
**LAND NORTHEAST OF
M1 JUNCTION 22,
MARKFIELD,
LEICESTERSHIRE**

**PROPOSED TOUCAN CROSSING &
SITE ACCESS ON A50**

**STAGE 1
ROAD SAFETY AUDIT REPORT**

**REQUESTED BY:
HUB TRANSPORT PLANNING**

SEPTEMBER 2025



RKS
Associates

Project: Land Northeast of M1 Junction 22, Markfield, Leicestershire
Proposed Toucan Crossing & Site Access on A50

Client: Hub Transport Planning

Document: Stage 1 Road Safety Audit

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RKS
Associates

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Appendix A:	Location of Problems Identified During Stage 1 Road Safety Audit
Appendix B:	Road Safety Audit Decision Log

1 INTRODUCTION

1.1 This report results from a Stage 1 Road Safety Audit carried out on the highway works associated with a proposed Industria/Storage (B2/B8) development on land located to the northeast of M1 Junction 22, Markfield in Leicestershire.

1.2 The proposed development provides a total of 65,000m² Gross Internal Floor Area (GFA) arranged as six units with accesses taken from the A50 via an on and off slip road arrangement and a separate egress only on to Whitwick Road. The proposed site layout and respective accesses are shown in **Figure 1**.

Figure 1: Proposed Site Layout Master Plan



1.3 The highway works subject to this Stage 1 Road Safety Audit include the proposed Toucan crossing on the A50 utilising the central island on the A50 approach to the grade separated roundabout at the M1 Junction 22 and the widening of the A50 to provide a deceleration lane and slip road into the proposed development

1.4 The proposed development is bounded to the south by the A50, a two-lane dual carriageway running west–east. To the west, the A50 connects with Junction 22 of the M1 via a part-signalised, grade-separated, four-arm roundabout. In the vicinity of the proposed development, the A50 is lit and subject to a 50 mph speed limit. A footway is provided along the northern side of the carriageway, and a layby with a bus stop is located to the west of the proposed site access.

1.5 Hub Transport Planning has supplied the following information upon which this Stage 1 RSA is based:

- UMC Architects Drawing Number: 24473-UMC-ZZZZ-SI-DR-A 0112 Revision P02 – Site Layout Plan;
- Traffic Survey data undertaken in May 2025 on the local highway network;
- Hub Transport Planning Drawing Numbers:
 - T22523-001 Revision E - Proposed A50 Site Access with Auxiliary Lane;
 - T22523-002 Revision E - Proposed A50 Site Access Swept Path Analysis; and
 - T22523-005 Revision C – Toucan Crossing Stopping Sight Distances.

1.6 The main parties to this Road Safety Audit include the following:

Road Safety Audit Team Leader	Vimal Patel BEng (Hons), GMICE, FIHE, NH Cert Comp
Road Safety Audit Team Member	Beth Newiss MCIHT, MSoRSA, NH Cert Comp
Local Highway Authority	Leicestershire County Council
Design Organisation	Hub Transport Planning

1.7 The Audit was undertaken following examination of the submitted documents, including reference to a site visit undertaken on Thursday 21st August 2025 between the hours of 10am and 1pm. The weather during the site inspection was sunny and the carriageway dry with moderate traffic flows and no pedestrian and cycle flows were observed along the A50.

Terms of Reference

1.8 The Audit Team is independent of the project design team and has no other involvement with the project. This Stage 1 RSA has been undertaken in accordance with the relevant sections of GG-119, part of the Design Manual for Roads and Bridges (DMRB).

1.9 The Safety Audit Team has examined only matters relating to road safety implications of the scheme and has not verified compliance of the design to any other criteria. The Audit Team has not been made aware of any Departures from Standard or any previous Road Safety Audits conducted on the highway works.

1.10 All of the problems identified in this report are considered by the Audit Team to require action in order to improve the safety of the scheme and to minimise accident occurrence for all users. The location of the problems identified in this Safety Audit is shown in **Appendix A** where the reference numbers relate to the problems identified in this report.

1.11 The recommendations in this report are aimed at addressing the identified road safety problems; however, there may be other alternative acceptable ways to overcome a specific problem, when other practical issues are considered. The recommendations contained herein do not absolve the Designer of his/her responsibilities. The Auditors would be pleased to discuss the acceptability of alternative solutions to problems identified during the Audit and would encourage the Designer to consult them on this matter.

