

# **CASTLE STREET, MACCLESFIELD**

## **PROPOSED PUBLIC REALM WORKS**

### **Road Safety Audit Stage 1 / 2**



**Date: 13<sup>th</sup> September 2018**

**Reference: CEH-RSA-18/19-16**

## Document Control Sheet

Client: Cheshire East Council  
Project: Proposed Public Realm Works  
Document Title: Road Safety Audit Stage 1 / 2  
Ref. No: CEH-RSA-18/19-16

Project No: BP13-0011

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## 1 Introduction

### 1.1 Background

This report results from a request from Cheshire East Highways on behalf of Cheshire East Council for a Stage 1 / 2 Road Safety Audit (RSA). This RSA is concerned only with the proposed Public Realm Improvements on Castle Street, Macclesfield.

### 1.2 Scheme Details

The audited scheme includes the provision of a reduction in carriageway width, new footway and new trees on Castle Street.  
For a plan view of the site, see Appendix A.

### 1.3 Terms of Reference of the Audit

The terms of reference of the audit are as described in HD 19/15. The team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria.

### 1.4 Audit Team and Documents Reviewed

The Audit Team	<b>Barry Smith</b> , Road Safety Engineer, Traffic and Road Safety Team, Cheshire East Highways <b>Simon Barker</b> , Senior Road Safety Engineer, Cheshire East Highways <b>David Chan</b> , Senior Traffic and Road Safety Technician, Cheshire East Highways
Audit Observers	<b>William Lowe</b> , Engineer, Traffic Team, Cheshire East
Documents Used:	BP13-0011-GA REV D
Departures from standards	No departures from standard have been advised
Audit desktop evaluation	Location: Cheshire East Highways Office, Delamere House Date: 5 <sup>th</sup> September 2018.
Site visit daytime	Site visited by: Barry Smith, Simon Barker, David Chan & William Lowe Date: 6 <sup>th</sup> September 2018
Site visit night-time	N/A

Each of the Audit Team's responses is classified as a 'Problem' that is likely to result in a road safety hazard.

Where recommendations are made these do not comprise design decisions, and it remains the responsibility of the design team to incorporate any changes into the scheme, and consider any interactions between design elements.

### 1.5 Items Raised at previous Road Safety Audits

No previous Road Safety Audits have been carried out on the proposals for this scheme.

## 1.6 Collision History

A review of the collision data for the latest five year period available (1st May 2013 and 30<sup>th</sup> April 2018) shows there was one recorded personal injury collision on Castle Street.

The recorded collision occurred on the 25/10/2017 and involved a pedestrian who was crossing outside the Castle Street Mall (heading south) and was struck by a reversing car travelling west to east. The pedestrian suffered a slight injury and the weather was fine and dry and the collision occurred at 09:00 a.m. at the location shown below.

