

ATKINS

Member of the SNC-Lavalin Group

Charlestown Place SHD

Quality Audit - Stage 1

Puddenhill Property Limited

February 2021



Notice

This document and its contents have been prepared and are intended solely for Puddenhill Property Ltd. information and use in relation to the proposed Charlestown Place SHD, Charlestown, Co. Dublin, Quality Audit – Stage 1.

WS Atkins Ireland Limited assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
Rev 0	Draft	OC	JW	JW	JW	11/02/2021
Rev A	Issue	OC	JW	JW	JW	12/02/2021
Rev B	Finalised	OC	JW	JW	JW	24/02/2021

Client signoff

Client	Puddenhill Property Limited
Project	Charlestown Place SHD, Charlestown, Co. Dublin
Job number	5152288
Client signature / date	

Contents

Chapter	Page
1. Introduction	4
1.1. Background	4
1.2. Site Inspection	4
1.3. The Team	4
1.4. The Design	4
1.5. Road Safety Audit Compliance	5
1.6. Walking and Cycling Audit Compliance	5
2. Road Safety Audit Issues Identified	6
2.1. Problem: Pedestrian and Cyclist Conflict at the Crossing	6
2.2. Problem: Visibility Obstructed by Hedge Rows	6
2.3. Problem: Pedestrian Desire Line from the Bus Stop	7
2.4. Problem: Pedestrian and Cyclist Interaction	7
2.5. Problem: Junction Crossing not on Desire Line	8
2.6. Problem: Visibility at junctions	8
3. Road Safety Audit Team Statement	9
3.1. Certification	9
3.2. Sole Purpose	9
3.3. Implementation of RSA Recommendations	9
3.4. Audit Team's Independence to the Design Process	9
3.5. Road Safety Audit Team Sign-Off	9
4. Road Safety Audit Designer's Response	10
4.1. Preparing a Response to the Road Safety Audit	10
4.2. Returning the Feedback Form	10
4.3. Triggering the Need for an Exception Report	10
5. Walking & Cycling Audit Items Identified	11
5.1. Item: Pedestrian and Cyclist Desire Line Conflicts at the Crossings	11
5.2. Item: Pedestrian Visibility Obstructed by Existing and Proposed Hedge Planting	11
5.3. Item: Pedestrian Desire Line at Bus Stops	11
Appendix A. Road Safety Audit Feedback Form	13

Tables

Table 1-1 – Design Team Documents & Drawings List	4
---	---

Figures

Figure 2-1 – Northern approach to the Charlestown Place crossing	6
Figure 2-2 – Hedge Rows at the Charlestown Place Crossing	6
Figure 2-3 – Bus Stop on the Westbound Carriageway of Charlestown Place	7
Figure 2-4 – Southern approach to the Charlestown Place crossing	7
Figure 2-5 – Northern approach to the Charlestown Place crossing	8
Figure 2-6 – Example of Visibility Obstruction at Junctions throughout the proposal	8

1. Introduction

1.1. Background

This Quality Audit report describes the findings of a Stage 1 Road Safety Audit and Walking & Cycling Audit associated with the Charlestown Place Strategic Housing Development, Charlestown, Co. Dublin.

The Audit has been completed by Atkins on behalf of Puddenhill Property Ltd.

1.2. Site Inspection

The site inspection was carried out by the audit team on the 3rd of February 2021 at approximately 10:00am.

Weather conditions during the site inspection were dry and clear; road surfaces were dry.

1.3. The Team

The Road Safety Audit Team members were as follows:

- Team Leader: **Jason Walsh** BEng (Hons) PCert (RSA) CEng MIEI
- Team Member: **Oisín Carroll** BEng (Hons)

1.4. The Design

The following drawings were examined as part of the Stage 1 Road Safety Audit process:

Table 1-1 – Design Team Documents & Drawings List

Drawing Number	Drawing Title	Revision
1330 D – Rev M – Dwg 9	Charlestown Landscape Masterplan	M
PL03	Site Plan	-
5152288 / HTR / SK / 009	Proposed Pedestrian Crossing	B
17726-100-110 P2-100	Basement Layout and Levels	P0
17726-100-110 P2-101	Road & Block Levels and Traffic Signs	P0
17726-100-110 P2-102	Basement Drainage Layout	P0
17726-100-110 P2-103	Slung Drainage Layout Under Podium Level	P0
17726-100-110 P2-104	Drainage Layout	P0
17726-100-110 P2-105	Watermain Layout	P0
17726-100-110 P2-106	Swept Path Analysis Refuse Vehicle & Fire Appliance	P0
17726-100-110 P2-107	Swept Path Analysis Private Car	P0
17726-100-110 P2-108	Foul Drainage Long Sections	P0
17726-100-110 P2-109	Surface Water Drainage Long Sections	P0
17726-100-110 P2-110	Sustainable Drainage System (SuDS Strategy)	P0

1.5. Road Safety Audit Compliance

Procedure and Scope

This Road Safety Audit has been carried out in accordance with the procedures and scope set out in TII publication number **GE-STY-01024 - Road Safety Audit**.