1.12 The LHA response to the RSA should be formally recorded and reported to the Designer and the RSA Team so that a record of the Audit process is contained in the As-Built design pack to be provided and retained by the Local Highway Authority on completion.

1.13 For ease the Road Safety Audit Decision Log template is included in **Appendix B**. This enables the Designers and Overseeing Organisations Response to the Audit to be documented along with an agreed RSA Action.

Collision Data

- 1.14** Publicly available Personal Injury Collision (PIC) information obtained from the Crashmap UK website (www.crashmap.co.uk) for the 5-year period up to December 2023 has been reviewed within the vicinity of the highway works. The collision data indicates that a total of 5 collisions have occurred on the wider highway network in the vicinity of the highway works. A closer examination of the collision data indicates that one collision was recorded on the A50 eastbound carriageway a short distance west of Whitwick Road overbridge, the collision involved four vehicles and resulted in one slight injury.

Trip Generation/Traffic Flow Data

- 1.15** The Design Engineers Hub Transport Planning have provided details of the likely trip generation associated with the proposed development via an email. The trip generation assessment indicates that the proposed development is likely to generate 531 and 348 two-way vehicle trips during the AM and PM peak hour periods respectively.

2 ISSUES IDENTIFIED DURING STAGE 1 ROAD SAFETY AUDIT

2.1 **Problem:**

Summary: Potential risk of collisions associated with poor drainage

Location: *General.*

No details have been provided in respect of surface water drainage or other services, and it is therefore not possible to ascertain whether there will be any safety implications. The absence of surface water drainage may result in the collection of surface water which could increase the risk of loss of control collisions.

Recommendation:

Ensure that the detailed design incorporates surface water drainage to mitigate localised flooding/ponding.

2.2 **Problem:**

Summary: Potential risk of collisions associated with unclear layout

Location: *General – Proposed shared use facility/pedestrian footway.*

No details have been provided in respect of signs and corduroy paving associated with the proposed shared use pedestrian/cycle facility at this stage and it is therefore not possible to ascertain whether there will be any safety implications. The absence of appropriate signs and paving informing non-motorised users of the layout and operation of the proposed shared use facility may increase the risk of collisions between pedestrians and cyclists using the proposed shared use facility. .

Recommendation:

Ensure that appropriate signs and tactile paving informing non-motorised users of the layout and operation of the proposed shared use facility is provided, any signs should be placed at the back of footway where will not cause an obstruction for users.

2.3 **Problem**

Summary: Potential risk of cycle collisions associated with poor facility

Location: *General – Throughout cycle access onto and off shared use facility*

No details relating to safe facilities for cyclists to gain access onto and off the proposed shared use facility have been provided. The absence of safe facilities may result in cyclists negotiating full height kerbs to access onto or off the shared use facility, this may increase the risk of injury to cyclists should they dismount and fall into the carriageway.

Recommendation

Ensure that a safe facility is provided for cyclists to gain access onto and off the proposed shared use facility.

2.4 **Problem:**

Summary: Potential risk cyclists/pedestrians inadvertently entering the carriageway
Location: *Proposed shared use facility onto the A50*

The proposals indicate that a 3m wide shared use pedestrian/cycle facility connecting the proposed development to the A50 is to be provided with users required to travel a short distance eastward along the A50 towards the proposed Toucan crossing. Observations during the site inspection noted a level difference between the proposed development site and the A50 and existing dropped kerb and access road to Cliffehill Farm, although it is currently unclear whether these are to be retained. There is concern cyclists travelling south-westbound may inadvertently enter directly onto the A50 carriageway where the risk of being struck by passing vehicles will be greater. The risk is further exacerbated by the potential for cyclists to approach at higher-than-expected speeds if existing level differences are not addressed.

Recommendation:

Ensure measures to mitigate users of the shared use facility from inadvertently entering the A50 carriageway are provided.

2.5 **Problem:**

Summary: Potential risk of collisions associated with poor visibility
Location: *Proposed shared use facility onto the A50*

No details relating to the visibility splays to and from the shared use pedestrian/cycle facility connecting the proposed development to the footway along the A50 have been provided. Observations during the site inspection noted that dense vegetation adjacent to the access point onto the footway may restrict visibility. This could increase the risk of collisions between users emerging from the proposed shared-use facility and pedestrians or cyclists already travelling along the northern side of the A50.