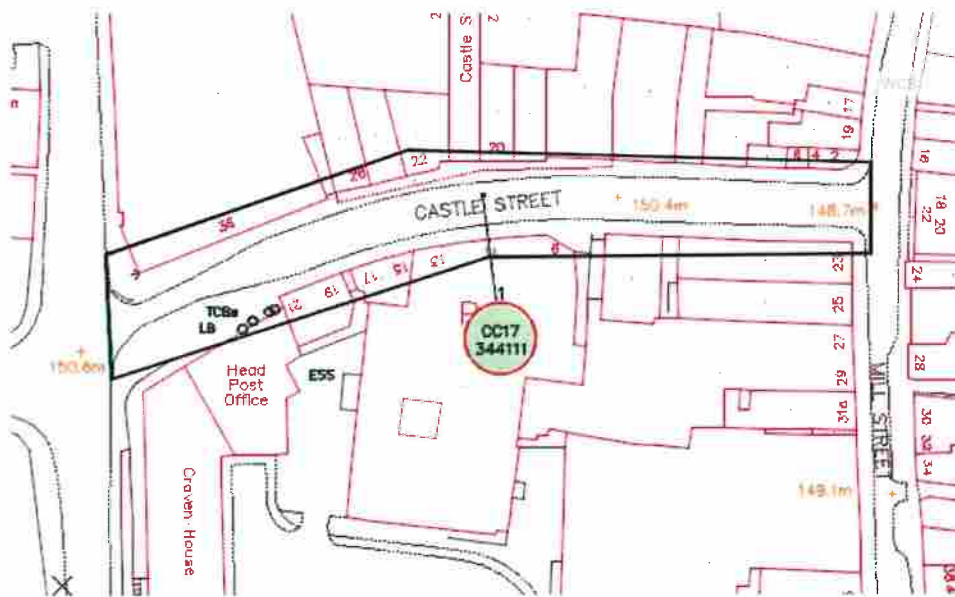


Image 1 showing the recorded personal injury collision location

## 2 Items Raised at this Stage 1 / 2 Road Safety Audit

### 2.1 Summary Table

The table summarises the findings from this Stage 1 / 2 Road Safety Audit, which are described in detail below. The reference numbers in the table below are based on the Stage 1 annex checklists in HD19/15.

Summary of Items Raised at this Stage 1 / 2 Road Safety Audit.		
Item	Problem / No Problem	Notes
A1 General		
Departures from Standard	No Problem	
Cross Sections	No Problem	
Cross Sectional Variation	No Problem	
Drainage	No Problem	
Landscaping	<b>Problem</b>	A1.1 Trees masking signal heads
Public Utilities	No Problem	
Lay-by's	<b>Problem</b>	A1.2 Potential for conflict with pedestrians
Access	<b>Problem</b>	A1.3 Access for delivery vehicles
Emergency vehicles	No Problem	
Future Widening	No Problem	
Adjacent development	No Problem	
Basic design principles	No Problem	
A2 Local Alignment		
Visibility	No Problem	
New / Existing Road Interface	No Problem	
Vertical Alignment	No Problem	
A3 Junctions		
Layout	No Problem	
Visibility	No Problem	
A4 Non-Motorised Users		
Adjacent Land	No Problem	
Pedestrian/Cyclists	<b>Problem</b>	A4.1 market stalls / street furniture
Equestrians	No Problem	
A5 Road Signs & Marking		
Signs	<b>Problem</b>	A5.1 No entry signs
Lighting	No Problem	
Poles/Columns	No Problem	
Road Markings	<b>Problem</b>	A5.2 'No Entry' road markings to be refreshed



## 2.2 General

### PROBLEM A 1.1

**Location:** Western end of Castle Street

**Summary:** Proposed trees will mask the traffic signals.

**Description:** The trees proposed at the western end of Castle Street will mask the existing primary and secondary traffic signals. This creates the potential for late braking and rear end shunts or for drivers on Castle Street to travel through red lights and result in side impact collisions with vehicles travelling under the green light on Churchill Way.



Images 1 – showing the approach to westbound approach to the traffic signals

**Recommendation:** It is recommended that any proposed trees (or signage) do not mask or reduce the existing forward visibility of the traffic signals or pedestrians waiting to cross at this location.

### PROBLEM A 1.2

**Location:** Eastern end of Castle Street

**Summary:** Loading / parking bay

**Description:** There is a proposed 30m layby on the southern side of the carriageway that may create the potential for vehicular and pedestrian conflicts as there are no proposals for any measures such as bollards that would deter vehicles from driving over the footway when accessing or egressing the parking bay.

**Recommendation:** The introduction of bollards or street furniture around the loading bay will act as a deterrent to vehicles driving over the footway and also stop pedestrians from walking along the footway directly into the loading / parking bay.

**PROBLEM A 1.3**

**Location:** Eastern end of Castle Street

**Summary:** Access for delivery vehicles in alleyway

**Description:** During the site visit it was noted that a large delivery on pallets had been made down one of the gated alleyways between the buildings on the northern side of Castle Street.

