Title: **STAGE 2 ROAD SAFETY AUDIT**

For;

Main Street Ardee

Client: **Louth County Council**

Date: **June 2024**

Report reference: **2067R02 Rev 2**

VERSION: **March 2025 Addendum.**

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1.0 Introduction

This report was prepared in response to a request from Mr. Lee Hannigan, Turley, on behalf of Louth County Council, for a Stage 2 Road Safety Audit of the proposed Ardee Main Street Regeneration Project.

The Road Safety Audit Team comprised of;

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

TII Auditor Approval no. NB 168446

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TII Auditor Approval no. OO1291756

The Road Safety Audit comprised an examination of the drawings and other material provided and a site visit by the Audit Team, on the 17th of June 2024.

The weather at the time of the site visit was mainly dry however with some rain showers. The road surface was generally dry and became damp.

This Stage 2 Road Safety Audit has been carried out in accordance with the requirements of TII Publication Number GE-STY-01024, dated December 2017.

The scheme has been examined and this report compiled in respect of the consideration of those matters that have an adverse effect on road safety. It has not been examined or verified for compliance with any other standards or criteria.

The problems identified in this report are considered to require action in order to improve the safety of the scheme for road users.

If any of the recommendations within this safety audit report are not accepted, a written response is required, stating reasons for non-acceptance. Comments made within the report under the heading of Observation are intended to be for information only. Written responses to Observations are not required.

A location map showing where each problem occurs is provided in **Appendix A.**

A list of the documents provided to the Audit Team is provided in **Appendix B.**

The feedback form is provided in **Appendix C.**

TII Approval of the Audit Team is provided in **Appendix D.**

A Combined Stage 1&2 Road Safety Audit was carried out in November 2023 by the same Audit Team (report ref 2067R01).

The first version of this report was finalised in July 2024. Since then the design has developed to accommodate private accesses and other minor adjustments along the scheme. This has resulted in some localised changes to the design. This version of the report includes an additional section (Section

3A) which is based on a review of the updated drawings at these locations. The new drawing references are added to Appendix B. For ease of reference and clarity text associated with this October 2024 update is presented in blue.

In March 2025 a small change was made to the design proposal relating to the proposed raised crossing south of the Dee River bridge on the N2. The bridge structure could not withstand the additional loading and so the raised crossing is to be replaced with a at-grade zebra crossing with belisha beacons and associated road markings and tactile paving. The updated design was assessed by the Audit Team and this report updated. Text associated with this update is provided in green for ease for the reader.

2.0 Background

Ardee Main Street is part of the N2 National Primary route. The road is a single carriageway, two-way road with footpaths provided on both side of the road along its full length. The carriageway is quite wide at various locations along the Main Street and narrow at one point close to the Dee River crossing.

A number of pedestrian crossing facilities are provided along the street however, no dedicated cycle facilities are provided along the street. A high level of car parking is experienced along the Main Street and a lot of the parking is in an irregular pattern, with combinations of parallel, echelon and perpendicular parking along the street.

The proposed development would consist of:

- Realignment and narrowing of the carriageway on Main Street and alterations / rationalising of on-street parking provision to reduce the overall number of spaces.
- Creation of new urban civic spaces, streets, road junctions, pedestrian pavements and cycle routes.
- Active Travel Upgrades along the Main Street
- Construction of new public realm comprising new hardscape surfaces, kerbing, street furniture, public street and feature lighting, soft landscape planting, cycle parking and signage.
- Alterations to the existing car parking layout outside Ardee Library to create a public plaza.

The site location map is shown below.

For ease of reference and clarity text associated with the October 2024 update is presented in blue.

For ease of reference and clarity text associated with this March 2025 update is presented in green.

Image Courtesy of openstreetmap.org

3.0 Issues Identified in this Stage 2 Audit (June 2024)

3.1 Problem (Repeat of Issue 3.1 in the Stage 1&2 RSA)

Location

Throughout the scheme, parking.

Problem

Although the scheme promotes vulnerable road users and active travel there is a risk that the reduction of parking areas will lead to illegal parking on the footpaths and cycle tracks thereby rendering them unsafe for vulnerable road users. Traffic wardens are generally only present in Ardee one day per week to enforce compliance.

Recommendation

It is recommended that sufficient alternative parking spaces be provided close to the Main Street to facilitate those trading in the area. Signage to direct drivers to these parking areas may be required until they are well established for those who can no longer park along the Main Street.

3.2 Problem (Repeat of Issue 3.2 in the Stage 1&2 RSA)

Location

Throughout the scheme, Utility Poles.

Problem

There are some substantial utility poles in the footpaths along the scheme. It is unclear if these poles are to be removed. If they are to remain they present hazards for pedestrians who may collide with them if not looking up, or if the pedestrians are visually impaired and also the poles reduce the effective width of the footpath to such an extent that some pedestrians may step onto the carriageway to avoid them thereby increasing the risk of being struck by a passing vehicle.

Recommendation
It is recommended that the poles be removed.

3.3 Problem (Repeat of Issue 3.3 in the Stage 1&2 RSA)

Location
Throughout the scheme, Loading bays.

Problem
It is noted that some loading bays have been provided along the scheme. Main Street is a long street with many commercial & retail premises. The loading bays may be remote from many shops leading to delivery vehicles parking on the cycle tracks and footpaths thereby blocking the routes for cyclists and pedestrians leading to those vulnerable road users entering the carriageway and being at risk of being struck by passing vehicles.

Recommendation
It is recommended that an assessment be carried out for the need for additional loading bays along the scheme and they should be provided as required.

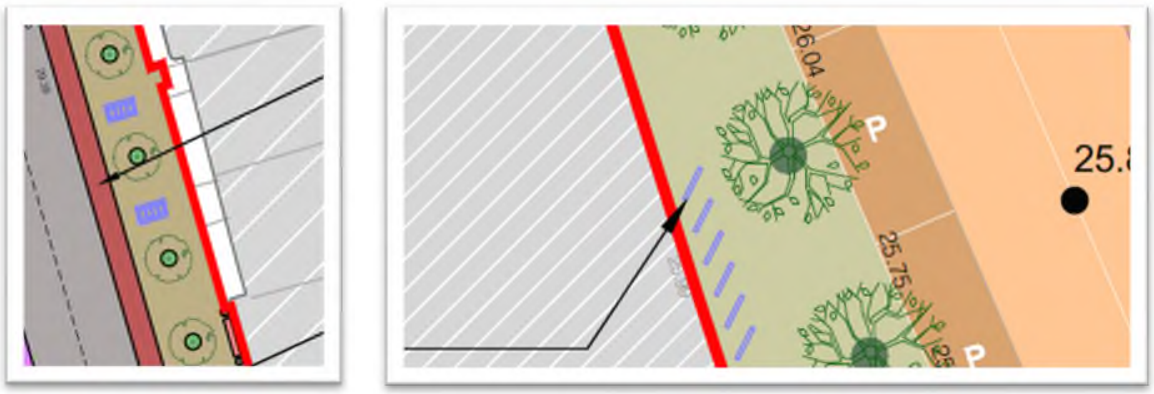
3.4 Problem (Repeat of Issue 3.4 in the Stage 1&2 RSA)

Location

Throughout the scheme, Street furniture including tree pits.

Problem

It is proposed to provide street furniture including trees along the scheme. There is a risk that the effective width of the remaining footpath may be less than the capacity needed to cater for the volumes using it. This could lead to collisions between pedestrians, spillover of pedestrians into cycle tracks or pedestrian collisions with street furniture.