Recommendation:

Ensure visibility splays to and from the entry/egress to the proposed shared use facility and the existing footway along the northern side of the A50 are provided, any obstruction in visibility should be cut back and regularly maintained or replaced with a low level variety.

2.6 **Problem:**

Summary: Potential risk of loss of control collisions associated poor carriageway surface
Location: *A50 approaches to the proposed Toucan*

It is unclear from the information provided if the carriageway surface on the A50 approaches to the proposed Toucan crossing is to be resurfaced. The introduction of the Toucan crossing may result in sudden/late braking of vehicles approaching the Toucan crossing when a red traffic signal aspect is activated. This may lead to a greater risk of loss of control collisions particularly during wet/damp road surface conditions.

Recommendation:

Review the carriageway surface on the A50 approaches to the proposed Toucan crossing to ensure that appropriate skid resistance (PSV) accord with highway standards, if necessary resurface the carriageway.

- 2.7 Problem:**
Summary: Potential risk of loss of control collisions associated poor visibility to chevron sign
Location: A50 westbound approach to the proposed Toucan
- Observations during the site inspection noted that an existing chevron sign placed on the central island facing A50 westbound traffic may be obstructed by the proposed Toucan crossing. Poor visibility to the chevron sign may increase the risk of westbound traffic mounting the kerb leading to a loss of control collision on the approach to the A50/M1 grade separated roundabout.
- Recommendation:**
Review the layout to ensure that the chevron sign facing A50 westbound traffic on the central island is not obstructed by the proposed Toucan crossing, if necessary amend the layout.
- 2.8 Problem:**
Summary: Potential risk of speed related/loss of control collisions
Location: Proposed development access
- There is concern that the proposed layout of the auxiliary deceleration lane does not provide any additional speed reducing measures. Consequently, there is a greater risk of speed related and/or loss of control collisions associated with vehicles traveling along the auxiliary lane at inappropriate speed.
- Recommendation:**
Ensure additional speed reducing measures are provided on the entry to the development to mitigate the risk of collisions associated with vehicles traveling at inappropriate speed.
- 2.9 Problem:**
Summary: Potential risk of loss of control collisions associated with carriageway space
Location: Proposed development access
- The proposed width of the access road serving the development varies in width from 6.4m on the entry to 4.5m on the approach to the internal site access roundabout. The vehicle swept path analysis provided indicate that large vehicles can negotiate the access road, however where the width narrows there is concern that larger vehicles may overrun the kerbs/verge. This may increase the risk of loss of control collisions which may be exuberated by vehicles travelling at inappropriate speed whilst traversing the bend in the road.
- Recommendation:**
Review the layout, the access road should be of a consistent width with carriageway hatch markings used to direct vehicles safely around the bend.

- 2.10 Problem:**
Summary: Potential risk of collisions associated with vertical alignment
Location: *Proposed development access*
- No details of surface levels have been provided at this stage, it is therefore not clear whether vehicles will be able to negotiate the proposed development access safely. Observations during the site inspection noted that the vertical alignment between the A50 and the proposed development access roundabout, consequently the proposed layout of the access may result in an adverse camber. This may increase the risk of loss of control collisions particularly for high sided vehicles accessing the development.
- Recommendation:**
Ensure that a cross fall suitable for the horizontal alignment and design speed is provided for the proposed development access junction.
- 2.11 Problem:**
Summary: Potential risk of non-motorised users struck by passing traffic
Location: *Proposed crossing facility across development access road*
- No details relating to the visibility splays to and from the tactile landings at the proposed uncontrolled crossing facility across the proposed development entry have been provided. There is concern that visibility to and from the proposed tactile landings may be compromised by vegetation which may lead to non-motorised users entering the carriageway to observe oncoming traffic leading to an increased risk of them being struck by vehicles.
- Recommendation:**
Ensure visibility splays to and from the tactile landings at the proposed uncontrolled crossing facility across the development access road are provided. Vegetation within/behind the visibility splays should be cut back and regularly maintained, alternatively move the crossing facility closer towards development access roundabout.
- 2.12 Problem:**
Summary: Potential risk of pedestrians/cyclists crossing carriageway at unsafe locations
Location: *Proposed shared use facility/pedestrian footway.*
- The proposed layout indicates that the shared use facility will cross the access road at an uncontrolled crossing facility that is set back from the entry to the internal site access roundabout. Consequently, there is a greater risk that a vehicle waiting at the roundabout may block the crossing and result in users of the crossing facility to cross at unsafe locations where there may be a greater risk of them being struck by passing traffic.
- Recommendation:**
Review the layout, it would be more appropriate to relocate the uncontrolled crossing facility on the access road closer to the roundabout.