The Audit Team are not aware of the size of the vehicle that made the delivery but due to the proposed narrowing of the carriageway at this location it may create difficulties for large vehicles to turn in and out which may create the potential for the delivery vehicles to mount the kerb and come into conflict with pedestrians.



Image 2 – showing the large delivery behind the parked vehicle

**Recommendation:** Ensure that all delivery vehicles can load and unload without mounting the footway and coming into conflict with pedestrians. Ensure that all potential vehicle movements are tracked using a suitable software package.

## 2.3 Local Alignment

No issues were found at this stage of the Road Safety Audit relating to alignment.



## 2.4 Junctions

No issues were found at this stage of the Road Safety Audit relating to junctions.

## 2.5 Non-Motorised Users

### PROBLEM A 4.1

**Location:** Castle Street

**Summary:** Market Stalls / street furniture

**Description:** During the site visit there was a goods vehicle and flower stall trading on the carriageway as shown in image 3 below. The Audit Team have not been provided with any details of whether market stalls will still be operating from Castle Street if the proposals are constructed. From reviewing the proposals which include the narrowing of the carriageway, if the stalls are to remain then an assessment will need to be carried out. This will ensure that pedestrians including wheelchair users and the visually impaired have enough room to safely travel along the footway without coming into conflict with the market stalls or the traders vehicles whilst they service their pitch.



Image 3 – showing the market stall on the carriageway during the site visit

**Recommendation:** Due to the proposed reduction of the carriageway width, if the market stalls are to remain on Castle Street ensure they can operate without creating conflicts for pedestrians using the footway or block vehicular access along the carriageway for other road users.

## 2.6 Road Signs & Markings

### PROBLEM A 5.1

**Location:** Western end of Castle Street

**Summary:** No entry signs

**Description:** The existing 'No entry' signs on the western end of Castle Street are located at the back of the footway and are partially masked by the existing traffic signals and flowers. The signs may not be clearly visible for a driver especially those unfamiliar with the area and if they miss the signs may turn into Castle Street from Churchill Way. This creates the potential for head on collisions with vehicles travelling east to west along Castle Street.



Image 5 – showing existing 'No Entry' signs

**Recommendation:** Ensure the 'No Entry' signs are clearly visible to all road users from all approaches.

## 2.7 Road Signs & Markings

### PROBLEM A 5.2

**Location:** Western end of Castle Street

**Summary:** No entry road markings

**Description:** The existing 'No Entry' road markings are worn and faded and create the potential for drivers not familiar with the area being unaware that they are about to enter a one way road and creates the potential for head on collisions with drivers correctly travelling one way along Castle Street.



**Recommendation:** Ensure that the 'No Entry' road markings are refreshed and clear to all road users.

### 3 Team Statement

I certify that this report complies with HD19/15, except where stated in the text.

