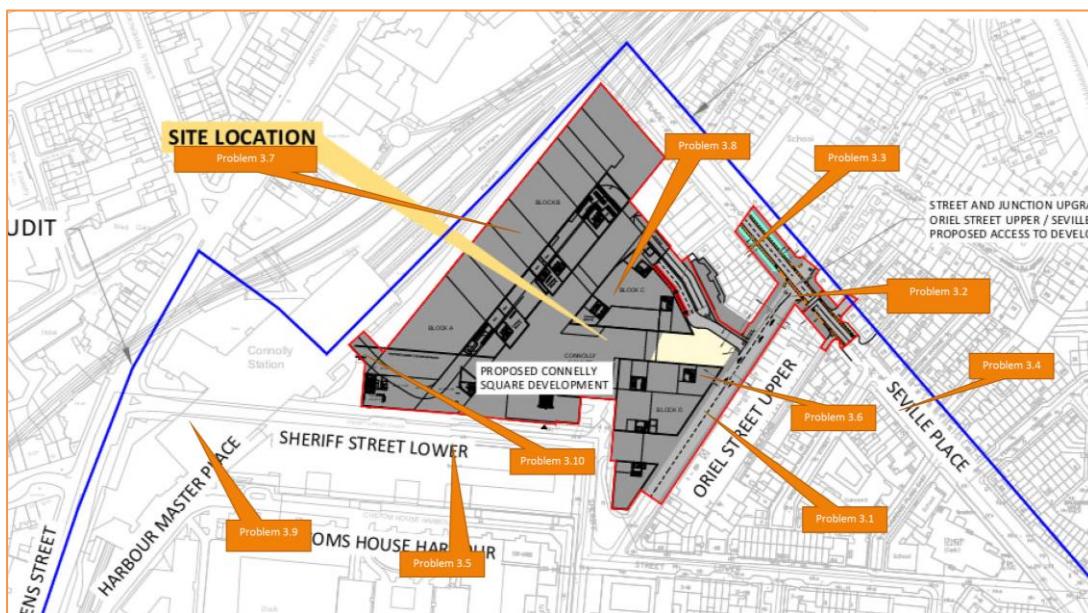


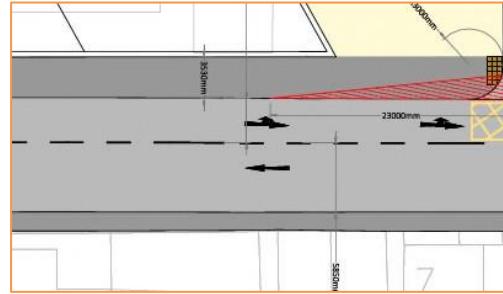
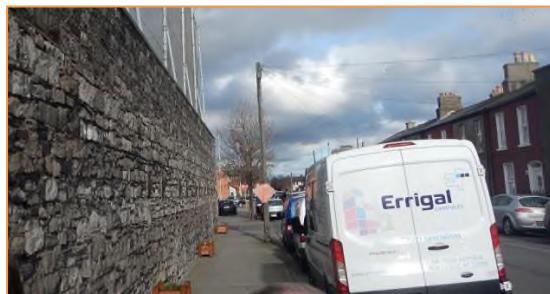
Figure 3: Audit 'Problem' Locations

### 3. DESIGNERS' REONSE TO AUDIT PROBLEMS

#### Problem 3.1

Location: Preferred Junction Option – Oriel Street Plan Layout.

**Problem:** There is currently on-street parking on both sides of Oriel Street Lower. The drawing shows that parking will be removed on the development side of the street. This may lead to locals parking partially on the footpath if they do not have alternative parking facilities. This could lead to hazards for pedestrians and blocking of sightlines for drivers exiting the new development.



**Recommendation:** It is recommended that a parking review be carried out to ensure that enough parking space is retained for local residents. If sufficient capacity is not provided, then alternative additional parking should be provided, and prohibitive measures be provided to avoid parking on footpaths or close to the proposed access.

**Response:** The applicants are satisfied to undertake a Parking Review locally as recommended. Oriel Street is 125 m long from Oriel Hall to Commons Street and accommodates 25 parallel parked vehicles on either side of the road along with some further vehicles between Oriel Hall and Seville Place. The sightline requirements for the proposed access will result in the loss of 5 no. spaces on the north side of the street i.e. about 10% of the on-street total. Off-street in-courtyard parking is provided for the DCC residential development on the southwest end of the site which will be unaffected by the development, as will the on-street parking on Oriel Hall. In that context the overall impact on on-street parking is considered to be minimal.

### Problem 3.2

Location: Preferred Junction Option – Oriel Street Plan Layout.

**Problem:** It is envisaged that the proposed development will attract cyclists from the Amiens Street direction that will travel south-west on Seville Place and turn right onto Oriel Street Lower. Currently cyclists have to enter the carriageway to turn right or travel to the toucan crossing on the opposite side of the junction. It is unlikely that cyclists would undertake the latter due to the extra journey time and the former would put them at greater risk of being struck by a passing motorised vehicle.



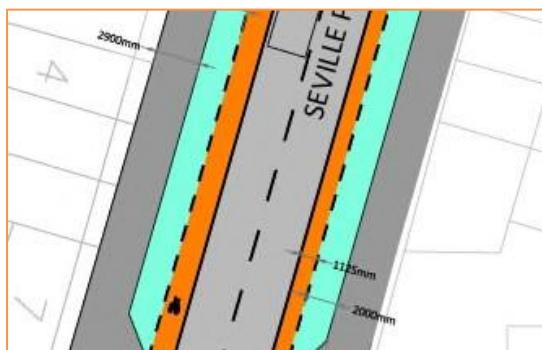
**Recommendation:** It is recommended that the Seville Place /Oriel Street Upper/Oriel Street Lower junction be signalised with a toucan crossing facility on the northeastern leg of the junction. Any adjustments to this strategic regional road should take into account knock on effects at other junctions as part of an overall traffic review as excessive delays at one location could lead to other safety issues at adjacent junctions.

**Response:** The applicants are satisfied to work with the Roads Authority to investigate the traffic impact of any signalisation on the Seville Place - Oriel Street junction with a view to introducing a Toucan Crossing as recommended.

### Problem 3.3

Location: Preferred Junction Option – Oriel Street Plan Layout & Site Observation.

**Problem:** It was observed during the site visit that there is no buffer zone between parked on-street cars along Seville Place and the on-road cycle lane. A replica situation is presented in the drawing. This could lead to collisions between cyclists and opening car doors of parked vehicles or cyclists losing control as they swerve to avoid opening doors. The Audit Team acknowledge that there is limited road space available.



**Recommendation:** It is recommended that an assessment of the footpath width (2.9m) be undertaken relative to its existing and future use to see if the footpath could be reduced in width to enable a buffer zone to be provided between parked vehicle and cyclists. It was observed that there is a large amount of street furniture along Seville Place which may reduce the effective width of the footpath unnecessarily.

**Response:** The proposed development will bring about a net reduction in parking on the site from 425 spaces to 208 spaces. Traffic levels on Oriel Street are quite low as are roads speeds and neither will increase as a result of the proposed development. The designers are of the view that adequate footpath widths should be maintained in order to cater for the increased pedestrian flows that will be brought about by the development – particularly on foot of the reduced car park provision. In that context the designers are of the view that the current footpath width should be maintained. The issue of a cycle buffer will be raised with the Roads Authority.

### Problem 3.4

Location: Preferred Junction Option – Oriel Street Plan Layout & Site Observation.

**Problem:** It was observed during the site visit that the cycle lanes along Seville Place are advisory only and are not operational between 7pm and 7am. These restrictions make it necessary for cyclists to share space with vehicular traffic which increases the risk of collisions between those road user groups. It is noted that the Seville Place cycle lanes lead to the Grand Canal/spencer Dock/Samuel Beckett Bridge Greenway. Continuity of dedicated cycle facilities would be beneficial.



**Recommendation:** It is recommended that where feasible, the cycle lanes should be upgraded to mandatory cycle lanes on Seville Place.

**Response:** The designers and applicants concur with this recommendation and will raise same with the Roads Authority during the course of the planning process.

### Problem 3.5

Location: Sheriff Street Lower

**Problem:** It was observed during the site visit that buses and taxis queued on Sheriff Street until they move into the official bus stops/Busárus/taxi ranks. Those vehicles were partially parked on the existing cycle lanes and footpaths along Sheriff Street Lower. It is unclear if there are any other locations that these vehicles could queue when the proposed development is complete. If the practice continues after the development is complete there is a greater risk that there would be collisions with pedestrians or cyclists given the greater number of those vulnerable road users.



**Recommendation:** It is recommended that the bus and taxi waiting areas be relocated away from the new development as the mixing of pedestrian and cyclists with these commercial vehicles will lead to collisions with the vulnerable road users. The nature of the roads in this area (Sheriff Street Lower, Commons Street and Oriel Street Lower) will be changed by the nature of the development into a mainly pedestrian area and the street scape should reflect this with priority given to pedestrians through the removal of large buses and the introduction of formal and informal pedestrian crossing points at all desire lines.

**Response:** The designers and applicant concur with this recommendation. Two possible locations for a formal crossing are noted at the Commons Road junction or the gated access to Harbour Master Place – see Figure 4 over. The preferred location is at the access to Harbour Master Place as it would be on a desire line between the Docklands employment area and Connolly Station. The applicants are satisfied to fund the design and construction of this crossing.