Examples only

Recommendation

It is recommended that a suitable effective width of footpath be maintained throughout the scheme to cater for the typical volumes in Ardee, including increased future pedestrian use as a result of this scheme.

3.5 Problem

Location

Drawing HDC1256 106 Rev 06, Toucan crossing south of Ash Walk.

Problem

The northbound cycle track commences within the L-shaped tactile paving. This area should be shared use and access to the push buttons should be available. The Zebra type road markings should not be provided at toucan crossings as priority may be confusing. A lack of clarity could lead to collisions between vulnerable road users and passing traffic.

Recommendation

It is recommended that a standard layout toucan crossing be provided.

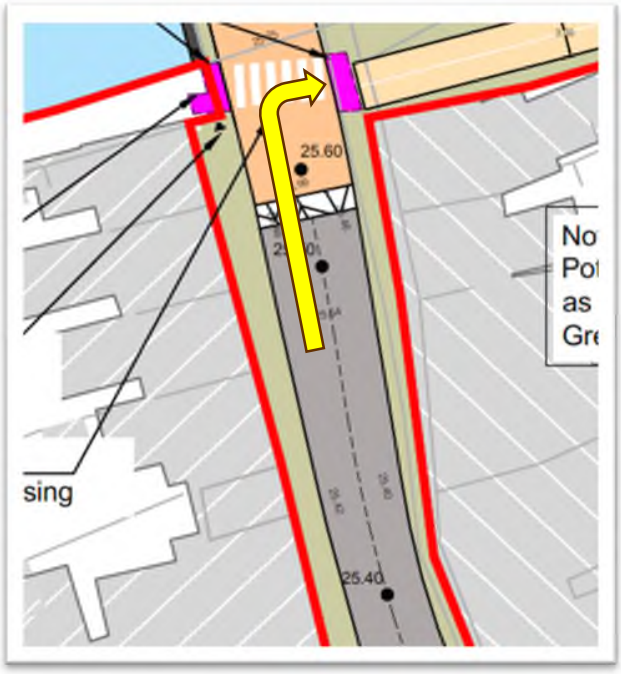
3.6 Problem (Update of Issue 3.6 in the Stage 1&2 RSA)

Location

Drawing HDC1256 107 Rev 07, South of Dee River bridge.

Problem

There is no provision for northbound cyclists to exit the N2 and wait to cross the signalised crossing. Cyclists will therefore continue travelling northbound on the Main Street carriageway thereby increasing the risk of collisions with general traffic. A proposal to direct cyclists via Hale Street was suggested in the Feedback Form of the Stage 1&2 Road Safety Audit. That proposal does not appear to be included in this design update.



Recommendation

It is recommended that a transition from on-road to off-road be provided for cyclists.

3.7 Problem

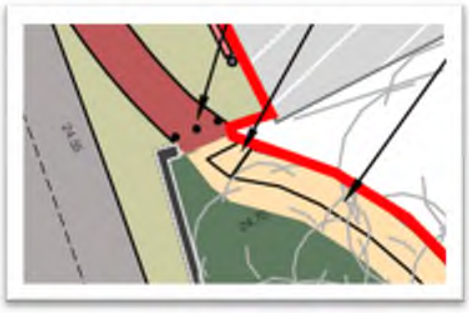
Location

Drawing HDC1256 107 Rev 07, Interface of Shared use and cycle only facilities.

Problem

A lack of guidance at the interface of shared use and cycle only facilities could lead to blind or partially sighted pedestrians entering a cyclists only area which would increase the likelihood of a collision with cyclists.

Examples only



Recommendation
It is recommended that suitable tramline tactile paving be provided at the interfaces.

3.8 Problem (Repeat of Issue 3.8 in the Stage 1&2 RSA)

Location
Drawing HDC1256 107 Rev 07, South of Dee River bridge.

Problem
There is a pinch point in the carriageway south of the bridge. Wide vehicles currently operate an informal shuttle system to pass each other. This may not be possible with the introduction of the new crossing as vehicles may be stuck in position while queuing at the signals. This could lead to side-swipe collisions, damage to bollards and mounting of the footpath. It is noted from the site visit that queuing on the N2 is common for long periods of each day. (It was observed during the most recent site visit that flexible bollards in the footpath at this location have been struck many times and have collapsed)

Recommendation
It is recommended that an analysis be carried out of the likelihood of queues at the pinch point and the possible need for a longer formal shuttle system.

3.9 Problem

Location

Drawing HDC1256 107 Rev 07, Pedestrian /cyclists bridge over the River Dee.

Problem

The two-way cycle track leads to a shared use area on approach to the bridge. Pedestrians have no area to join the shared use area. This could result in pedestrians crossing the road bridge which has a very narrow footpath and pedestrians would be subject to wind forces from heavy goods vehicles possibly leading to loss of balance.

Recommendation

It is recommended that an area be provided for pedestrians to access the pedestrian bridge.

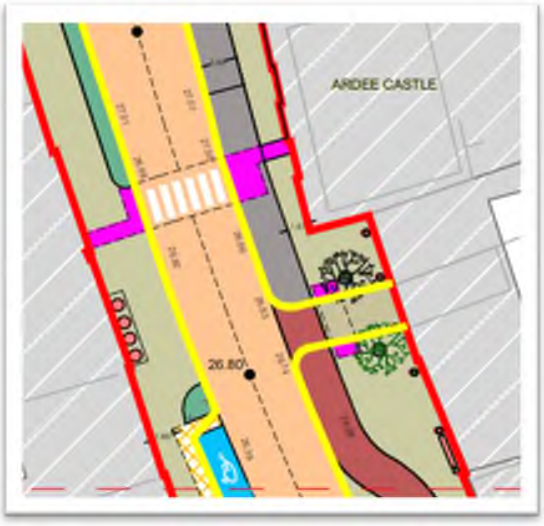
3.10 Problem

Location

Drawing HDC1256 107 Rev 06, General issue, Flush kerbs.

Problem

It is proposed to provide flush kerbs between the footpaths and cycle tracks at areas of raised tables. Given the arterial nature of the N2 and the high percentage of HGVs there will be no resistance to overrun by wide vehicles and no containment of errant vehicles. The flush kerbs will lead to higher turning speeds at side roads and private accesses which would increase injury severity if a vulnerable road user is struck. The flush kerbs also provide no warning for blind or partially sighted pedestrians that they could be entering an area trafficked by vehicles.



Example area only.

Recommendation

It is recommended that a suitable kerb upstand be provided except at pedestrian crossing areas.

3.11 Problem (Repeat of Issue 3.11 in the Stage 1&2 RSA)

Location

Drawing HDC1256 107 Rev 07, Car park north of Dee River crossing.

Problem

Some proposed car parking spaces appear to be difficult to enter and egress especially if the adjacent spaces are occupied. This could lead to material damage of vehicles or inaccessibility for some users with mobility impairment but not sufficient to be entitled to use the disabled spaces.

Recommendation
It is recommended that adequate turning space be provided for all car parking spaces.

3.12 Problem

Location
Drawing HDC1256 107 Rev 0, Two-way cycle track.

Problem
The two -way cycle track along the eastern side may not be obvious to all users that it is two-way This could lead to lack of discipline by cyclists travelling side by side thereby increasing the risk of collisions with oncoming cyclists.

Recommendation
It is recommended that additional cycle road marking logos with arrow heads be provided at regular intervals. (These are provided on some drawings).

3.13 Problem (Update of Issue 3.13 in the Stage 1&2 RSA)

Location
Drawing HDC1256 107 Rev 07, Cycle track adjacent to the carriageway.