AUDIT TEAM LEADER

Date 17<sup>th</sup> September 2018



AUDIT TEAM MEMBER

Date 17<sup>th</sup> September 2018

## 4 Road Safety Exception Report




### ROAD SAFETY AUDIT DESIGNER'S RESPONSE / EXCEPTION REPORT

<b>Stage:</b> 1 / 2		<b>Road Safety Audit reference number:</b> CEH-RSA-18/19-16	
<b>Scheme name:</b>		Castle Street, Macclesfield	
<b>Location (if different from above):</b>			
<b>Scheme reference:</b>		CEH-RSA-18/19-16	
<p>The issues categorised in the road safety audit as '<b>Problem</b>' matters are those causing serious concern and are summarised below. The purpose of this form is for the scheme Overseeing Organisation to respond to the '<b>Problem</b>' matters in accordance with the procedure set out in HD 19/15. Issues within the covering letter listed as '<b>Additional considerations</b>' are included as points that the Audit Team consider should also be addressed by the Design Engineer.</p> <p>Responses should be sent to Barry Smith, 6<sup>th</sup> Floor Delamere House, Delamere Street, Crewe, Cheshire, CW1 2LL.</p>			
Problem number	Problem Accepted Yes/No	Recommendation Accepted Yes/No	Design Engineer's comments
A1.1	Y	Y	<p>The design team's recommendation is for a tree not to be planted in this location. If however a tree is planted here it would need to the left of the lights as you look at them so the trunk is not in the way of the lights.</p> <p>CEH have also measured the distance from ground level to the top of the signal head. This is 3.7m. Any tree would have to have at least this amount of clearance between ground level and the underside of the canopy so as not to obscure the signals in any way. The tree would also need to be regularly pruned to ensure the branches do not interfere with the operation of the signals in any way.</p>
			<p><b>Scheme promoter's decision and proposed action</b></p> <p>Scheme amendment agreed to remove tree indicated in this location and replace with planters to be provided by client team with planting below level of traffic signal.</p>