*Figure 4: Proposed Toucan Crossing on Sheriff Street Lower*

### Problem 3.6

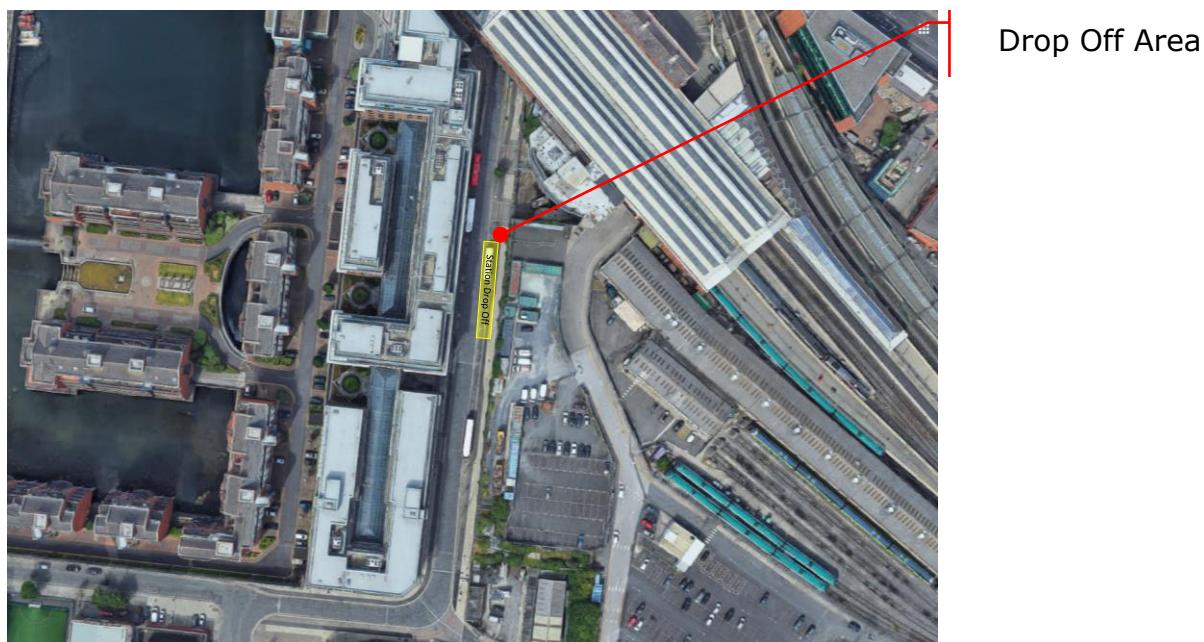
Location: Existing Connolly Station Car Park

**Problem:** The existing Connolly Station Car park will be replaced by a basement carpark. There is currently no provision for a drop off area. This will lead to drivers stopping in traffic lanes, mounting footpaths or cycle tracks.



**Recommendation:** It is recommended that a drop off area be provided along Sheriff Street Lower.

**Response:** There is ample room on either side of Sheriff Street to accommodate a Drop Off Area. It is proposed that an area on the north side, close to the bridge be provided as shown in Figure 5 below.



*Figure 5: Proposed Connolly Station Drop Off Area*

### Problem 3.7

**Location:** Existing Connolly Station Bicycle Park.

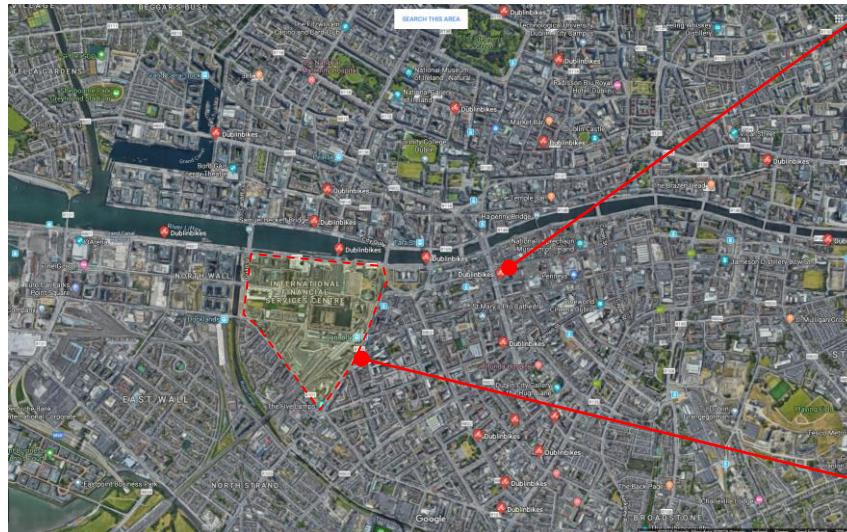
**Problem:** With increasing bicycle usage, additional bicycle parking will be required for Connolly Station. A lack of bicycle parking spaces could lead to cyclists locking bicycles to items of roadside furniture which could create hazards for pedestrians.



**Recommendation:** It is recommended that a review on the requirements for bicycle parking associated with Connolly Station be undertaken and ample bicycle parking to be provided as a result.

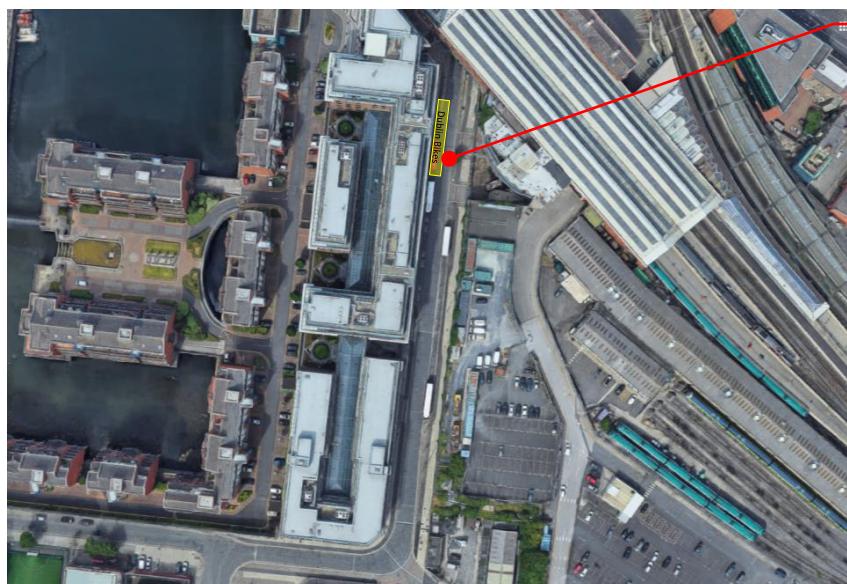
**Response:** The applicants are satisfied to liaise with Iarnród Éireann in respect of assessing cycle parking demand at the station and in identifying a potential suitable location for the provision of same within CIÉ's land ownership. It is noted that there is a distinct lack of Dublin Bikes stands in the Connolly Station – IFSC quarter of the City. There appears to be just a single stand located at North Wall Quay to serve this entire area of the City – see Figure 6 over.

The applicants will liaise with the Dublin Bikes providers in relation to introducing a facility on Sheriff Street Lower at a location close to the railway station and perhaps at a point to be vacated by relocating busses currently parking in the area – see Figure 7 over.



1

*Figure 6: Proposed Connolly Station Drop Off Area*



*Figure 7: Proposed Dublin Bikes Stand Location*

### Problem 3.8

Location: Basement Car Park

**Problem:** Allowance must be made for structural columns and electric vehicle charging points in the basement car park layout. Structural columns will reduce the available space for parking and could be hazards for drivers. Electric charging points may require additional spaces and should not be located where charging leads are trip hazards for pedestrians.

**Recommendation:** It is recommended that as the design develops that adequate provision be made for structural columns and electric vehicle charging points.

**Response:** The design and layout of basement car parking spaces will be in accordance with appropriate design standards and will take account of the location of all support columns and of any E-charging infrastructure.

### Problem 3.9

**Location:** Sheriff Street Lower, existing Cycle Track.

**Problem:** The existing cycle track along Sheriff Street Lower at the Amiens Street end has a steep vertical alignment at the access to the Irish Rail property and may be difficult for cyclists to maintain balance, particularly younger cyclists.



**Recommendation:** It is recommended that the alignment of the cycle track be reviewed and that the need for the access to Irish Rail property that is currently locked be reviewed.

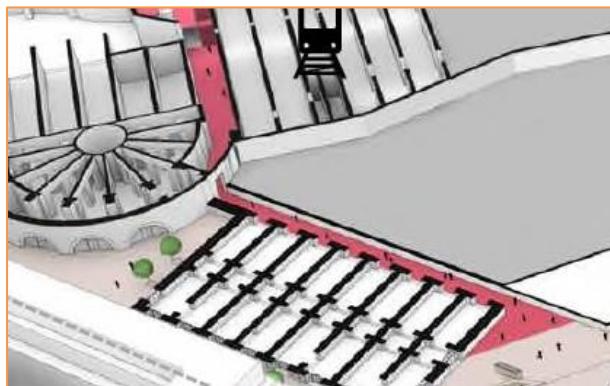
**Response:** The applicants are of the view that it will not be possible to secure an agreed closure of the occasional vehicular access to the IÉ property. In that context it is expected that a reduced level will have to be maintained at the access point off Sheriff Street Lower.

However, it would be possible to undertake a vertical realignment of the cycle track so as to ensure a smoother transition in levels and to ensure that the maximum vertical gradient is less than the 5% limit set out in the National Cycle Manual. The applicants are satisfied to undertake the design and construction of this work in consultation with the Roads Authority.