Problem
Some portions of the two-way cycle track are adjacent to the N2 carriageway. The N2 (being a national primary route linking Dublin to Derry and connecting with the N52 (without tolls) has a high percentage of heavy goods vehicles (HGVs) and the lack of a buffer could lead to less confident cyclists wobbling,

especially if affected by the wind forces associated with HGVs, resulting in collisions. This may particularly be an issue at raised tables where there are flush kerbs only to segregate cyclists from general traffic. There was a suggestion of having a 30km/hr speed limit in Ardee town centre in the feedback form of the Stage 1&2 Road Safety Audit. This does not however appear to be part of the current proposal.

Recommendation

It is recommended that the 30km/hr speed limit be confirmed or that a buffer zone, bollards or a suitable kerb upstand be provided.

3.14 Problem (Repeat of Issue 3.14 in the Stage 1&2 RSA)

Location

Drawing HDC1256 107 Rev 07, Pedestrian Crossing at Ardee Castle.

Problem

The pedestrian crossing at Ardee castle has a two-way cycle track on the eastern side. A lack of warning could lead to blind or partially sighted pedestrians not realising they are sharing space with cyclists.

Recommendation

It is recommended that a well-defined shared area be provided with suitable ladder and tramline tactile paving at either side. This applies to other similar crossings throughout the scheme.

3.15 Problem (Repeat of Issue 3.15 in the Stage 1&2 RSA)

Location

Drawing HDC1256 107 Rev 07, N52 Barret's Lane.

Problem

The N52 is a national secondary road which is proposed to bypass Ardee in the future as part of a separate scheme. There is however no guarantee that this scheme will progress and a high volume of HGVs will continue to use the N52 if this scheme progresses. Although the N52 junction is being built out from its current layout it is unclear if HGVs will be able undertake the turning manoeuvres from and to the N2 in both directions. A lack of space would lead to overrunning of the footpaths, cycle track or side swipe/head -on collisions with other vehicles.

Recommendation

It is recommended that a swept path analysis be carried out for HGVs to ensure that turning manoeuvres can be undertaken. If this cannot be achieved a signalised junction may be required.

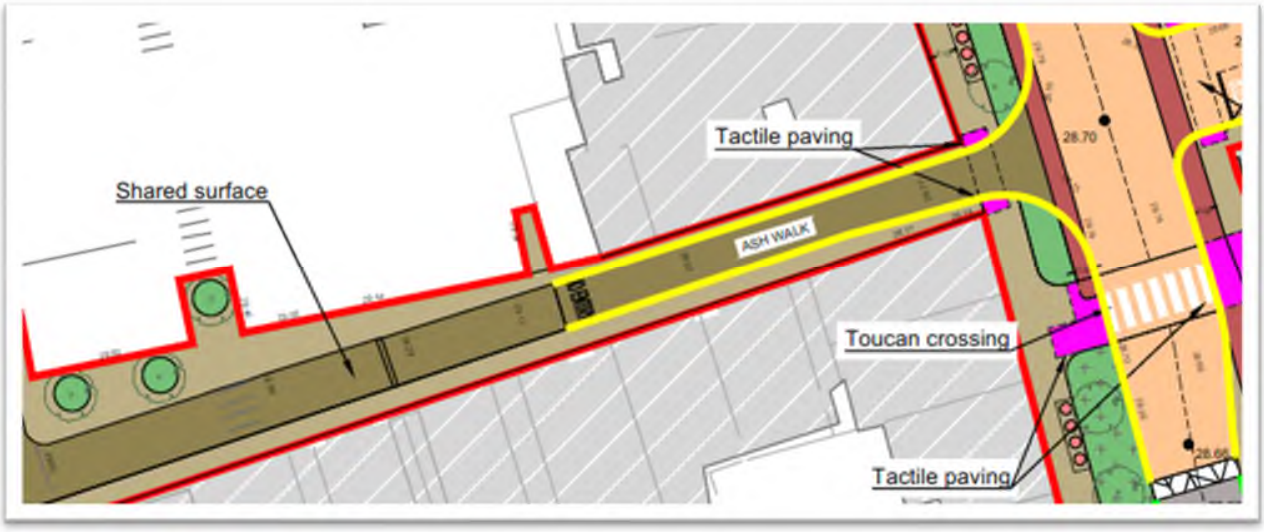
3.16 Problem

Location

Drawing HDC1256 106 Rev 06, Ash Walk, Shared Street.

Problem

Ask Walk is shown to be a 'Shared Street' It is unclear what distinguishing features or what signage will be provided to indicate this to users, especially drivers, as they enter this area. It appears that the footpaths are to be retained beyond the initial section from the N2 which does not signify a shared street but segregated facilities for pedestrians. A lack of clarity can lead to drivers presuming priority resulting in collisions.



Recommendation

It is recommended suitable details be provided to denote a 'shared street' at its transition from the N2.

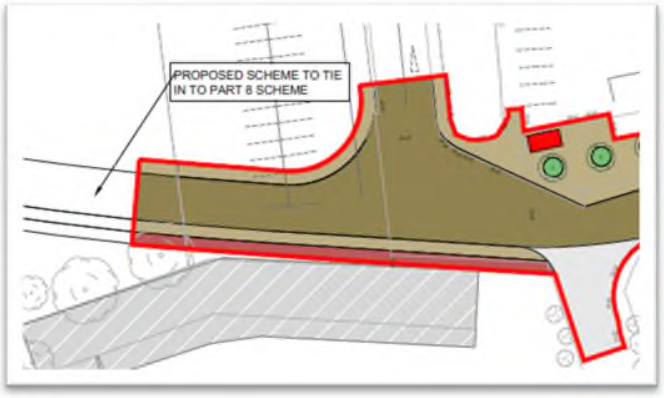
3.17 Problem

Location

Drawing HDC1256 106 Rev 06, Ash Walk.

Problem

Ash Walk is shown to tie-into a Part 8 scheme at the western end. Ash Walk is shown as a 'Shared Street'. It is unclear if the Part 8 scheme is to be a shared street and if its nature and use will therefore be consistent. A change of street type could increase the risk of collisions with vulnerable road users.



Recommendation
It is recommended that consistency in street type be provided.

3.18 Problem (Repeat of Issue 3.18 in the Stage 1&2 RSA)

Location
Drawing HDC1256 106 Rev 06, Ash Walk.

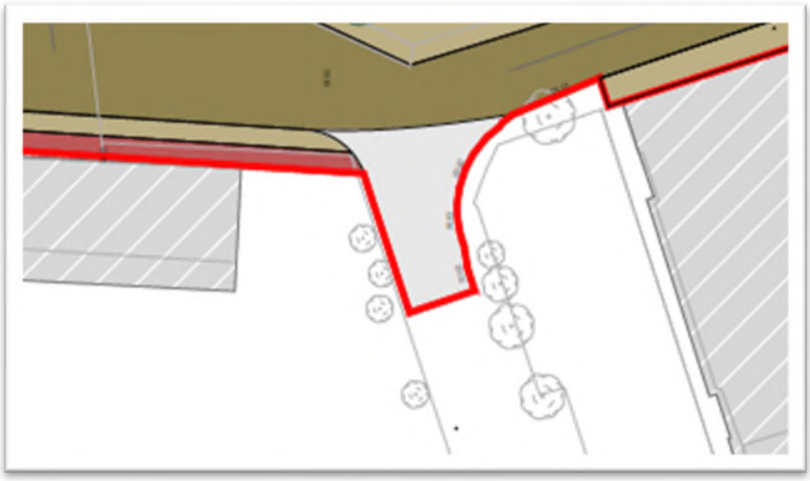
Problem
Ash Walk is relatively long and straight and one-way. This could lead to high vehicle speeds. High speeds leads to high injury severity if a vulnerable road users is struck by an errant vehicle.