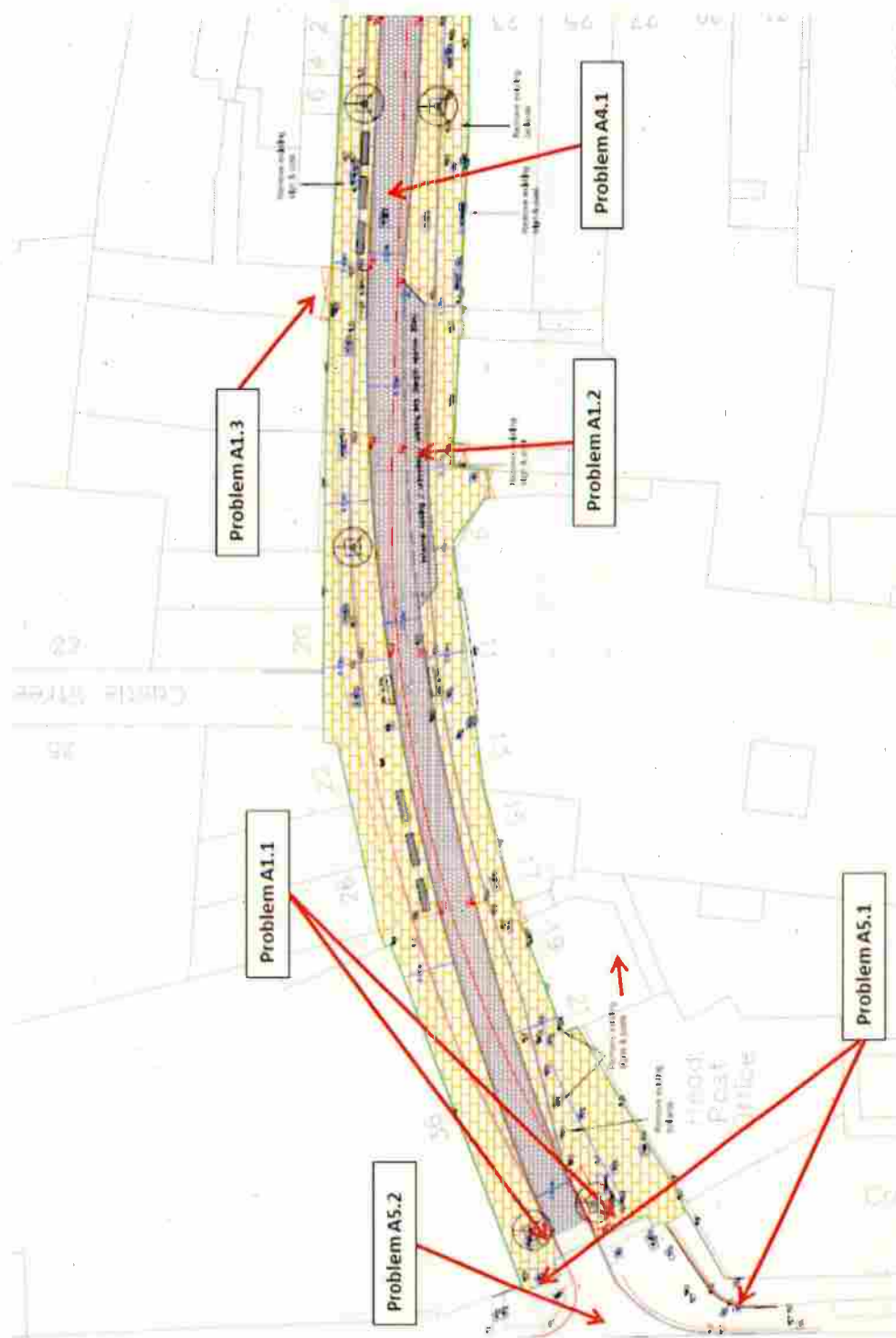


A1.2	Y	Y	The design team recognises that there is the possibility of vehicles over running the footway to access and egress the parking bay and that installing bollards or other street furniture would act as a deterrent to vehicles.	Recommendation agreed as necessary for pedestrian safety. Minimum number of bollards necessary requested i.e. one at each end of bay. Design of bollard to be agreed with client team and client team will seek to include new bollards in public art brief for bespoke treatment.
A1.3	Y	Y	Vehicle movements have been tracked in and out of the access to the rear of Clintons with the dropped kerb design amended accordingly to ensure no vehicle over run	Noted and agreed as appropriate.
A4.1	Y	Y	The design team are working on the basis that the market traders are to be relocated from Castle Street	This is not necessarily the case for all traders. Some traders may be reintroduced at the eastern end of Castle Street BUT ONLY if sufficient width of footway can be maintained to ensure free passage of pedestrians along the footway. In such circumstances, the market operator will be asked, to ensure any traders relocated in this area maintain adequate space for pedestrians on the footway (CE Highways to clarify width), refrain from parking or selling any goods from within the carriageway, and undertake loading and unloading from the loading bay.
A5.1	Y	N	These signs are outside the scheme extents	Noted – presumed the safety risks will be raised with Cheshire East Council Highways to address as part of routine maintenance work if necessary
A5.2	Y	N	These road markings are outside the scheme extents	Noted – presumed the safety risks will be raised with Cheshire East Council Highways to address as part of routine maintenance work if necessary
Additional considerations raised in letter (outside scope of RSA)		Design Engineer's comments		Scheme promoter's decision and proposed action



1	The design team recognise that without any restrictions, there is the potential for vehicles to park in the parking bay all day which may lead to delivery vehicles obstructing the carriageway because they cannot access the parking bay	Noted. Also noted that this area is within the pedestrian zone where parking restrictions apply. Signage exists at entrance to zone.
<b>Auditors</b>	<b>Design Engineer</b>	<b>Scheme Promoter</b>
Barry Smith	Matthew Rodway	Jo Wise Strategic Regeneration Manager - North
<b>Date</b>	<b>Date</b>	<b>Date</b>
13/9/2018	08/10/2018	25/09/18
	<b>Signed</b>	<b>Signed</b>
		