### Problem 3.10

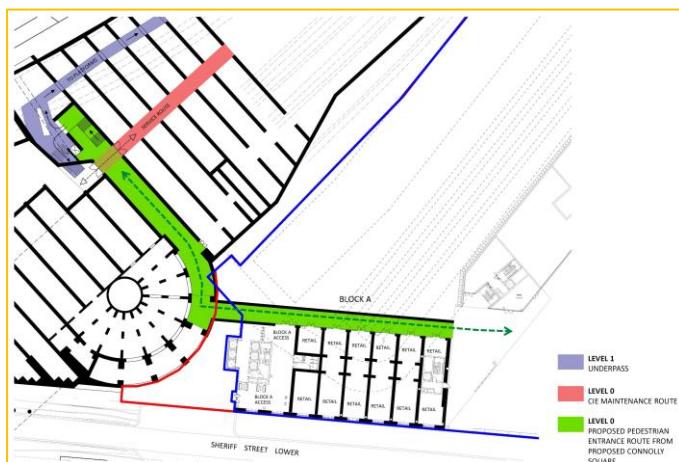
Location: Access to Connolly Station from the new development.

**Problem:** There appears to be access to the platforms of Connolly Station at two levels. It is unclear if the accesses are wide enough to cater for the volumes of people that may use the station at the same time as trains arrive/depart. Inadequate space for pedestrians may lead to squashing of vulnerable road users such as the mobility impaired, the elderly and the young.



**Recommendation:** An analysis should be carried out of likely user volumes of Connolly station from and through the new development and adequate route widths should be provided with suitable ventilation and lighting.

**Response:** The applicants are in detailed discussions with Iarnród Éireann in relation to providing a pedestrian link between the proposed development (at Connolly Square) and the DART commuter platforms in Connolly Station. An initial route for the proposed connection is shown in Figure 8.



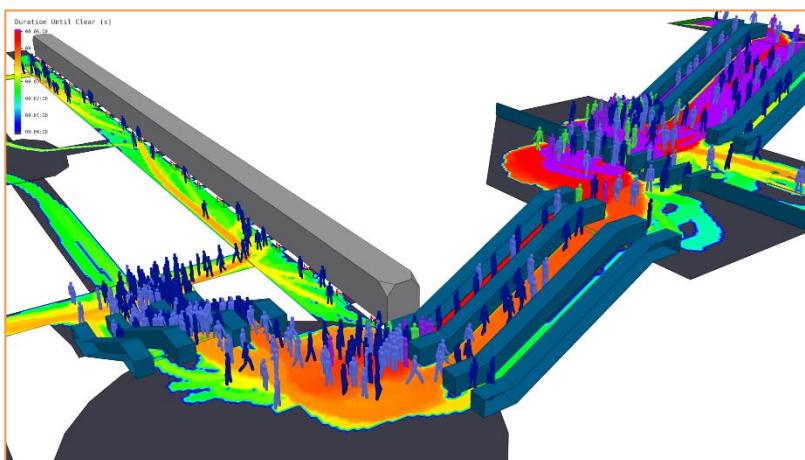
*Figure 8: Potential Pedestrian Link to Station*

The provision of the proposed link will be included in a separate S34 planning application to DCC as part of a wider commercial application and does not form part of this SHD planning application.

As part of the link evaluation process the applicants have sought proposals from Consulting Engineering firms in respect of Crowd Management & Pedestrian Flow Modelling and intend to make an appointment in this regard shortly and once the feasibility of the link proposal has been agreed. This modelling will be submitted in support of any planning application.

Whilst yet to be finalised it is expected that the modelling will comprise the following:

- Baseline demand and routeing analysis—using strategic pedestrian modelling;
- Development year demand forecast and routeing—using strategic pedestrian modelling;
- Undertake dynamic micro-simulation modelling of the journey through the “new pedestrian link” during AM and PM peak hours, to ascertain:
  - Crowd flow density;
  - Journey time assessment;
  - Sensitivity Tests.
- Recommend design improvements based on crowd modelling findings and model the amended/ updated layout to verify the capacity of the new link.



*Figure 9: Crowd & Pedestrian Modelling*

#### **4. DESIGNERS' REONSE TO AUDIT OBSERVATIONS**

**Observation I:** There is a health risk for pedestrians travelling under the railway bridges due to pigeons. Some attempts have been made to remove the pigeons but have not been fully successful.

**Response:** The designers and applicants concur with this observation. The applicants have developed detailed proposals to screen, protect and light the underside of the existing bridge so as to remove the problem of pigeon droppings and general unsightliness. The applicants are in detailed discussions with Iarnród Éireann in relation to this matter and it is intended to progress same during the course of the planning process.

**Observation II:** Although the area around the development is well served by facilities for vulnerable road users some of the infrastructure such as footpaths, kerbs etc. is damaged and represents trip hazards. It is assumed that these will be upgraded as part of ongoing maintenance programmes by Dublin City Council.

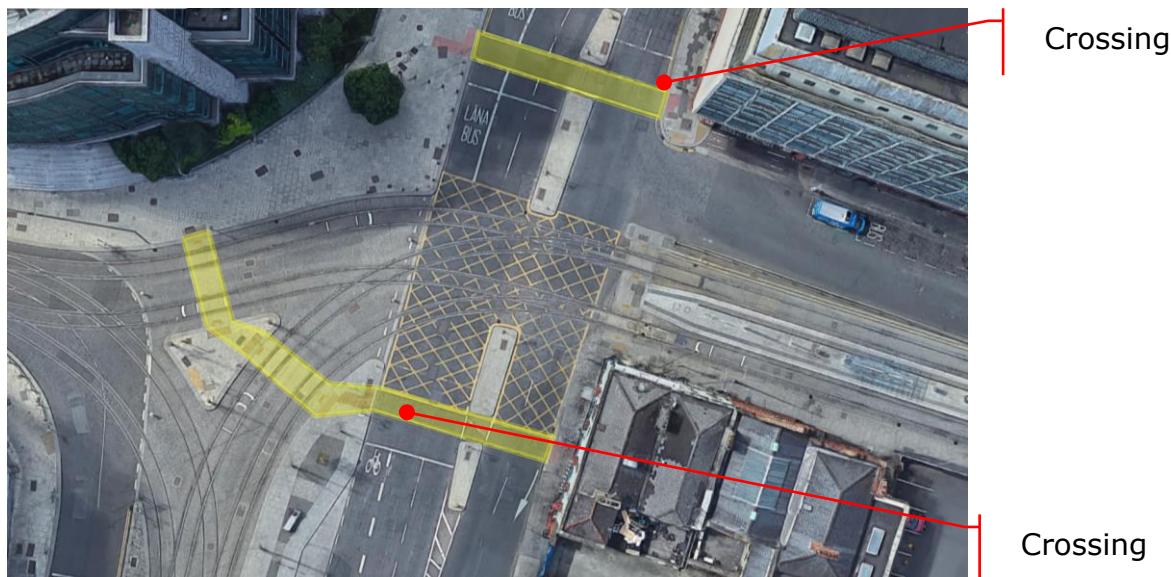
**Response:** The designers and applicants concur with this observation. It is expected that the locations identified will be improved by way of DCC's ongoing maintenance programme – see *Summary Note* on page 18 of this report.

**Observation III:** There is evidence of the underbridge on Seville Place having been struck by high vehicles. It is assumed that restrictions will be placed on vehicles during the construction phases.

**Response:** Whilst there is evidence of bridge strikes in the Seville Place area it is not considered that the bridge poses a specific height risk. Rather it appears that some abnormally high loads have struck the bridge. As part of the planning and construction process a Construction Traffic Management Plan will be developed to address agreed construction routes to and from the development. That document will inform delivery drivers of any specific precautionary measures to be adopted to avoid bridge strikes.

**Observation IV:** Pedestrians were observed crossing Amiens Street between Connolly Luas stop and Busárus Luas stop at numerous locations. However, these were able bodies persons. Signal controlled pedestrian crossing facilities are available for the mobility impaired should they choose to use them. As it is anticipated that footfall will increase with the proposed development then the size of the crossing may need to be increased.

**Response:** The designers note the observation and note further the existing crossing points between Connolly & Busárus – Figure 10. Notwithstanding the foregoing the applicants will raise same with the Roads Authority.



*Figure 10: Pedestrian Crossings at Busárus – Connolly Amiens Street*

**Observation V:** The pedestrian crossing of Amiens Street at the Talbot Street junction is only on the city centre side of the junction. It is anticipated that with the construction of the proposed development there will be a greater desire line for pedestrians to cross on the north side of the junction to get to Talbot Street and onwards to the O'Connell Street area. Such an upgrade may be included in the core bus corridor scheme.

**Response:** The designers and applicants are aware of proposals under the Clontarf to Amiens Street Cycle Scheme to enhance the stretch of Amiens Street between the junction with Talbot Street and Foley Street (and indeed wider afield as far as

Clontarf). Figure 11 below is an extract from the approved Part VIII proposals for the scheme and shows a new toucan crossing to be provided at the Foley Street junction in addition to the Talbot Street junction. The designers and applicants are of the view that this adequately addresses the audit team's observation.