Recommendation
It is recommended that traffic calming be provided along Ash Walk. (It is unclear if an existing raised table is to be retained)

3.19 Problem

Location
Drawing HDC1256 106 Rev 06, Ash Walk, tie in with link road to the N52.

Problem
The link road to the N52 from Ash Walk is not shown to be a shared street. A change of street type could increase the risk of collisions with vulnerable road users.



Recommendation

It is recommended that that consistency in street type be provided or that a suitable transition be provided.

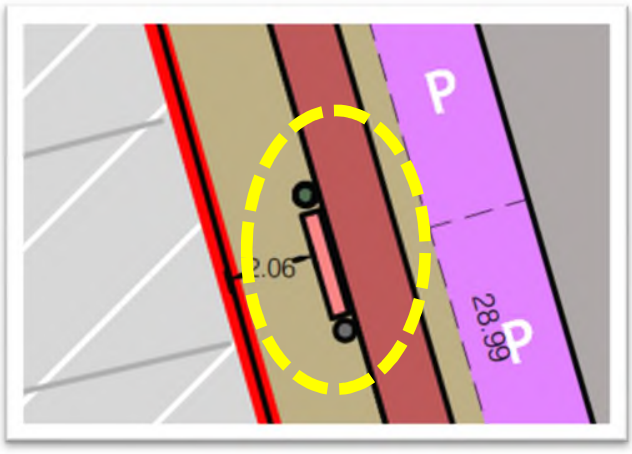
3.20 Problem

Location

Drawing HDC1256 106 Rev 06, benches adjacent to the cycle lane.

Problem

It is proposed to provide benches adjacent to the cycle track. If they are located too close to the cycle track they may be hazards for cyclists who may get their handlebars caught leading to loss of control and falls.



Example only

Recommendation

It is recommended adequate offset be provided at the edges of the cycle track without obstacles.

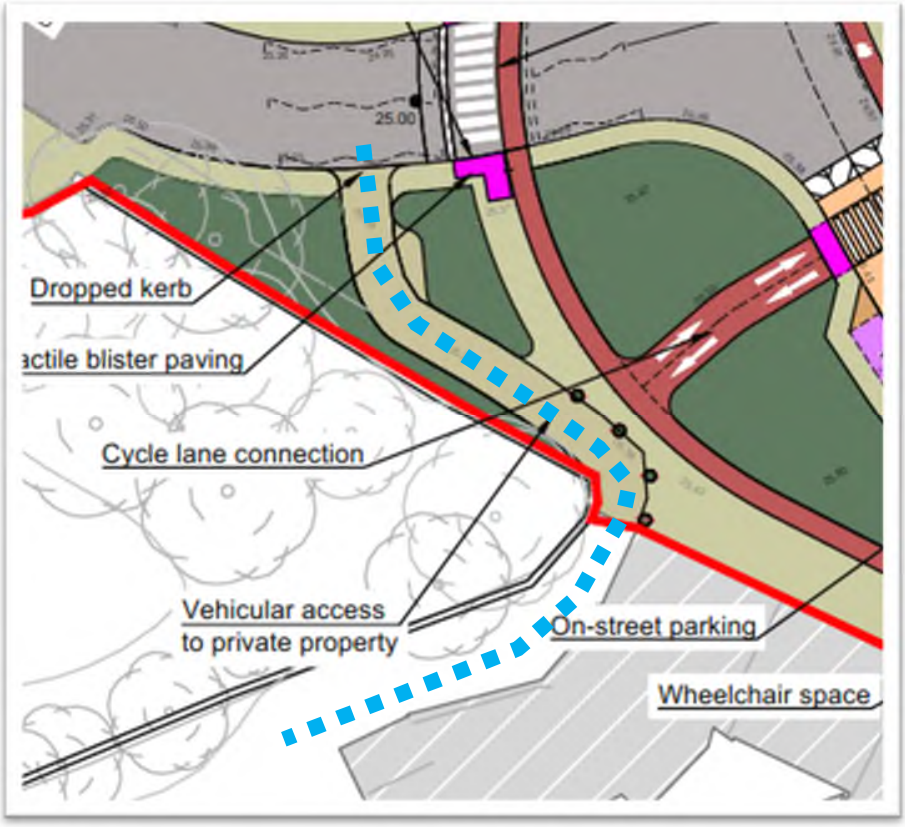
3.21 Problem (Repeat of Issue 3.21 in the Stage 1&2 RSA)

Location

Drawing HDC1256 102 Rev 07, Vehicular Access to Public House.

Problem

The vehicular access to the car park of the bar at the junction of Golf Links Road is for a single vehicles only. Drivers entering the route will not have inter-visibility to drivers leaving which could lead to reversing onto Golf Links Road resulting in collisions with through traffic or crossing pedestrians.



Recommendation

It is recommended that a passing bay be provided. Depending on the amount of usage this lane may need to be segregated from the pedestrian route.

3.22 Problem

Location

Drawing HDC1256 102 Rev 07, Golf Links Road Junction.

Problem

The corner radii at the Golf Links Road junction with the N2 are large. This could lead to high turning speeds and thus higher severity collisions.

Recommendation

It is recommended that the corner radii be reduced

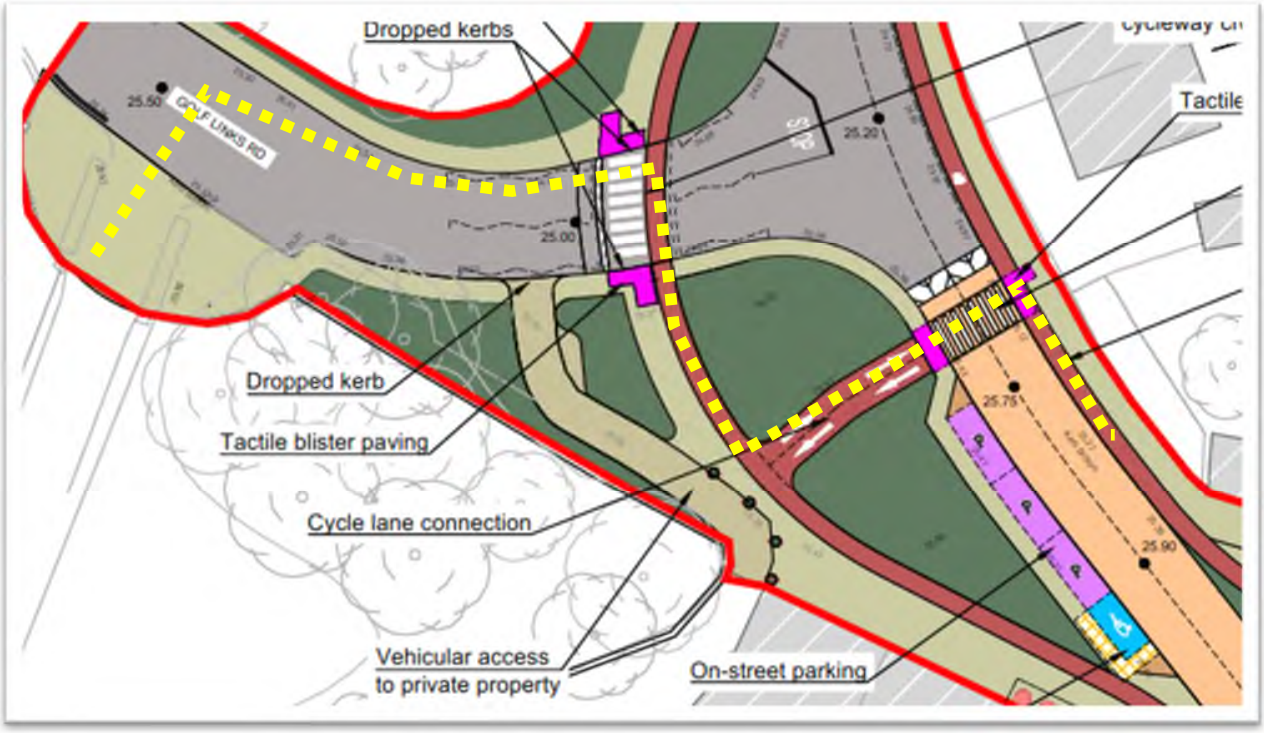
3.23 Problem

Location

Drawing HDC1256 102 Rev 07, Crossing on Golf Links Road.