3 AUDIT TEAM STATEMENT

- 3.1** We certify that this audit has been carried out in accordance with GG-119 of Design Manual for Roads & Bridges Volume 5 Section 2 - Road Safety Audits. Its sole purpose being to identify features of the scheme that could be removed or modified to improve safety. No member of the Audit Team has been involved in the scheme design.

Audit Team Leader

Vimal Patel
BEng (Hons), GMICE, FIHE, NH Cert Comp

Signed:

Date: 4th September 2025

Audit Team Member

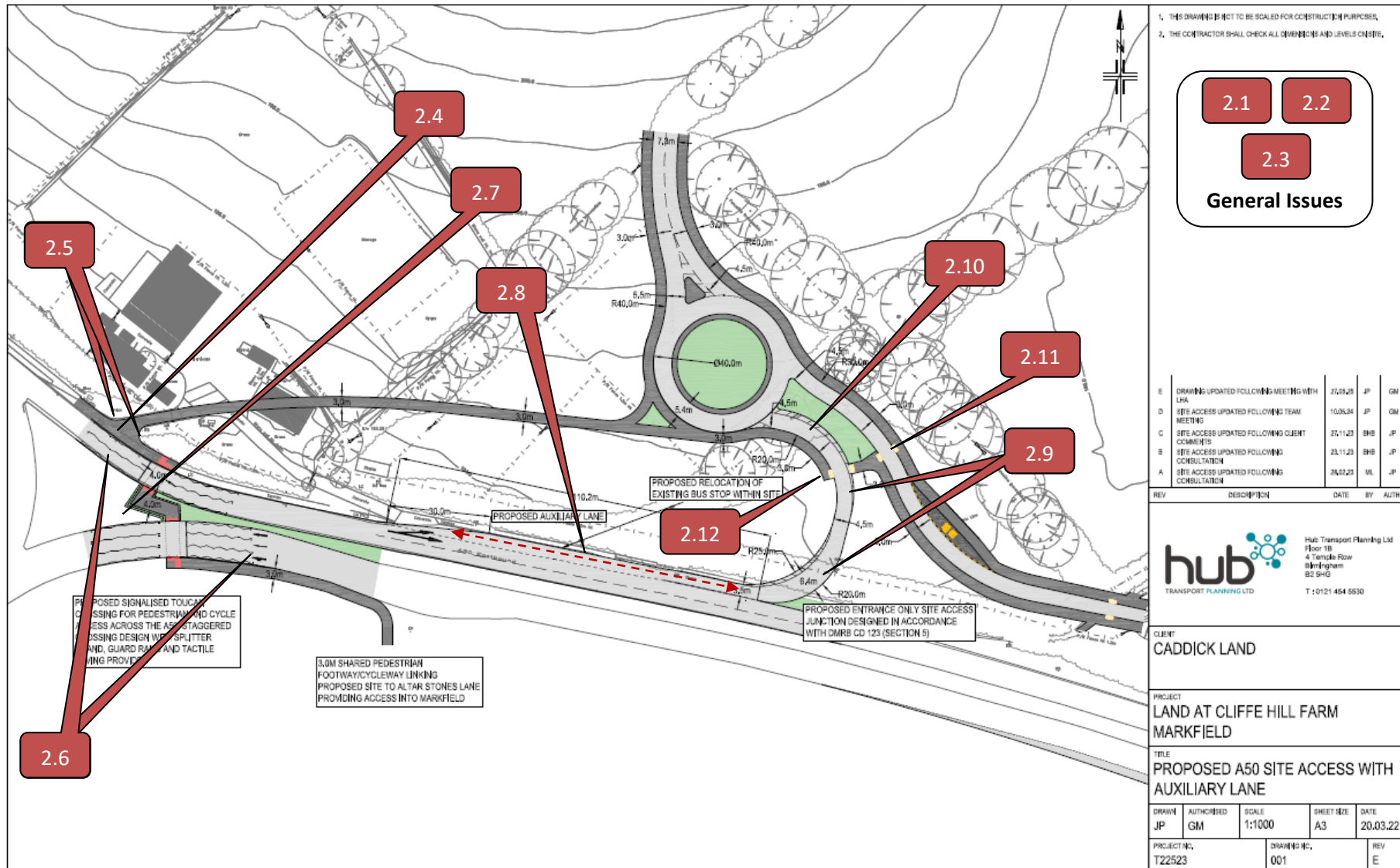
Beth Newiss
MCIHT, MSoRSA, NH Cert Comp

Signed:

Date: 4th September 2025



Appendix A





Appendix B



Issue N°	RSA Problem	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action
2.1	No details have been provided in respect of surface water drainage or other services, and it is therefore not possible to ascertain whether there will be any safety implications. The absence of surface water drainage may result in the collection of surface water which could increase the risk of loss of control collisions.	Ensure that the detailed design incorporates surface water drainage to mitigate localised flooding/ponding.	Recommendation Accepted. Drainage will be dealt with as part of the detailed design of the scheme.		
2.2	No details have been provided in respect of signs and corduroy paving associated with the proposed shared use pedestrian/cycle facility at this stage and it is therefore not possible to ascertain whether there will be any safety implications. The absence of appropriate signs and paving informing non-motorised users of the layout and operation of the proposed shared use facility may increase the risk of collisions between pedestrians and cyclists using the proposed shared use facility. .	Ensure that appropriate signs and tactile paving informing non-motorised users of the layout and operation of the proposed shared use facility is provided, any signs should be placed at the back of footway where will not cause an obstruction for users.	Recommendation Accepted. Drawing T22523.001 has been updated (rev F) to include corduroy paving. Signage will be dealt with at detailed design stage, but there is sufficient space within the adopted highway or land under the control of the applicant to deliver this without causing an obstruction.		