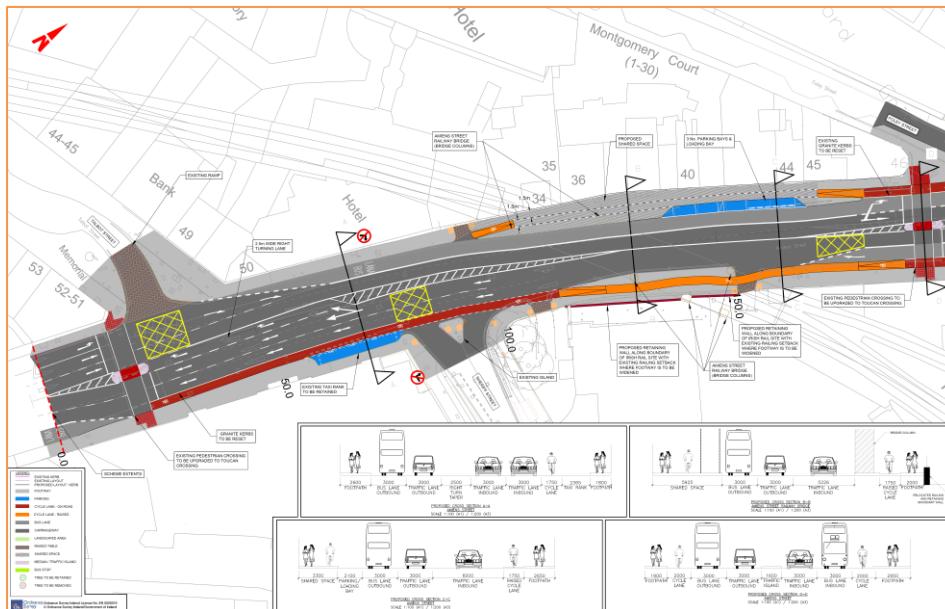


Figure 11: Proposed Toucan Crossing at Foley Street

#### Summary Note:

The designers and applicants are mindful of the condition of some areas of public realm in the general area including those raised in the Quality Audit. The applicants are satisfied to work with the Roads and Planning Authority in respect of specified design and improvement works to the relevant areas of public realm. It is a requirement from our Client (the Developer) that the funding of these improvements will be fully offset against development contributions levied against the developer

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**TONY HORAN**  
CHARTERED ENGINEER  
GROUP MANAGING DIRECTOR  
O'CONNOR SUTTON CRONIN

## APPENDIX A: Quality & Road Safety Audit

Title: **QUALITY AUDIT & ROAD SAFETY AUDIT**

**For;**

**Project Connolly,**

Client: **Oxley Holdings Limited**

Date: **September 2019**

Report reference: **0543R01 Rev 1**

VERSION: **FINAL**

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## 1.0 Introduction

This report was prepared in response to a request from Mr. Pat Moynihan of OCSC Consulting Engineers for a Quality Audit including Road Safety Audit of the proposed mixed-use development known as Project Connolly.

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.

This Quality Audit includes a road safety audit, an access audit, a walking audit, a cycle audit and a non-motorised user audit.

The Road Safety and Quality Audit Team comprised of;

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

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

Trainee Observers: **Shane Mc Givney** ME, MIEI, P. Cert. RSA. &

**Loreto Gonzalez** MSc CEng MIEI, P. Cert RSA.

The Quality Audit involved the examination of drawings and other material provided by OCSC and other Agents and a site visit by the Audit Team, together, on the 20<sup>th</sup> February 2019.

The weather at the time of the site visit was dry and the road surface was 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. Some observations have been made in Section 4 of the report that do not require responses.

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**.

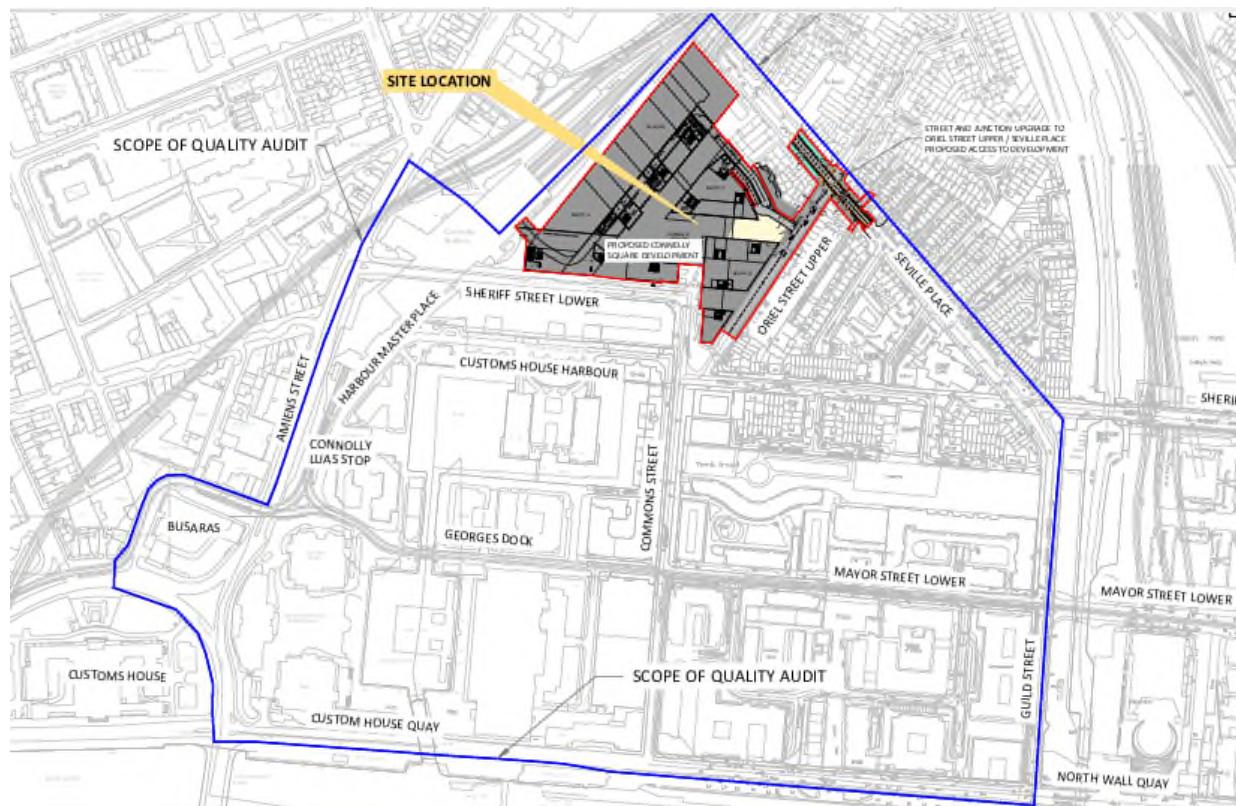
A selection of photographs is provided in **Appendix D**.

## 2.0 Background

### 2.1 Scope of this Quality Audit

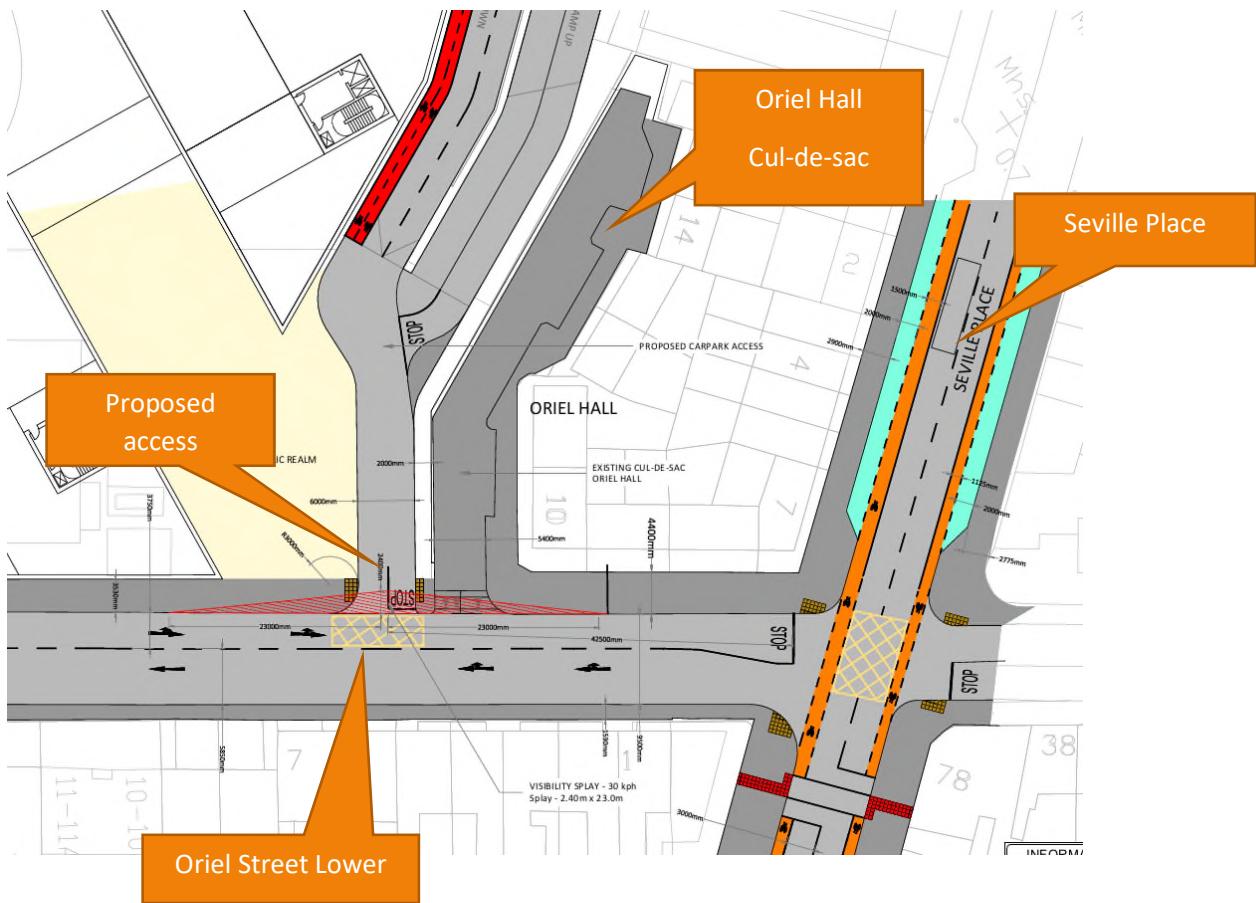
It is proposed to construct a significant mixed-use development with multiple story block units for residential, office and retail use adjacent to Connolly rail station in Dublin city center. As part of the initial design development a Road Safety Audit (RSA) and Quality Audit (QA) has been requested. The area subject to the road safety audit is restricted to the area adjacent to the proposed scheme where design works are taking place on the existing road network and within the proposed development. The Quality Audit (excluding the road safety audit) covers a greater area covering the roads and other transport facilities for all road users and public transport users that may be associated with the proposed development.