Problem

A two-way section of cycle track is proposed to allow cyclists access the southbound cycle track. There is however no link for cyclists coming from Golf Links Road to do so. The new developments on the St. Joseph's site will generate cyclists movements that are not catered for. A lack of facilities will lead to cyclists travelling contra flow on the northbound cycle track which would increase the likelihood of collisions with other cyclists.



Recommendation

It is recommended that a link to the southbound site be provided to avoid cyclists travelling contraflow on the northbound cycle track.

3.24 Problem (Repeat of Issue 3.24 in the Stage 1&2 RSA)

Location
Drawing HDC1256 102 Rev 07, Northern cycle track tie-in.

Problem
The northbound cycle track tapers gently from off-road to on-road. This could lead to cyclists entering the busy N2 without looking to see if traffic is approaching. This could lead to 'squeezing' and collisions especially as the N2 carriageway width has been reduced.

Recommendation
It is recommended that the cycle track be terminated with a jug turn type arrangement whereby cyclists will be perpendicular to traffic and will have to stop before entering the carriageway.

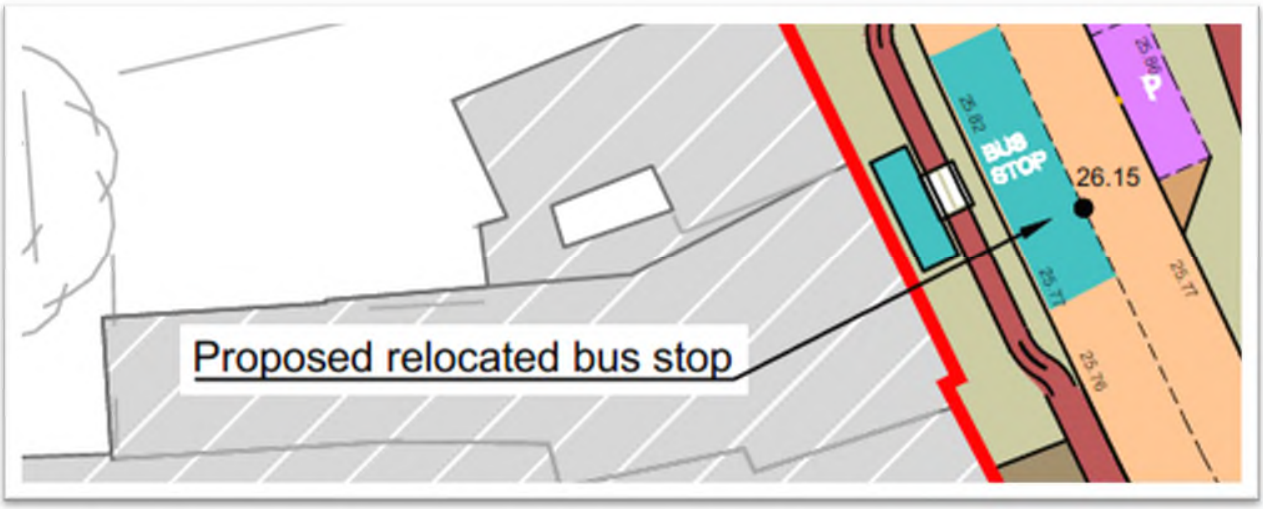
3.25 Problem

Location

Drawing HDC1256 102 Rev 07, Northbound bus shelter.

Problem

It is unclear what type of bus shelter is proposed at the relocated northbound bus stop. A full panel shelter could lead to a lack of space for pedestrians to pass leading to some pedestrians entering the cycle track where they would be at risk of being struck by passing cyclists.



Recommendation

It is recommended that a suitable type shelter be provided to avoid excessive restrictions in the footway.

3.26 Problem

Location

Drawing HDC1256 102 Rev 07, Disabled parking space.

Problem

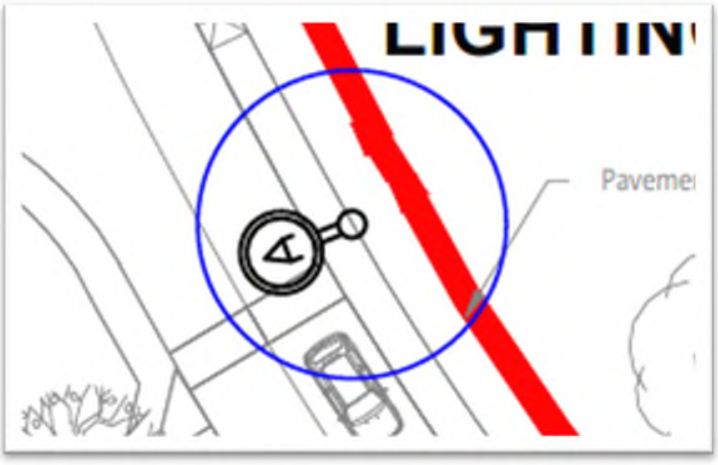
The buffer zone for the disabled parking space to the south of the southbound bus stop coincides with the footpath. It is unclear what the levels will be and if a wheelchair user will be able to use the space freely to access all areas of the car. A lack of space could lead to users entering the carriageway where they would be at greater risk of being struck by a passing vehicle.

Recommendation
It is recommended that that the footpath be rerouted to the rear of the buffer zone.

3.27 Problem

Location
Drawing ARD-MET-ZZ-XX-DR-E-6001A Rev P01, Lighting Columns, General issue.

Problem
Some lighting column locations are shown on the boundary between the cycle track and the footpath. The columns would be hazards for both cyclists and pedestrians.



Example only

Recommendation
It is recommended that the columns be located to the rear of the footpath or in green areas.

3.28 Problem

Location

Drawing HDC1256 102 Rev 07 (kerbs)

Problem

Flush kerbs are shown at the bus stops. This could lead to inaccessibility for some users resulting in loss of balance and falls.

Recommendation

It is recommended that kassel kerbs be provided at the bus stops with suitable transition gradients.

3.29 Problem

Location

Drawing HDC1256 106 Rev 06 (kerbs)

Problem

Full height kerbs are shown through the buffer zones of the disabled parking spaces. This could lead to inaccessibility, loss of balance, inability to use wheelchairs and to users entering the carriageway where they would be at greater risk of colliding with passing vehicles.

Example only

Recommendation

It is recommended that suitable kerbing and access to the footpath be provided outside the buffer zones.