As part of the road safety audit process, the Audit Team have examined only those issues within the design which relate directly to road safety.

Compliance with Design Standards

The road safety audit process is not a design check, therefore verification or compliance with design standards has not formed part of the audit process.

Minimizing Risk of Collision Occurrence

All problems described in this report are considered by the Audit Team to require action in order to improve the safety of the scheme and minimise the risk of collision occurrence.

1.6. Walking and Cycling Audit Compliance

The Road User Audit has been carried out in accordance with the guidance for Road User Audits, as detailed in the Traffic Management Guidelines, the Design Manual for Urban Roads and Streets (DMURS), the National Cycle Manual (NCM), as well as other relevant policies and guidelines.

The scope of the Road User Audit includes the proposed scheme drawing and ties in with the scheme in terms of pedestrians and cyclists desire lines and gaps or barriers in the proposed provision. The assessment has been undertaken through desktop-based review and on-site observations. The audit takes into consideration the needs of all road users and in particular:

- Pedestrians.
- Cyclists.
- People with mobility/sensory impairment.

2. Road Safety Audit Issues Identified

2.1. Problem: Pedestrian and Cyclist Conflict at the Crossing

Location: At the Northern approach to the Charlestown Place crossing

The alignment of the pedestrian and cyclist facilities either side of the shared crossing could result in collisions as users move from their desire lines to continue on their respective paths. This could lead to an increase in pedestrian and cyclist collisions resulting in injuries.

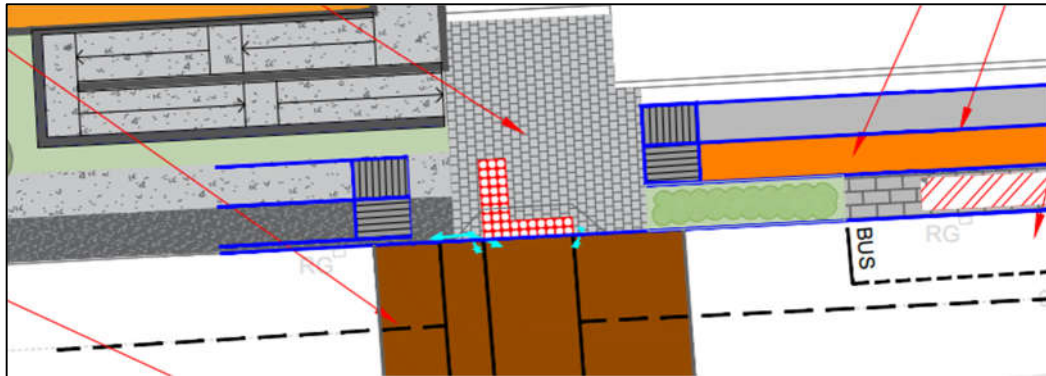


Figure 2-1 – Northern approach to the Charlestown Place crossing

Recommendation

The Design Team should consider realigning the cycle track and footpath facilities on the east approach facilitate desire lines.

2.2. Problem: Visibility Obstructed by Hedge Rows

Location: At the Charlestown Place Crossing

During the site visit it was noted that the hedge rows in the vicinity of the Charlestown Place crossing were growing unkempt. Unkempt hedge rows reduce visibility between vulnerable road users at crossing and vehicles on the carriageway. In the event of out of order signals at the junction, VRU's would use the crossing as an uncontrolled crossing and this could result in potential pedestrian vehicle conflicts due to poor visibility. This could result in serious or fatal VRU injuries.



Figure 2-2 – Hedge Rows at the Charlestown Place Crossing

Recommendation

The Design Team should consider protocols for ensuring the maintenance of the hedgerows to provide sufficient visibility at the crossing.

2.3. Problem: Pedestrian Desire Line from the Bus Stop

Location: At the Bus Stop on the Westbound Carriageway of Charlestown Place
Passengers boarding/alighting at the bus stop may, if coming from our going to the crossing, chose to follow the direct desire line which would take them through the cycle track. This could lead to an increase pedestrian and cyclist collisions resulting in injuries.