The scope of the RSA (red outline) and the scope of the QA (blue outline) are shown in the figure below.



The proposed development is between Sheriff Street Lower and Oriel Street Lower. It includes the existing Connolly station car park. The only vehicular access to the development will be via an access off Oriel Street Lower adjacent to the cul-de-sac access to Oriel Hall (serving 6 residential units). The access will be mainly to an underground car park and bicycle park. Access to a higher level for emergency and maintenance vehicles will be provided.

To facilitate this new access some works are proposed along Oriel Street Lower and Seville Place as outlined in the screengrab below.



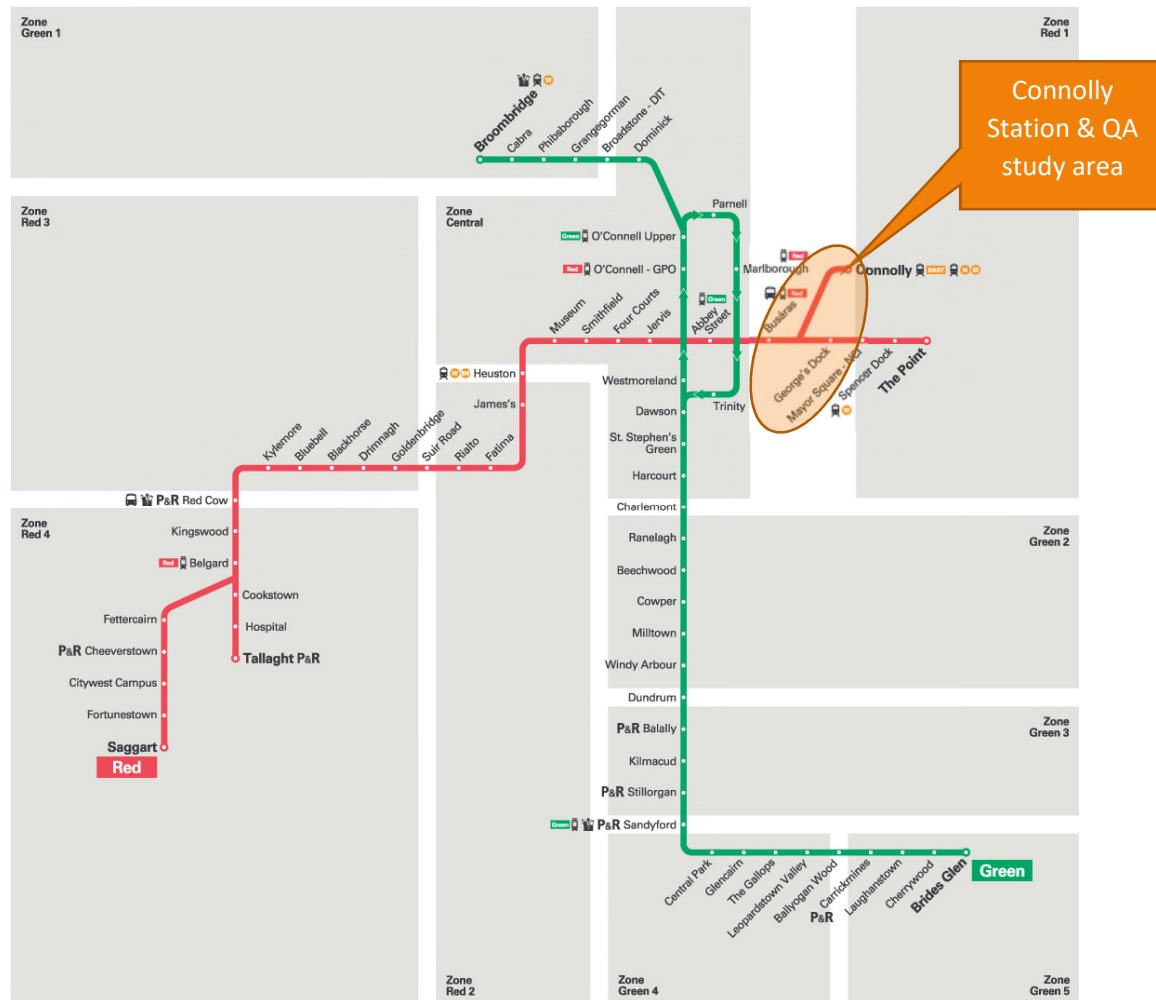
## 2.2 Existing Public Transport Links

The area is very well served with public transport including Connolly Train Station, Busáras, bus routes (Dublin Bus and regional routes), Luas stops, and taxi ranks.

Connolly station is one of the two major railway stations in Dublin along with Heuston Station. It acts as a transport hub for the entire country. It is co-located with a DART station which serves the eastern seafrotnt of Dublin and North Wicklow with possible future expansion to other areas. It is also co-located with the Luas Red line which provides a direct link to Heuston Station. Dublin Connolly links Dublin and Belfast with the shared Enterprise service between Irish Rail and Northern Ireland Railways. Connolly station offers both Intercity and commuter services.

The Red Line Luas starting in either Saggart or Tallaght terminates at the Connolly stop or The Point stop. The Connolly Luas stop is two stops away from the Abbey Street stop which is the link with the Luas Green Line. Within the scope of this Quality Audit are also the Busáras, George's Dock, and Mayor Square- National College of Ireland (NCI) Luas Stops. All three stops are approximately six minute walk from the proposed development.

A schematic of the Luas network is shown below.



The DART electric rapid transit rail network is 53 Km long and serves 31 stations. DART services begin at 05:40 and end at 00:25 from Monday to Saturday. Connolly DART station (which operates on a shared platform basis with Connolly Rail station) is the city centre station on the north bank of the Liffey (Pearse Street Station is the equivalent on the south side of the Liffey)

Busáras is the central bus station in Dublin. It is a six minute walk away from the proposed development. Intercity and regional bus services are operated from Busáras.

Dublin Bus offers up to 15 direct routes to Connolly Train station these are as follows;

#### Route Description

- 14 From Beaumont (Ardlea Rd.) Towards Dundrum Luas Station
- 15 From Clongriffin To Ballycullen Rd.
- 27 From Clare Hall To Jobstown
- 27a From Eden Quay To Blunden Drive

### Route Description

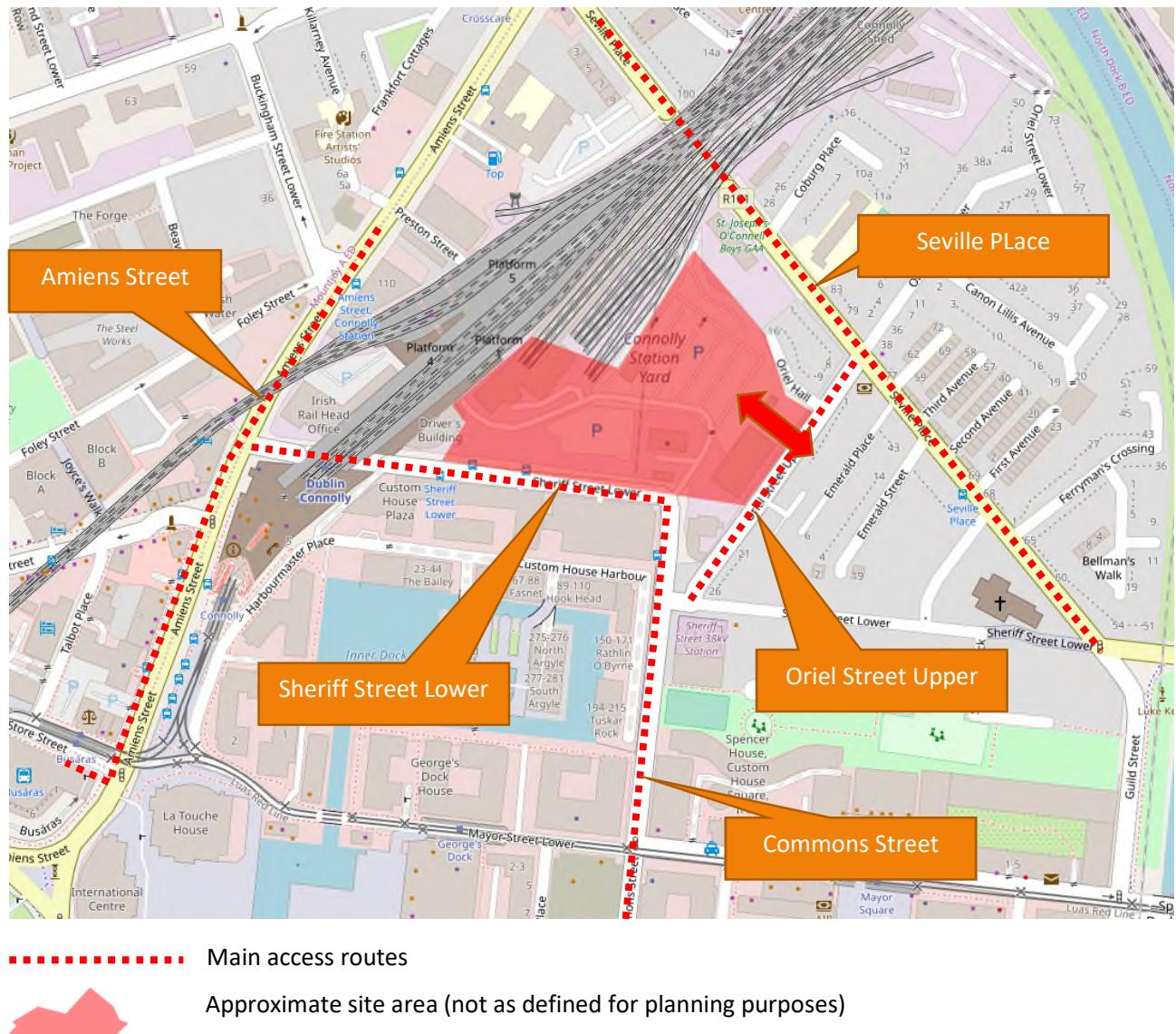
- 27b Eden Quay Towards Harristown
- 27x From UCD Belfield To Clare Hall
- 29a From Lwr. Abbey St. To Baldoyle (Coast Rd.)
- 31/a From Talbot St. To Howth Summit
- 31b From Talbot St. To Howth Summit
- 32 From Talbot St. To Malahide
- 32x From Malahide Towards UCD Belfield
- 42 From Talbot St. To Sand's Hotel (Portmarnock)
- 43 From Talbot St. Towards Swords Business Park
- 53 From Talbot St. To Dublin Ferryport
- 130 From Lwr. Abbey St. Towards Castle Ave.