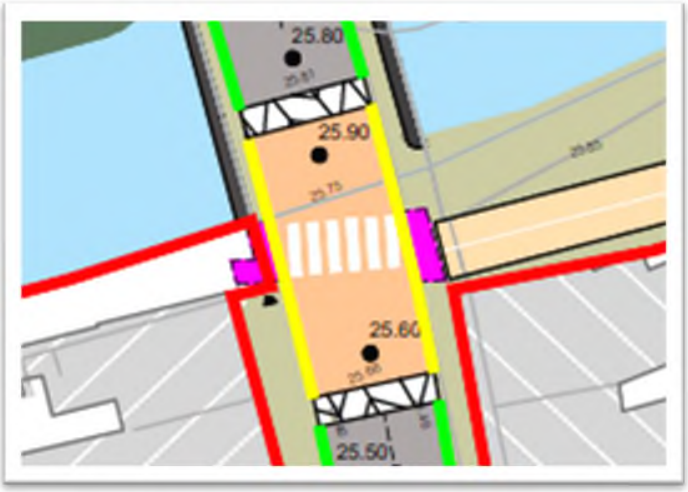
3.30 Problem

Location

Drawing HDC1256 1002Rev 06 (kerbs)

Problem

Flush kerbs are shown at the raised table partially over the river Dee bridge. A lack of kerb upstand will lead to no resistance to errant vehicle whose driver may loose concentration even at low sped resulting in a collision with the bridge parapet. This could lead to structural damage.



Recommendation

It is recommended that flush kerbs only be provided at the crossing point.

3.31 Problem

Location

Drawing 533273-NOD-01-XX-DR-C-020101 P03, Gullies at raised tables and crossing points for pedestrians and cyclists.

Problem

Gullies have not been provided upstream of each raised table and each pedestrian/cyclist crossing. This could lead to surface water ponding, loss of traction and loss of control in icy weather and slips and falls for vulnerable road users.

Example only

Recommendation

It is recommended that gullies be provided upstream of all raised area and crossing points to avoid surface water ponding.

3A Issues Identified in the Stage 2 Audit (October 2024)

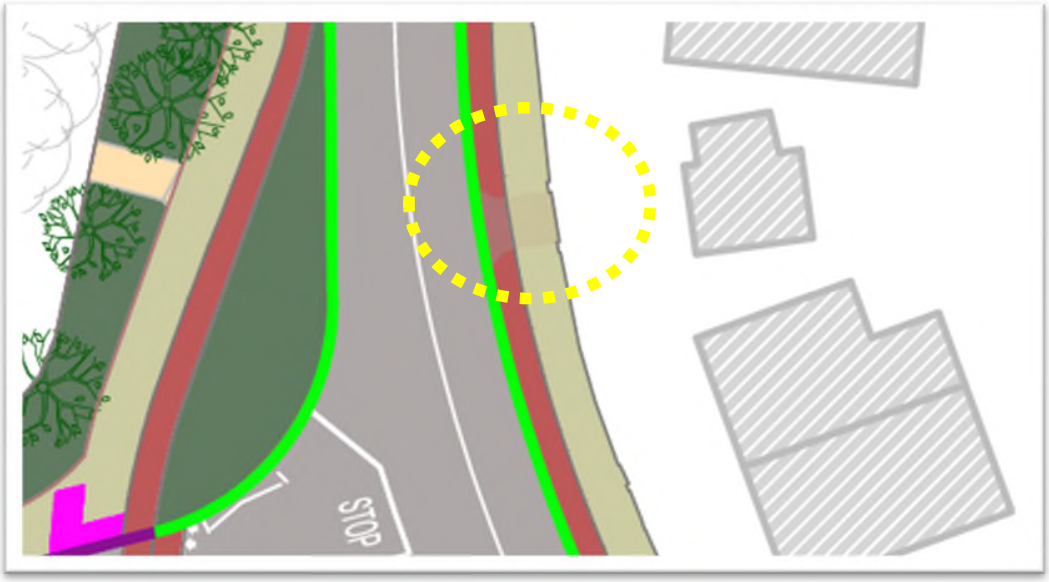
3A.1 Problem

Location

Drawing HDC1256 1002 (K) Rev 03 Kerb Layout, Access to private garage off N2.

Problem

The drawing shows a 125mm high kerb at the proposed vehicular access to the private garage on the eastern side of the N2 just north of the Golf Links Road junction. A high kerb could lead to vehicles 'bouncing back' when trying to access the driveway to the garage resulting in rear-end collisions.



Recommendation

It is recommended that the kerb height be adjusted to facilitate vehicular access.

3A.2 Problem

Location

Drawing HDC1256 1002 (K) Rev 03 Kerb Layout, Relocated Bus stop and bus shelter, south bound.

Problem

The location of the bus shelter between the bus stop and the pedestrian crossing of the cycle track does not appear to allow enough space for pedestrian movements from the footpath if the shelter will have a back or front panels. This could lead to pedestrians crossing the cycle track away from the highlighted striped areas resulting in a higher likelihood of collision with cyclists who do not expect pedestrians to cross. Also, if passengers alight from the front of the bus there is very little space between where they will step out and the cycle track. This could lead to collisions with passing cyclists.

Recommendation

It is recommended that the layout be changed to provide adequate space for bus users without conflict with cyclists.

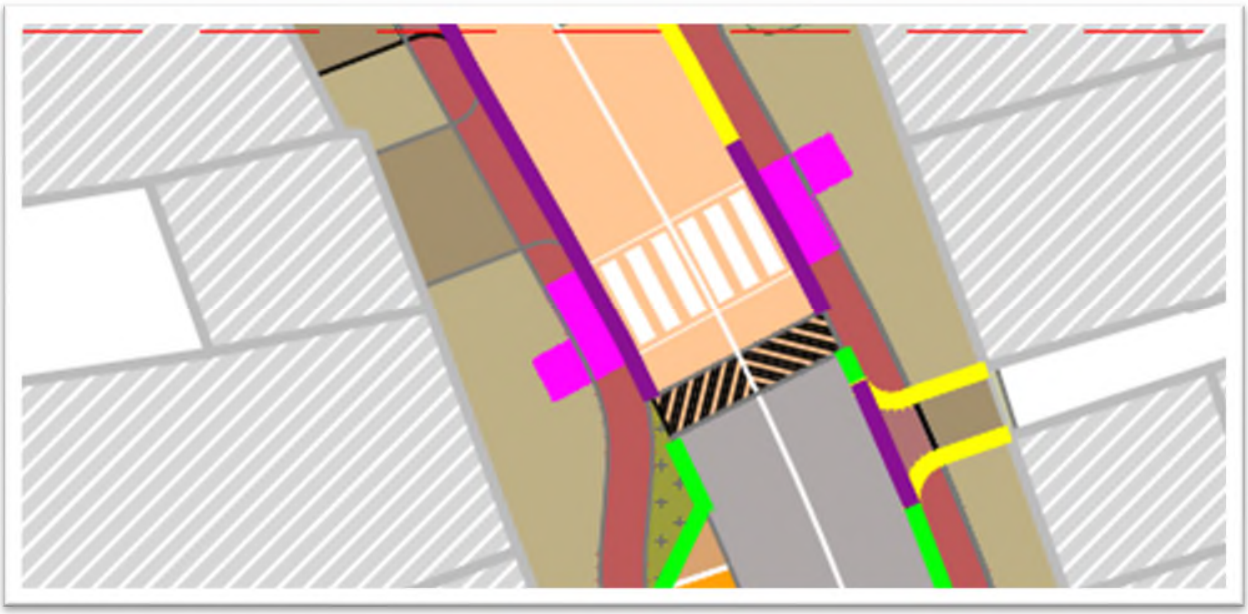
3A.3 Problem

Location

Drawing HDC1256 1002 (K) Rev 03 Kerb Layout, Zebra Crossing.

Problem

The tactile paving for the zebra crossing is within the cycle lane. It may not be clear to cyclists that pedestrians have priority as they approach the crossing. This could result in collisions between the two user groups.