2.3	No details relating to safe facilities for cyclists to gain access onto and off the proposed shared use facility have been provided. The absence of safe facilities may result in cyclists negotiating full height kerbs to access onto or off the shared use facility, this may increase the risk of injury to cyclists should they dismount and fall into the carriageway.	Ensure that a safe facility is provided for cyclists to gain access onto and off the proposed shared use facility.	Recommendation Accepted. Drawing T22523.001 has been updated (rev F) to include the safe connections to/from the shared use route.		



2.4	The proposals indicate that a 3m wide shared use pedestrian/cycle facility connecting the proposed development to the A50 is to be provided with users required to travel a short distance eastward along the A50 towards the proposed Toucan crossing. Observations during the site inspection noted a level difference between the proposed development site and the A50 and existing dropped kerb and access road to Cliffehill Farm, although it is currently unclear whether these are to be retained. There is concern cyclists travelling south-westbound may inadvertently enter directly onto the A50 carriageway where the risk of being struck by passing vehicles will be greater. The risk is further exacerbated by the potential for cyclists to approach at higher-than-expected speeds if existing level differences are not addressed.	Ensure measures to mitigate users of the shared use facility from inadvertently entering the A50 carriageway are provided.	Recommendation Accepted. Drawing T22523.001 has been updated (rev F) to include guardrail at the A50 and direct cyclists safely to the crossing or westbound.		
2.5	No details relating to the visibility splays to and from the shared use pedestrian/cycle facility connecting the proposed development to the footway along the A50 have been provided. Observations during the site inspection noted that dense vegetation adjacent to the access point onto the footway may restrict visibility. This could increase the risk of collisions between users emerging from the proposed shared-use facility and pedestrians or cyclists already travelling along the northern side of the A50.	Ensure visibility splays to and from the entry/egress to the proposed shared use facility and the existing footway along the northern side of the A50 are provided, any obstruction in visibility should be cut back and regularly maintained or replaced with a low level variety.	Recommendation Accepted. Drawing T22523.005 has been updated (rev F) to include the visibility splays.		