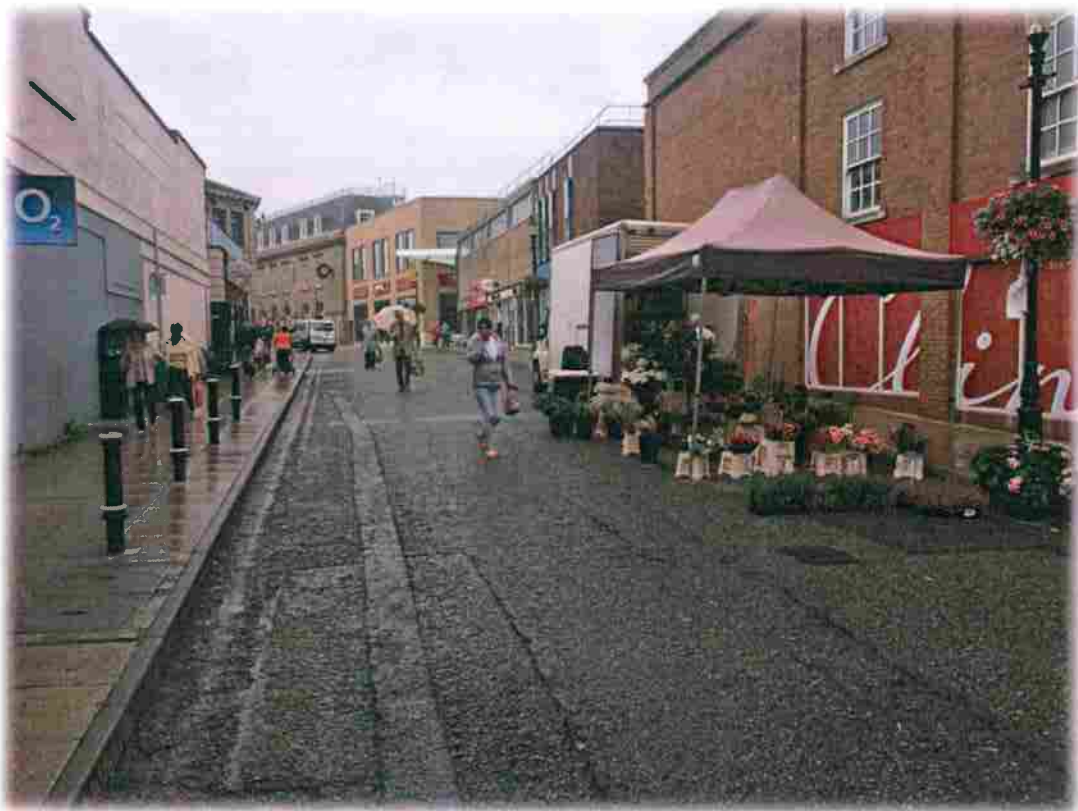
## 5 Appendix A – Plan of Items Raised by this Stage 1 RSA



# **CASTLE STREET, MACCLESFIELD**

## **PROPOSED PUBLIC REALM WORKS**

### **Addendum to Stage 1 / 2 Road Safety Audit**



**Date: 28th September 2018**

**Reference: CEH-RSA-18/19-17**

## Document Control Sheet

Client: Cheshire East Council  
Project: Proposed Public Realm Works  
Document Title: Road Safety Audit Stage 1 / 2  
Addendum  
Ref. No: CEH-RSA-18/19-17

Project No: BP13-0011

	Originated by	Checked by	Reviewed by	Approved by
<b>ORIGINAL</b>	NAME	NAME	NAME	NAME
<b>Revision 0</b>	Barry Smith	Dave Chan	Simon Barker	Gary Mallin
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DATE	INITIALS	INITIALS	INITIALS	INITIALS
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## 1 Introduction

### 1.1 Commissioning and Scope

This report results from a request for an Addendum to the previously issued Stage 1 /2 Road Safety audit (doc CEH-RSA-18/19-16) due to additional information on the type of proposed tactile studs (brass) to be used in the scheme. This RSA addendum is concerned only with the proposed brass tactile studs to be used in the Public Realm Improvements on Castle Street, Macclesfield.

### 1.2 Terms of Reference of the Audit

The terms of reference of the audit are as described in HD 19/15. The team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria.