Recommendation

It is recommended that a shared use area be developed at both sides of this zebra crossing and other similar crossings.

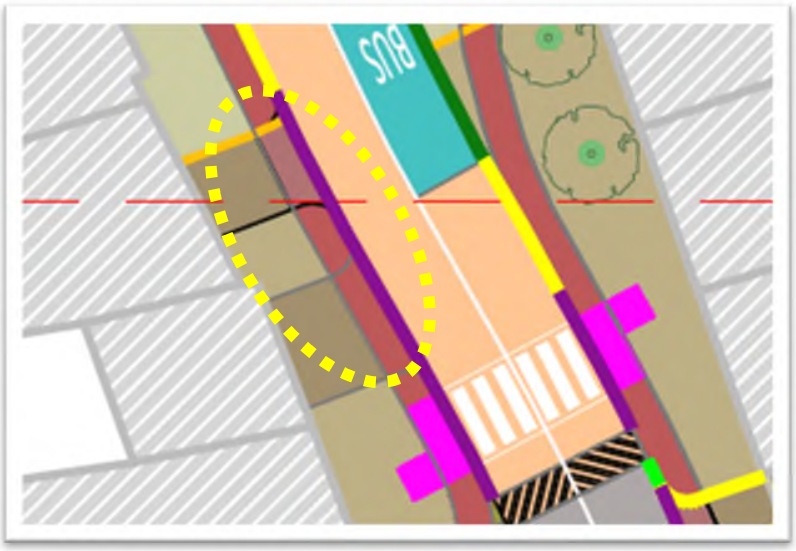
3A.4 Problem

Location

Drawing HDC1256 1002 (K) Rev 03 Kerb Layout, Flush Kerbing.

Problem

Flush kerbing is provided beyond the extents of the crossing areas at the zebra crossing. A blind or partially sighted pedestrian may inadvertently enter the carriageway if they cannot detect a level difference. This could result in collisions with passing vehicles.



Example only

Recommendation

It is recommended that flush kerbs only be provided at crossing points or access areas for pedestrians only.

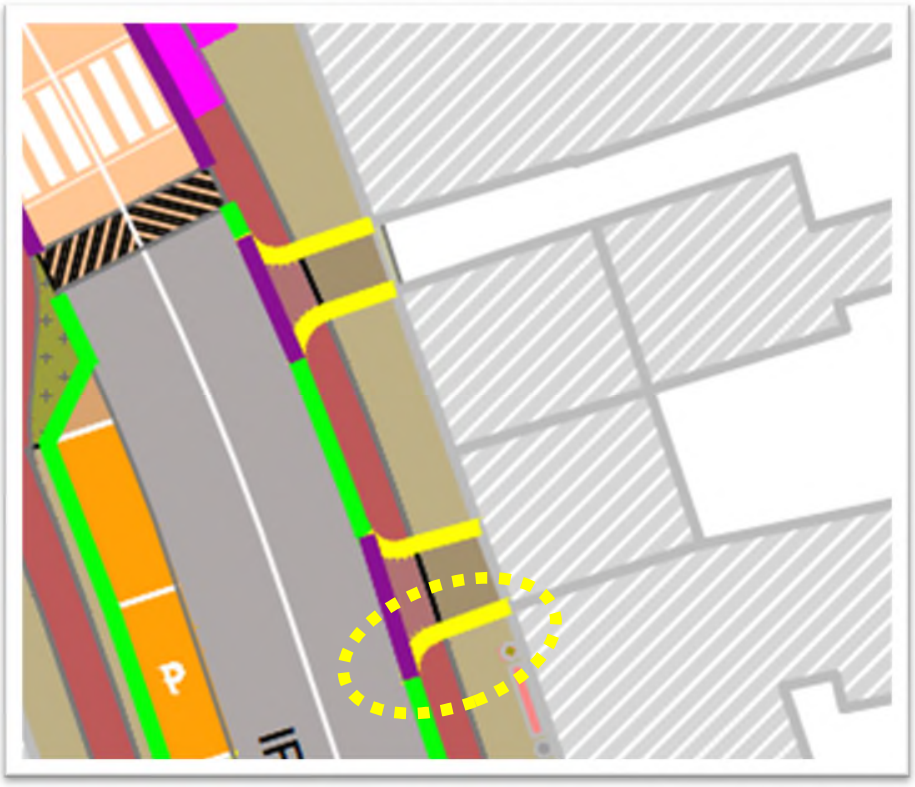
3A.5 Problem

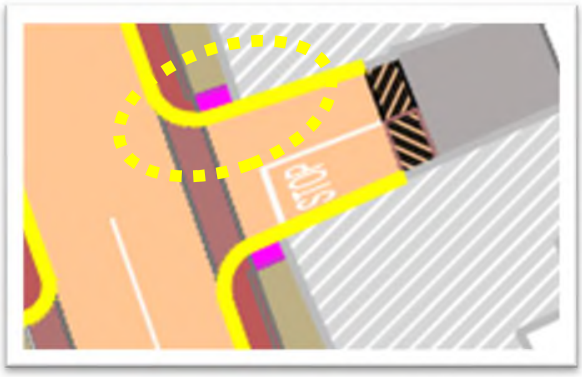
Location

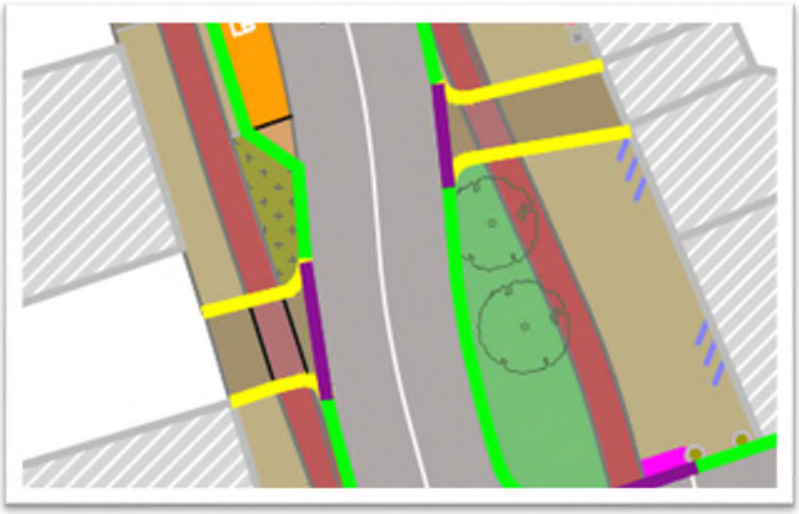
Drawing HDC1256 1002 (K) Rev 03 Kerb Layout, 50mm high kerbing at accesses.

Problem

It is proposed to provide 50mm high kerbing at some accesses across the footpath. This would be a trip hazard and would lead to inaccessibility for mobility impaired pedestrians.







Examples only

Recommendation

It is recommended that flush kerbs be used or no kerbs and that continuous footpath and cycle track facilities be used.