2.6	It is unclear from the information provided if the carriageway surface on the A50 approaches to the proposed Toucan crossing is to be resurfaced. The introduction of the Toucan crossing may result in sudden/late braking of vehicles approaching the Toucan crossing when a red traffic signal aspect is activated. This may lead to a greater risk of loss of control collisions particularly during wet/damp road surface conditions.	Review the carriageway surface on the A50 approaches to the proposed Toucan crossing to ensure that appropriate skid resistance (PSV) accord with highway standards, if necessary resurface the carriageway.	Recommendation Partly Accepted. The provision of skid resistant surfacing will be discussed with the highway authority and can be addressed at detailed design stage, if the highway authority consider it acceptable.		
2.7	Observations during the site inspection noted that an existing chevron sign placed on the central island facing A50 westbound traffic may be obstructed by the proposed Toucan crossing. Poor visibility to the chevron sign may increase the risk of westbound traffic mounting the kerb leading to a loss of control collision on the approach to the A50/M1 grade separated roundabout.	Review the layout to ensure that the chevron sign facing A50 westbound traffic on the central island is not obstructed by the proposed Toucan crossing, if necessary amend the layout.	Recommendation Accepted. Drawing T22523.001 has been updated (rev F) to show the chevron sign relocated a few metres to the west to ensure that the toucan crossing does not obstruct visibility to it.		
2.8	There is concern that the proposed layout of the auxiliary deceleration lane does not provide any additional speed reducing measures. Consequently, there is a greater risk of speed related and/or loss of control collisions associated with vehicles traveling along the auxiliary lane at inappropriate speed.	Ensure additional speed reducing measures are provided on the entry to the development to mitigate the risk of collisions associated with vehicles traveling at inappropriate speed.	Recommendation Accepted. Drawing T22523.001 has been updated (rev F) to include 'SLOW' road markings and chevron signs on the auxiliary lane and at the bend, the precise location of which will be agreed with the highway authority at detailed design stage.		



2.9	The proposed width of the access road serving the development varies in width from 6.4m on the entry to 4.5m on the approach to the internal site access roundabout. The vehicle swept path analysis provided indicate that large vehicles can negotiate the access road, however where the width narrows there is concern that larger vehicles may overrun the kerbs/verge. This may increase the risk of loss of control collisions which may be exuberated by vehicles travelling at inappropriate speed whilst traversing the bend in the road.	Review the layout, the access road should be of a consistent width with carriageway hatch markings used to direct vehicles safely around the bend.	Recommendation Accepted. Drawing T22523.001 has been updated (rev F) to provide a consistent width.		
2.10	No details of surface levels have been provided at this stage, it is therefore not clear whether vehicles will be able to negotiate the proposed development access safely. Observations during the site inspection noted that the vertical alignment between the A50 and the proposed development access roundabout, consequently the proposed layout of the access may result in an adverse camber. This may increase the risk of loss of control collisions particularly for high sided vehicles accessing the development.	Ensure that a cross fall suitable for the horizontal alignment and design speed is provided for the proposed development access junction.	Recommendation Accepted. This issue will be dealt with at detailed design stage, but it should be noted that the site is being regraded internally to ensure that a suitable crossfall can be achieved.		
2.11	No details relating to the visibility splays to and from the tactile landings at the proposed uncontrolled crossing facility across the proposed development entry have been provided. There is concern that visibility to and from the proposed tactile landings may be compromised by vegetation which may lead to non-motorised users entering the carriageway to observe oncoming traffic leading to an increased risk of them being struck by vehicles.	Ensure visibility splays to and from the tactile landings at the proposed uncontrolled crossing facility across the development access road are provided. Vegetation within/behind the visibility splays should be cut back and regularly maintained, alternatively move the crossing facility closer towards development access roundabout.	Recommendation Accepted. Drawing T22523.001 has been updated (rev F) to relocate the crossing locations closer to the roundabout; all vegetation within visibility splays will be cut back and regularly maintained.		



2.12	The proposed layout indicates that the shared use facility will cross the access road at an uncontrolled crossing facility that is set back from the entry to the internal site access roundabout. Consequently, there is a greater risk that a vehicle waiting at the roundabout may block the crossing and result in users of the crossing facility to cross at unsafe locations where there may be a greater risk of them being struck by passing traffic.	Review the layout, it would be more appropriate to relocate the uncontrolled crossing facility on the access road closer to the roundabout.	Recommendation Accepted. Drawing T22523.001 has been updated (rev F) to relocate the crossing locations closer to the roundabout.		
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