The development will be adjacent to the proposed Clontarf to City Centre Core Bus Corridor which will include not just dedicated bus facilities in both directions but dedicated cycle facilities. This scheme will form part of the larger Bus Connects proposals.

Non-motorised users are also well catered for with public footpaths and cycle lanes & Dublin bike facilities. Seville Place provided a link between the proposed development and the Royal Canal Greenway. Phase 2 of the Greenway commenced in 2019 between the North Docklands and North Strand Road. Phase 1 has already been completed it crosses the Liffey on Samuel Beckett Bridge and ends at Sheriff Street. Some deficiencies in the existing cycling infrastructure are identified in Section 3 of this report.

## 2.3 Main Approach Routes to the Development.

The main approaches routes to the proposed development will be from Amiens Street and from Seville Place (including a proposed pedestrian route through one of the arches which will be opened). Commons Street will also be an approach route however to a lesser extent in terms of footfall/user numbers. These routes are highlighted in the map below. A brief description of each route follows, this is supplemented by a selection of photographs in Appendix D which were taken during the site visit and highlight areas of interest.



### 2.3.1 Amiens Street

Amiens Street has a speed limit of 50km/hr. It is part of the Regional Road R105 which runs from O'Connell Street to Howth via a loop at Matt Talbot Bridge. The number of traffic lanes on Amiens Street varies. North of the junction with Busáras/Store Street there are two outbound lanes, two inbound general traffic lanes and a bus lane. A northbound bus lane develops north of the signalised pedestrian crossing from Connolly Luas station. The bus lane is part time and parking is allowed at certain times.

There is a signalised junction at the Talbot Street junction with a pedestrian crossing on the south side of the junction adjacent to the original Connolly Train Station entrance.

North of the Talbot Street junction there are two outbound lanes for all traffic and two inbound lanes plus a right turning lane for drivers wishing to turn into Talbot Street.

There are no dedicated cycle facilities. An advisory cycle lane terminates at the junction of Amiens Street and Memorial Road outside Busárus. There is a small bicycle parking area in Connolly Station which is accessed under the escalators. Cyclists travel on the footpaths along Amiens Street. The footpaths are relatively wide however there are many items of street furniture that reduce the effective width of the footpaths.

There is a taxi rank outside the Connolly Luas Station.

Amiens Street will be subject to significant change to promote bus lanes and walking/cycling by the introduction of the Core Bus Corridor scheme.

### 2.3.2 Seville Place

Seville Place has a speed limit of 50km/hr. It is part of the Regional Road, R101 which runs from the junction of Sheriff Street and East Wall Road (R131) to the Junction of Infirmary Road and Conyngham Road and includes North Circular Road for a large proportion of that route. Between Amiens Street and Lower Sheriff Street, Seville Place is a single carriageway road with footpaths on both sides of varying widths. The footpaths tend to widen at the junctions to prevent parked vehicles from blocking visibility. This helps with pedestrian crossings at the junction mouths. Seville Place also has some cycle facilities (mainly advisory cycle lanes) and some –on street parking. There is a bus stop opposite First Avenue however it is unclear if the bus stop is operational (Stop 7030) There is a pedestrian link at St. Laurence O'Toole's Church along Sherriff Street Lower. There is a signalised pedestrian crossing south west of the Oriel Street Upper junction and another signalised pedestrian crossing adjacent to the St Laurence O'Toole's schools at Ferryman's Crossing. There are warning signs for children and in the vicinity of both crossings.

To improve pedestrian permeability and accessibility it is proposed to provide an at grade pedestrian link through one of the arches to the outdoor space between Block B and Block C , and then onwards to the landscaped Connolly Square as part of the proposed development.

### 2.3.3 Commons Street

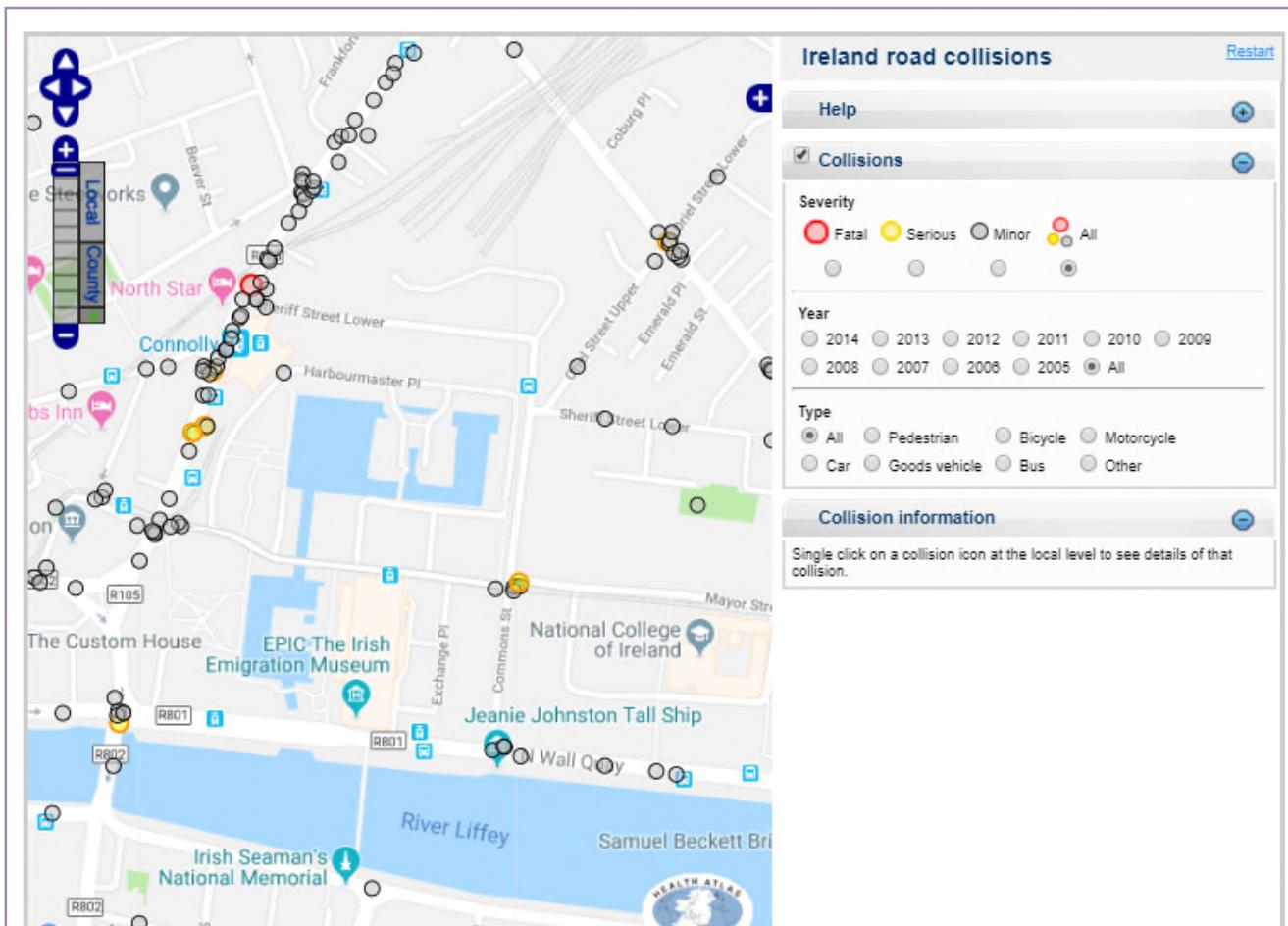
Commons Street has a speed limit of 30km/hr. It has a footpath on both sides. The eastern footpath is generally wide and can cater for high volumes of pedestrians. The junctions of Mayor Street and North Wall Quay have signalised pedestrian crossings with dropped kerbs and L shaped tactile paving. There is some on-street parking. There are no dedicated cycle facilities however it is felt that vehicle speeds are low and that the street effectively acts as a shared use bicycle-vehicle street. There is a small taxi rank on the eastern side of the street north of the Mayor Street junction.

## 2.4 Collision History

A review of the Road Safety Authority's website shows that between the years 2005 and 2014 there have been many collisions along Amiens Street, including a fatal collision involving a pedestrian in 2012.

There has been a cluster of minor injury collisions at the Oriel Street Upper/Seville Place/ Oriel Street Lower junction. A number of those collisions have involved vulnerable road users. There was one serious injury at this junction in 2012 which involved a pedestrian.

A map of the collision severity and location is show below. The number of collisions over the 10-year period is not untypical of roads with similar traffic volumes to Amiens Street.