### 1.3 Audit Team and Documents Reviewed

The Audit Team	<b>Barry Smith</b> , Road Safety Engineer, Traffic and Road Safety Team, Cheshire East Highways <b>Simon Barker</b> , Senior Road Safety Engineer, Cheshire East Highways
Audit Observers	<b>David Chan</b> , Senior Traffic and Road Safety Technician, Cheshire East Highways
Documents Used:	BP13-0011-GA REV D
Departures from standards	No departures from standard have been advised
Audit desktop evaluation	Location: Cheshire East Highways Office, Delamere House Date: 28 <sup>th</sup> September 2018.
Site visit daytime	No additional site visit was carried out to assess the proposed brass tactile as only a desk top assessment would be required
Site visit night-time	N/A

Each of the Audit Team's responses is classified as a 'Problem' that is likely to result in a road safety hazard.

Where recommendations are made these do not comprise design decisions, and it remains the responsibility of the design team to incorporate any changes into the scheme, and consider any interactions between design elements.



## 2 Items Raised in this Addendum to the Stage 1 / 2 Road Safety Audit

### 2.1 Summary Table

The table summarises the findings from this Addendum to the Stage1 / 2 Road Safety Audit, which are described in detail below. The reference numbers in the table below are based on the Stage 1 / 2 annex checklists in HD19/15.

Summary of Items Raised at this Addendum to the Stage 1 / 2 Road Safety Audit.		
Item	Problem / No Problem	Notes
<b>B1 General</b>		
Departures from Standard	No Problem	
Cross Sections	No Problem	
Cross Sectional Variation	No Problem	
Drainage	No Problem	
Landscaping	No Problem	
Public Utilities	No Problem	
Lay-by's	No Problem	
Access	No Problem	
Emergency vehicles	No Problem	
Future Widening	No Problem	
Adjacent development	No Problem	
Basic design principles	No Problem	
<b>B2 Local Alignment</b>		
Visibility	No Problem	
New / Existing Road Interface	No Problem	
Vertical Alignment	No Problem	
<b>B3 Junctions</b>		
Layout	No Problem	
Visibility	No Problem	
<b>B4 Non-Motorised Users</b>		
Adjacent Land	No Problem	
Pedestrian/Cyclists	<b>Problem</b>	A4.1 Potential slip hazard when the brass tactile paving is wet
Equestrians	No Problem	
<b>B5 Road Signs &amp; Marking</b>		
Signs		
Lighting	No Problem	
Poles/Columns	No Problem	
Road Markings	No Problem	

## 2.2 General

No issues were found at this stage of the Road Safety Audit relating to general problems.

## 2.3 Local Alignment

No issues were found at this stage of the Road Safety Audit relating to alignment.

## 2.4 Junctions

No issues were found at this stage of the Road Safety Audit relating to junctions.

## 2.5 Non-Motorised Users

### **PROBLEM B 4.1**

**Location:** Castle Street

**Summary:** Brass tactile studs creating slip hazard during wet conditions

**Description:** The proposals include the use of brass tactile studs at the uncontrolled crossing outside TK Maxx. The Audit Team have previously audited schemes that have included brass tactile studs at uncontrolled crossings and due to poor anti slip properties of the brass tactile studs it has created a slip hazard for pedestrians, in particular for the visually impaired during wet weather conditions.

**Recommendation:** Ensure that the type of tactile stud used within the scheme have passed the relevant slip tests in both wet and dry conditions and are approved anti-slip tactile studs.

### 3 Team Statement

I certify that this report complies with HD19/15, except where stated in the text.

AUDIT TEAM LEADER

Date 28<sup>th</sup> September 2018






AUDIT TEAM MEMBER

Date 28<sup>th</sup> September 2018



[illegible]

Additional considerations raised in letter (outside scope of RSA)		Design Engineer's comments		Scheme promoter's decision and proposed action	
<b>Auditors</b>	<b>Design Engineer</b>	<b>Scheme Promoter</b>			
Barry Smith	Matthew Rodway	Jo Wise			
<b>Date</b>	<b>Date</b>	<b>Date</b>			
28/9/2018	08/10/2108	08/10/2018			
	<b>Signed</b>	<b>Signed</b>			
					



## 5 Appendix A – Plan of Items Raised at this Stage 1 / 2 Addendum