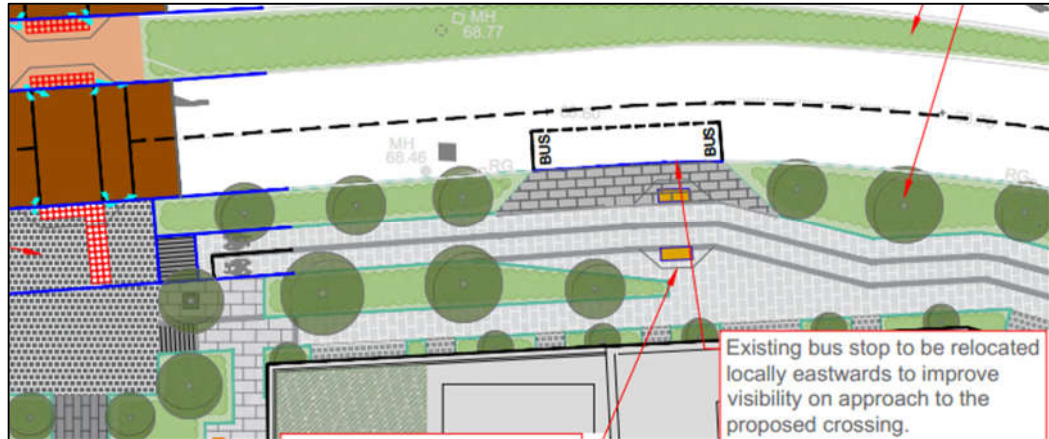


Figure 2-3 – Bus Stop on the Westbound Carriageway of Charlestown Place

Recommendation

The Design Team should consider rearranging the cycle and footpath facilities so as to encourage pedestrians away from utilising the cycle track.

2.4. Problem: Pedestrian and Cyclist Interaction

Location: At the Southern approach to the Charlestown Place crossing
Breaks in the line of vegetation as pictured in Figure 2-4 below may lead pedestrians into the path of cyclists utilising the cycle track. This could lead to an increase pedestrian and cyclist collisions resulting in injuries.

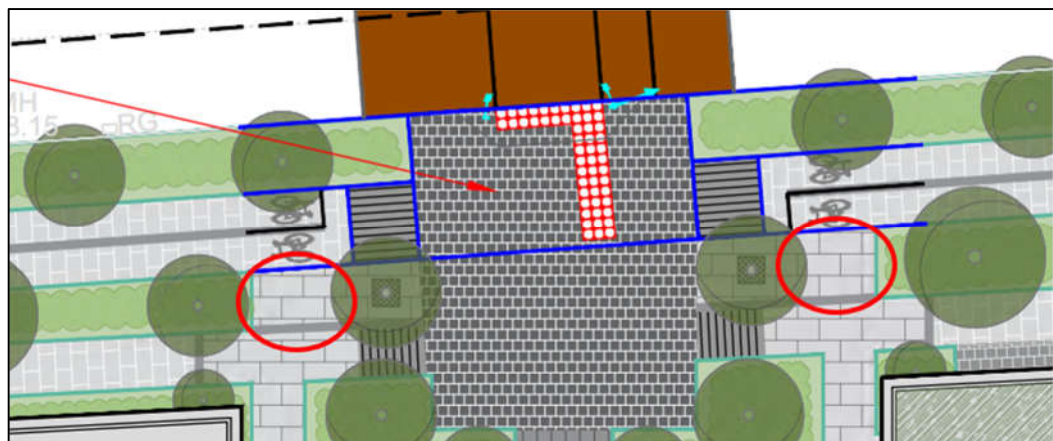


Figure 2-4 – Southern approach to the Charlestown Place crossing

Recommendation

The Design Team should consider planting at this location to restrict pedestrian movement in the cycle track and encourage a desired approach to the crossing.

2.5. Problem: Junction Crossing not on Desire Line

Location: At the Southern arm of the Charlestown Place junction

The crossing on the southern arm of the Charlestown Place junction is off the main desire line. Cyclists and pedestrians looking to cross at this location may choose to carry out a more direct crossing which could result in slips, trips and falls into a live trafficked carriageway resulting in injuries. In addition, the crossing position creates a conflict between pedestrians and cyclists as pedestrians may cross into the cycle path for a direct route to the crossing resulting in conflicts with cyclists.