## 3.0 Main Report

Summary Table of Problem Categories

Problem Reference	Access Audit	Walking Audit	Cycling Audit	Non-motorised User Audit	Road Safety Audit	Quality Audit
<b>3.1</b>		✓		✓	✓	✓
<b>3.2</b>			✓	✓	✓	✓
<b>3.3</b>			✓	✓	✓	✓
<b>3.4</b>			✓	✓		✓
<b>3.5</b>		✓	✓	✓		✓
<b>3.6</b>	✓					✓
<b>3.7</b>			✓	✓		✓
<b>3.8</b>	✓				✓	✓
<b>3.9</b>			✓	✓		✓
<b>3.10</b>	✓			✓		✓

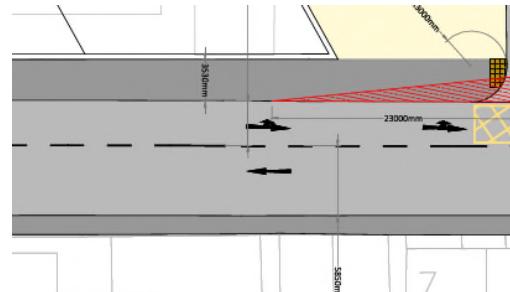
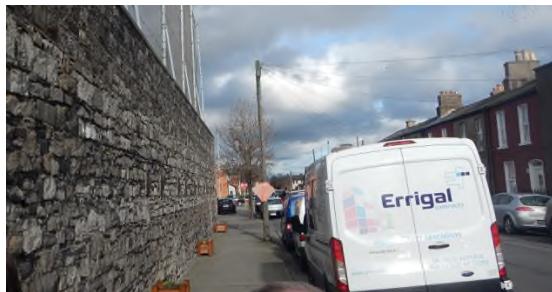
### 3.1 Problem

#### LOCATION

Drawing 0635-OCSC-XX-XX-SK-C-0008 S2 P01, Preferred Junction Option – Oriel Street Plan Layout.

#### PROBLEM

There is currently on-street parking on both sides of Oriel Street Lower. The drawing shows that parking will be removed on the development side of the street. This may lead to locals parking partially on the footpath if they do not have alternative parking facilities. This could lead to hazards for pedestrians and blocking of sightlines for drivers exiting the new development.



#### RECOMMENDATION

It is recommended that a parking review be carried out to ensure that enough parking space is retained for local residents. If sufficient capacity is not provided, then alternative additional parking should be

provided, and prohibitive measures be provided to avoid parking on footpaths or close to the proposed access.

### 3.2 Problem

#### *LOCATION*

Drawing 0635-OCSC-XX-XX-SK-C-0008 S2 P01, Preferred Junction Option – Oriel Street Plan Layout.

#### *PROBLEM*

It is envisaged that the proposed development will attract cyclists from the Amiens Street direction that will travel south-west on Seville Place and turn right onto Oriel Street Lower. Currently cyclists have to enter the carriageway to turn right or travel to the toucan crossing on the opposite side of the junction. It is unlikely that cyclists would undertake the latter due to the extra journey time and the former would put them at greater risk of being struck by a passing motorised vehicles.



#### *RECOMMENDATION*

It is recommended that the Seville Place /Oriel Street Upper/Oriel Street Lower junction be signalised with a toucan crossing facility on the northeastern leg of the junction. Any adjustments to this strategic regional road should take into account knock on effects at other junctions as part of an overall traffic review as excessive delays at one location could lead to other safety issues at adjacent junctions.

### 3.3 Problem

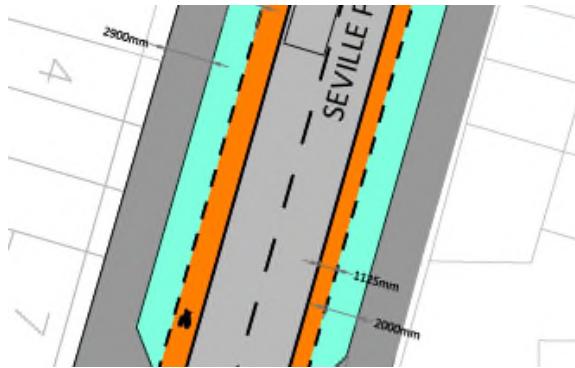
#### *LOCATION*

Drawing 0635-OCSC-XX-XX-SK-C-0008 S2 P01, Preferred Junction Option – Oriel Street Plan Layout.

#### *PROBLEM*

It was observed during the site visit that there is no buffer zone between parked on-street cars along Seville Place and the on-road cycle lane. A replica situation is presented in the drawing. This could lead

to collisions between cyclists and opening car doors of parked vehicles or cyclists losing control as they swerve to avoid opening doors. The Audit Team acknowledge that there is limited road space available.



#### *RECOMMENDATION*

It is recommended that an assessment of the footpath width (2.9m) be undertaken relative to its existing and future use to see if the footpath could be reduced in width to enable a buffer zone to be provided between parked vehicle and cyclists. It was observed that there is a large amount of street furniture along Seville Place which may reduce the effective width of the footpath unnecessarily.

### 3.4 Problem

#### *LOCATION*

Drawing 0635-OCSC-XX-XX-SK-C-0008 S2 P01, Preferred Junction Option – Oriel Street Plan Layout and site observation.

#### *PROBLEM*

It was observed during the site visit that the cycle lanes along Seville Place are advisory only and are not operational between 7pm and 7am. These restrictions make it necessary for cyclists to share space with vehicular traffic which increases the risk of collisions between those road user groups. It is noted that the Seville Place cycle lanes lead to the Grand Canal/spencer Dock/Samuel Beckett Bridge Greenway. Continuity of dedicated cycle facilities would be beneficial.



#### *RECOMMENDATION*

It is recommended that where feasible, the cycle lanes should be upgraded to mandatory cycle lanes on Seville Place.

### 3.5 Problem

#### *LOCATION*

Sheriff Street Lower.

#### *PROBLEM*

It was observed during the site visit that buses and taxis queued on Sheriff Street until they moved into the official bus stops/Busáras/taxi ranks. Those vehicles were partially parked on the existing cycle lanes and footpaths along Sheriff Street Lower. It is unclear if there are any other locations that these vehicles could queue when the proposed development is complete. If the practice continues after the development is complete there is a greater risk that there would be collisions with pedestrians or cyclists given the greater number of those vulnerable road users.



#### *RECOMMENDATION*

It is recommended that the bus and taxi waiting areas be relocated away from the new development as the mixing of pedestrian and cyclists with these commercial vehicles will lead to collisions with the vulnerable road users. The nature of the roads in this area (Sheriff Street Lower, Commons Street and Oriel Street Lower) will be changed by the nature of the development into a mainly pedestrian area and the street scape should reflect this with priority given to pedestrians through the removal of large buses and the introduction of formal and informal pedestrian crossing points at all desire lines.

### 3.6 Problem

#### *LOCATION*

Existing Connolly Station Car Park.

#### *PROBLEM*

The existing Connolly Station Car park will be replaced by a basement carpark. There is currently no provision for a drop off area. This will lead to drivers stopping in traffic lanes, mounting footpaths or cycle tracks.



#### *RECOMMENDATION*

It is recommended that a drop off area be provided along Sheriff Street Lower.

### 3.7 Problem

#### *LOCATION*

Existing Connolly Station Bicycle Park.

#### *PROBLEM*

With increasing bicycle usage, additional bicycle parking will be required for Connolly Station. A lack of bicycle parking spaces could lead to cyclists locking bicycles to items of roadside furniture which could create hazards for pedestrians.



*RECOMMENDATION*

It is recommended that a review on the requirements for bicycle parking associated with Connolly Station be undertaken and ample bicycle parking to be provided as a result.

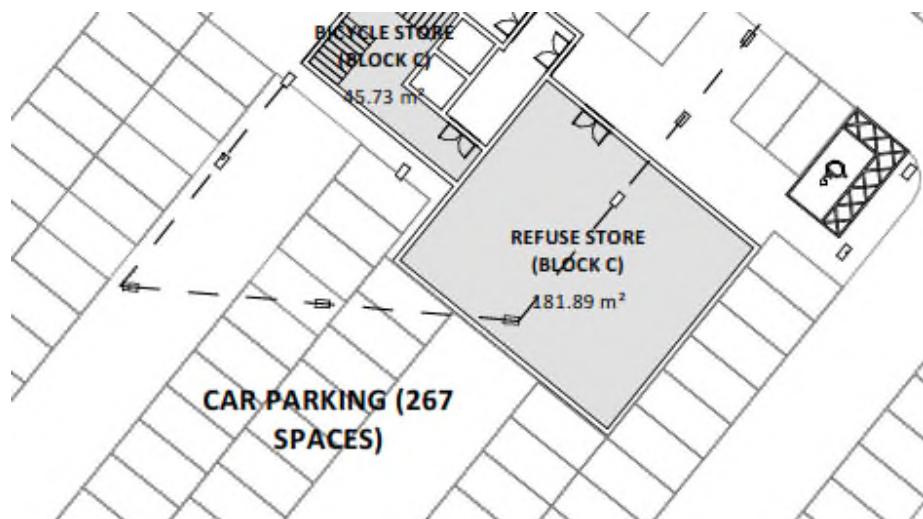
### 3.8 Problem

*LOCATION*

Basement Car Park

*PROBLEM*

Allowance must be made for structural columns and electric vehicle charging points in the basement car park layout. Structural columns will reduce the available space for parking and could be hazards for drivers. Electric charging points may require additional spaces and should not be located where charging leads are trip hazards for pedestrians.



#### *RECOMMENDATION*

It is recommended that as the design develops that adequate provision be made for structural columns and electric vehicle charging points.

### 3.9 Problem

#### *LOCATION*

Sheriff Street Lower, existing Cycle track.

#### *PROBLEM*

The existing cycle track along Sheriff Street Lower at the Amiens Street end has a steep vertical alignment at the access to the Irish Rail property and may be difficult for cyclists to maintain balance, particularly younger cyclists.



#### *RECOMMENDATION*

It is recommended that the alignment of the cycle track be reviewed and that the need for the access to Irish Rail property that is currently locked be reviewed.

### 3.10 Problem

#### *LOCATION*

Access to Connolly Station from the new development.

#### *PROBLEM*

There appears to be access to the platforms of Connolly Station at two levels. It is unclear if the accesses are wide enough to cater for the volumes of people that may use the station at the same time as trains arrive/depart. Inadequate space for pedestrians may lead to squashing of vulnerable road users such as the mobility impaired, the elderly and the young.



#### *RECOMMENDATION*

An analysis should be carried out of likely user volumes of Connolly station from and through the new development and adequate route widths should be provided with suitable ventilation and lighting.

## 4.0 Observations

### 4.1 Observation

There is a health risk for pedestrians travelling under the railway bridges due to pigeons. Some attempts have been made to remove the pigeons but have not been fully successful.

### 4.2 Observation

Although the area around the development is well served by facilities for vulnerable road users some of the infrastructure such as footpaths, kerbs etc. is damaged and represents trip hazards. It is assumed that these will be upgraded as part of ongoing maintenance programmes by Dublin City Council. An example as shown in Appendix D is the broken paving slabs and tactile paving at the corner of Amiens Street and Store Street which suffers from overrunning buses.

### 4.3 Observation

There is evidence of the underbridge on Seville place having been struck by high vehicles. It is assumed that restrictions will be placed on vehicles during the construction phases.

### 4.4 Observation

Pedestrians were observed crossing Amiens Street between Connolly Luas stop and Busárus Luas stop at numerous locations. However, these were able bodies persons. Signal controlled pedestrian crossing facilities are available for the mobility impaired should they choose to use them. As it is anticipated that footfall will increase with the proposed development then the size of the crossing may need to be increased.

## 4.5 Observation

The pedestrian crossing of Amiens Street at the Talbot Street junction is only on the city centre side of the junction. It is anticipated that with the construction of the proposed development there will be a greater desire line for pedestrians to cross on the north side of the junction to get to Talbot Street and onwards to the O'Connell Street area. Such an upgrade may be included in the core bus corridor scheme.

## 5.0 Quality Audit Statement

This 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: Norman Bruton

(Quality Audit Team Leader) Dated: 12/3/2019

**Owen O'Reilly**

Signed: Owen O'Reilly

(Quality Audit Team Member) Dated: 12/3/2019

**Shane McGivney**

**Not required to sign the report**

(Trainee observer)

**Loreto Gonzalez**

**Not required to sign the report**

(Trainee Observer)

## Appendix A

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

- Drawing 0635-OCSC-XX-XX-SK-C-0008 S2 P01
- Arrow /RKD presentation dated 11<sup>th</sup> December 2018
- Drawing 18135-RKD-00-00-DR-A-1100 Rev B
- Drawing 18135-RKD-00-01-DR-A-1101 Rev B
- Drawing 18135-RKD-00-02-DR-A-1102 Rev B
- Drawing 18135-RKD-00-03-DR-A-1103 Rev B
- Drawing 18135-RKD-00-04-DR-A-1104 Rev B
- Drawing 18135-RKD-00-09-DR-A-1109 Rev B
- Drawing 18135-RKD-00-11-DR-A-1111 Rev B
- Drawing 18135-RKD-00-B1-DR-A-1099 Rev B

### **List of Background Material Provided this Quality Audit;**

- Audit Brief
- Schedule of Areas
- Arrow /RKD presentation dated 11<sup>th</sup> December 2018

## Appendix B

### Feedback Form

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

Scheme: Project Connolly

Quality Audit- Planning

Date Audit (site visit) Completed: 20-2-2019

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	Y	Y		
3.2	Y	N	Will review recommendation with DCC in the context of their overall Traffic Management Strategy for the area.	Yes
3.3	Y	Y		
3.4	Y	Y		
3.5	Y	Y		
3.6	Y	Y		
3.7	Y	Y		
3.8	Y	Y		
3.9	Y	Y		
3.10	Y	Y		

Signed.....Peter Mayhew  
Design Team Leader

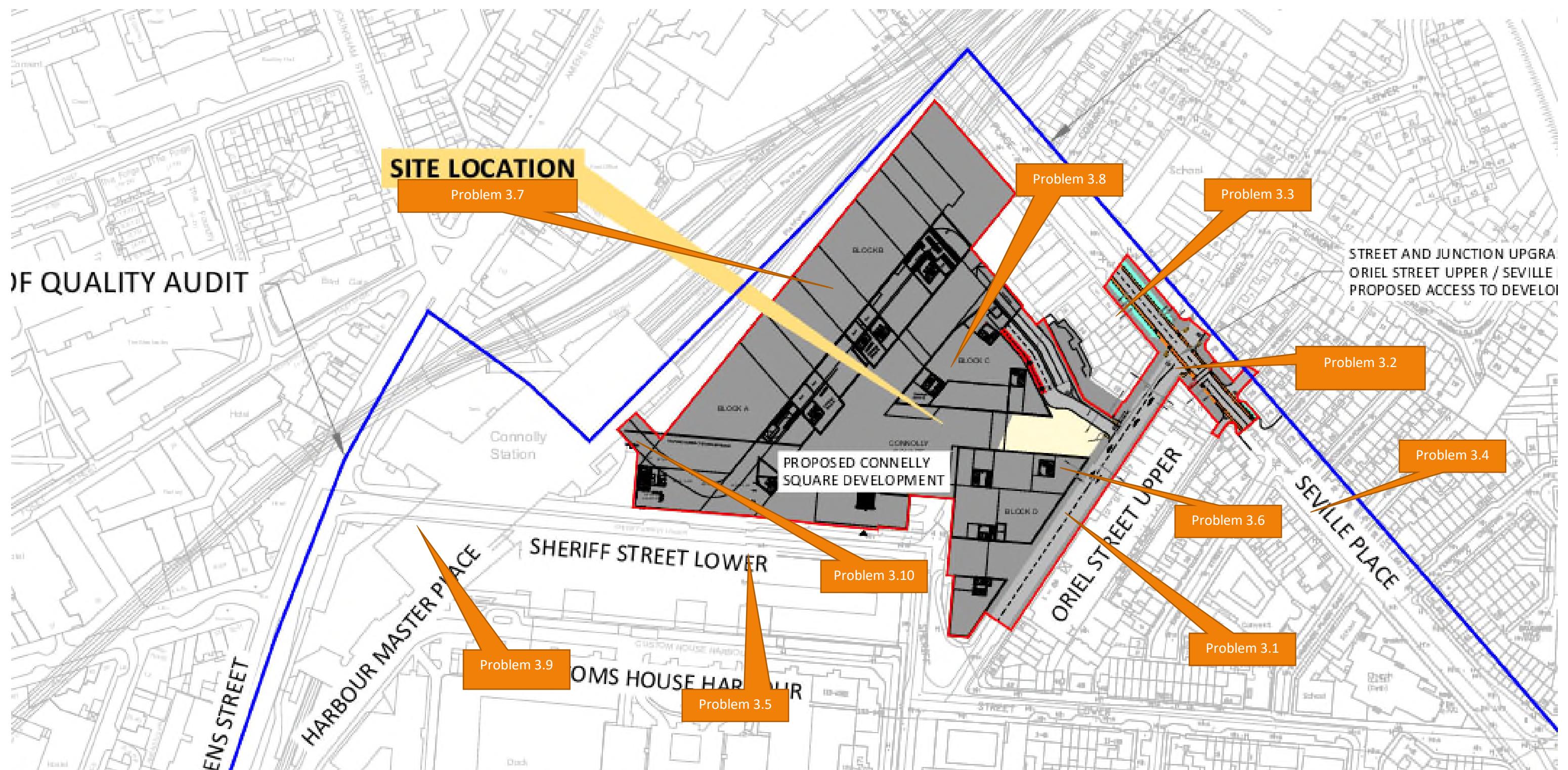
Date 16/04/2019.

Signed.....Norman Bruton  
Audit Team Leader

Date: 16/4/2019

## Appendix C

### Problem Location Plan.



## Appendix D Selection of Photographs



Amiens Street Crossing at Busárus.



Damage to footpath at Store Street Junction



Amiens St/Talbot St signalised junction



Phase 1 of Royal Canal Greenway, Spencer Dock



Pedestrian Link, Sheriff Street Lower



Typical cross section Seville Place



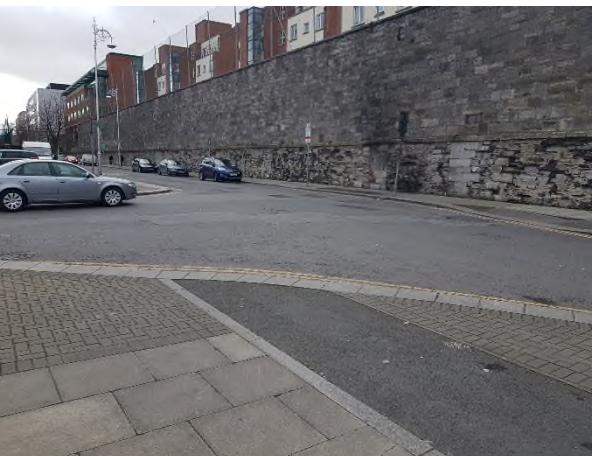
Junction Treatment Seville Place/Oriel St Upper



Commons Street (Wide footpath on eastern side)



Junction of Commons Street and North Wall Quay



Commons St/Sheriff St Lower/Commons Street Junction



Archway to be used as pedestrian link



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