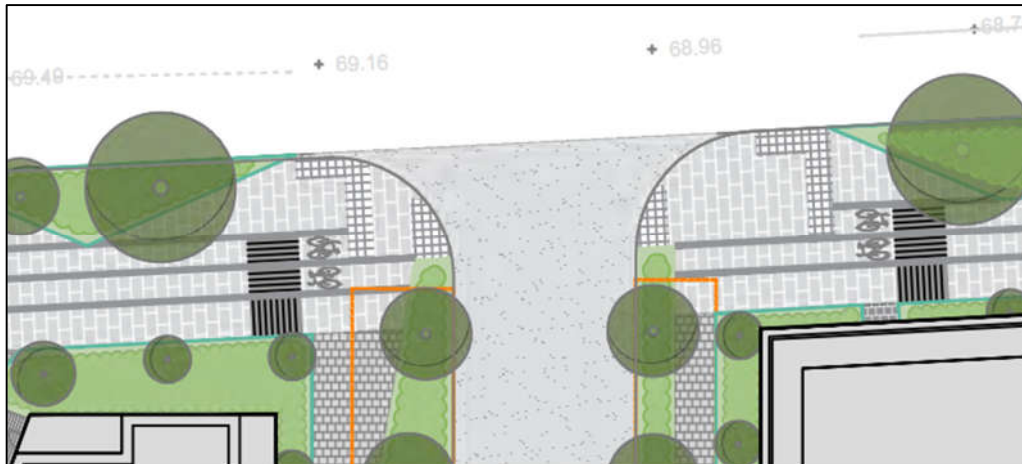


Figure 2-5 – Northern approach to the Charlestown Place crossing

Recommendation

The Design Team should consider setting back the crossing in line with the crossing desire line.

2.6. Problem: Visibility at junctions

Location: At Junctions throughout the proposal

The proposal describes the location of tree planting in close vicinity to several of the junctions throughout the scheme. Vehicles manoeuvring the junction or utilising the car parking spaces may have their views obstructed by the trees. This could result in side impact or rear end type collisions which may cause material damage, serious or fatal injuries.

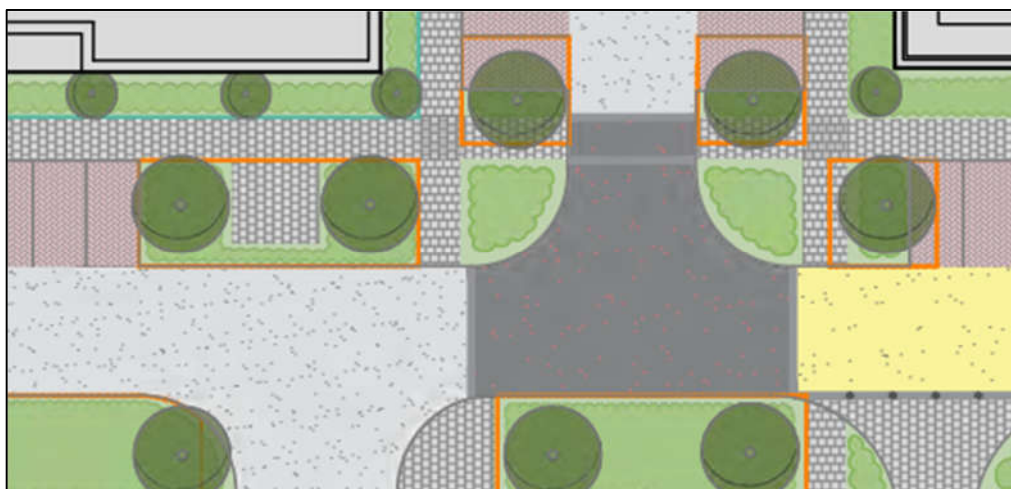


Figure 2-6 – Example of Visibility Obstruction at Junctions throughout the proposal

Recommendation

The Design Team should ensure visibility splays are maintained.

3. Road Safety Audit Team Statement

3.1. Certification

We certify that we have examined the drawings and documents listed in Chapter 1 of this Report.

3.2. Sole Purpose

The Road Safety Audit has been carried out with the sole purpose of identifying any features of the design which could be removed or modified in order to improve the road safety aspects of the scheme.

3.3. Implementation of RSA Recommendations

The problems identified herein have been noted in the Report together with their associated recommendations for road safety improvements. We (the Audit Team) propose that these recommendations should be studied with a view to implementation.

3.4. Audit Team's Independence to the Design Process

No member of the Audit Team has been otherwise involved with the design of the measures audited.

3.5. Road Safety Audit Team Sign-Off

Jason Walsh

Audit Team Leader
Road Safety Engineering Team
ATKINS

Signed:



Date: 11/02/2021

Oisín Carroll

Audit Team Member
Road Safety Engineering Team
ATKINS

Signed:



Date: 11/02/2021

4. Road Safety Audit Designer's Response

4.1. Preparing a Response to the Road Safety Audit

The Designer should prepare an Audit Response for each of the recommendations using the Road Safety Audit Feedback Form attached in Appendix A.

When completed, this form should be signed by the Designer and returned to the Audit Team.

4.2. Returning the Feedback Form

Please return the completed Road Safety Audit Feedback Form attached in Appendix A of this report to the following email or postal address:

Road Safety Engineering Team,
Atkins,
Atkins House,
150 Airside Business Park,
Swords,
Co Dublin,
Ireland.

Tel: 00 353 (0)1 810 8000
Email: Jason.walsh@atkinsglobal.com

The Audit Team will consider the Designers response and reply indicating acceptance or otherwise of the Designers response to each recommendation.

4.3. Triggering the Need for an Exception Report

Where the Designer and the Audit Team cannot agree on an appropriate means of addressing an underlying safety issue identified as part of the audit process, an Exception Report must be prepared by the Designer on each disputed item listed in the audit report.

5. Walking & Cycling Audit Items Identified

Walking and cycling audit items are provided below. The items below are general items across the development and related to the more specific safety items detailed in the road safety audit findings.

5.1. Item: Pedestrian and Cyclist Desire Line Conflicts at the Crossings

Location: Charlestown Place Crossing & Charlestown Place Junction

The alignment of the pedestrian and cyclist facilities either side of the shared crossing could result in collisions as users move away from their desire lines to continue on their respective paths.

Recommendation

The Design Team should ensure that desire lines are catered for at junctions and crossing and do not result in excess conflict between pedestrians and cyclists.

5.2. Item: Pedestrian Visibility Obstructed by Existing and Proposed Hedge Planting

Location: Charlestown Place Crossing

Existing and proposed hedge planting along Charlestown Place if overgrown may reduce visibility between pedestrians at the crossings and vehicles on the carriageway and cyclists on the adjacent cycle paths.

Recommendation

The Design Team should consider protocols for ensuring the maintenance of the existing and proposed hedge planting to provide sufficient visibility of pedestrians at the crossings.

5.3. Item: Pedestrian Desire Line at Bus Stops

Location: Charlestown Place Bus Stops

Passengers boarding/alighting at the bus stops may choose to follow a desire line which would result in pedestrians walking on the the cycle track leading to conflicts with cyclists.

Recommendation

The Design Team should ensure that proposed arrangements at bus stops encourages pedestrians to cross onto the footpath to the safe pedestrian facility.

Appendices

Appendix A. Road Safety Audit Feedback Form

Scheme: Charlestown Place SHD
Audit Stage: Stage 1 Road Safety Audit
Date Audit Completed: 09/02/2021

	To be completed by the Designer			To be completed by the Audit Team
Paragraph No. in Safety Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative Measures accepted by Auditors (yes/no)
2.1	Y	N	To address this item, the layout has been amended to introduce the interface between the shared area and cycle track / footpath earlier on both approaches so as to allow pedestrians and cyclist more space and time to mix with one another in advance of the crossing. This will facilitate users to be familiar with one another's movement and desire lines and reduce potential conflict.	Y
2.2	Y	Y	The design will specify appropriate low ground cover (basic ivy) planting which typically does not grow above 300-400mm within the central median. It should be acknowledged that there are no barriers proposed which can encourage overgrowth. This will ensure visibility can be maintained.	Y
2.3	Y	N	To address this item, the design will be amended to place the main footpath directly adjacent the cycle track.	Y
2.4	Y	N	Similar to the measure put forward in 2.1, the layout will be amended to introduce the interface between the shared area and cycle track / footpath earlier on both approaches so	Y

			as to allow pedestrians and cyclist more space and time to mix with one another in advance of the crossing, and associated urban space. This will facilitate users to be familiar with one another's movement and desire lines and reduce potential conflict.	
2.5	Y	Y	The crossing location and associated tactile paving will be relocated southwards to line up with the desire line between the pedestrian and cycle tracks on either side of the street.	Y
2.6	Y	Y	The design will specify appropriate low ground cover (basic ivy) planting which typically does not grow above 300-400mm adjacent the junction radii. The proposed trees, whose canopies will be specified to lie approximately 2m above ground level, lie outside of the required visibility splays and this will be demonstrated on the engineering drawings.	Y

Signed by the Designer:



Date: 18/02/2021

Signed by the Audit Team Leader:



Date: 24/02/2021

Road Safety Engineering Team
WS Atkins International Limited
Atkins House
150 Airside Business Park
Swords
Co. Dublin

Tel: +353 1 810 8000
Fax: +353 1 810 8001

© WS Atkins International Limited except where stated otherwise