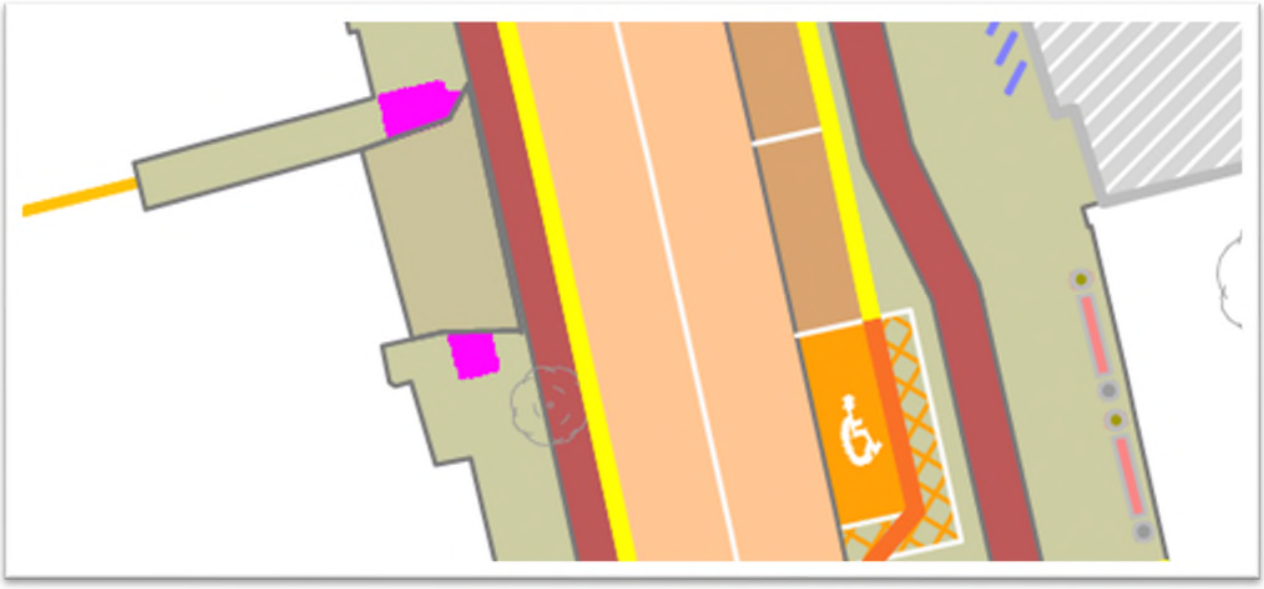
3A.6 Problem

Location

Drawing HDC1256 1004 (K) Rev 03 Kerb Layout, Tactile Paving.

Problem

The tactile paving shown at the western side crossing does not match in extent on both sides. There is a risk that blind or partially sighted pedestrians may use the tactile paving as a guide to have completed the crossing however may not detect it is not provided directly across from the start. In addition, the shading for the uncontrolled tactile paving is shown the same as controlled tactile paving. It is assumed that this is just a draughting issue and that buff coloured tactile paving will be used at uncontrolled crossings.



Recommendation

It is recommended that the extent of the tactile paving be matched on both sides.

3B Issues Identified in this Stage 2 Audit (March 2025)

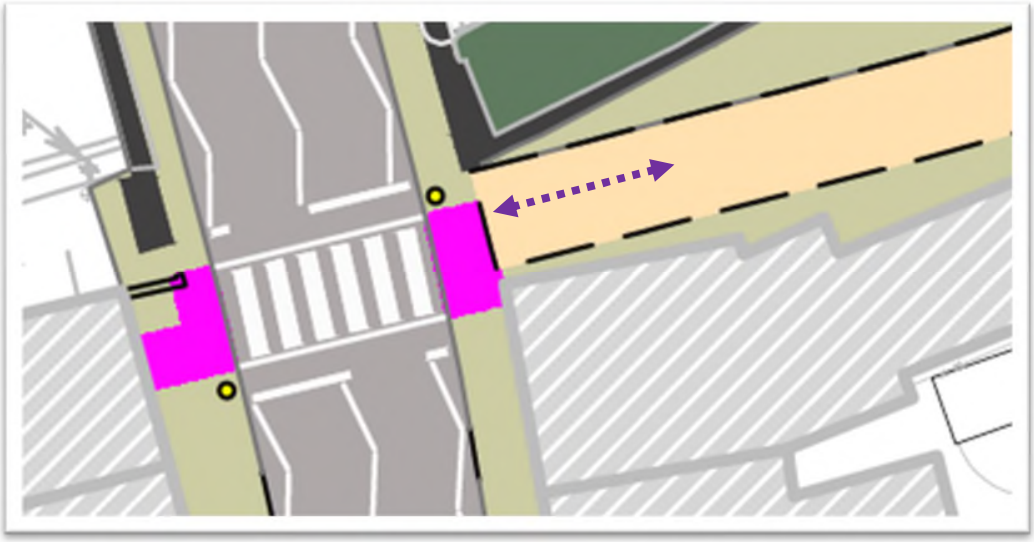
3B.1 Problem

Location

Drawing HDC1256 1007 (VT) Rev 05, At zebra crossing.

Problem

There is a slight misalignment of the extent of the tactile paving associated with the zebra crossing and the shared use path on the eastern side. However this may be required to ensure there is enough room for mobility impaired users to get around the belisha beacon pole. The shape of the tactile paving may be confusing and not help guide a blind or partially sighted pedestrian to the crossing.



Recommendation

It is recommended that a stem be provided on the tactile paving so that such vulnerable road users will know that it is a crossing where they have priority and the stem may be detected by those travelling on the shared use path.

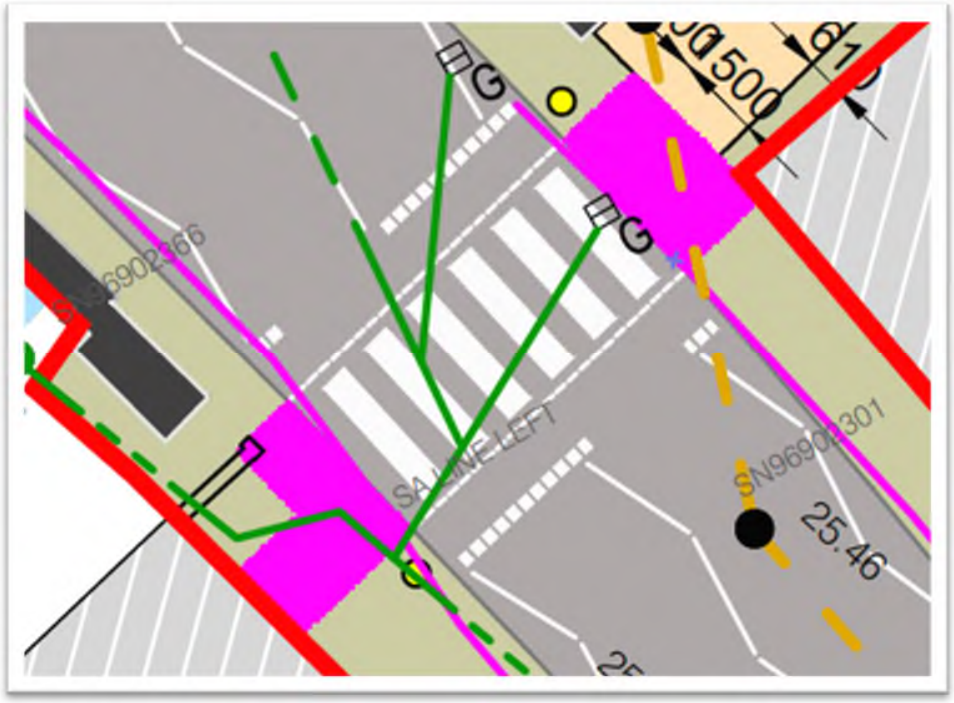
3B.2 Problem

Location

Drawing 533273-NOD-01-XX-DR-C-020107 Rev P06, Drainage design at the zebra crossing.

Problem

It is proposed to provide a road gully at the zebra crossing. This could lead to narrow wheels getting stuck or to those wearing narrow heels getting stuck and injured. There is also a risk that if the gully becomes blocked that surface water ponding will take place at the crossing location which could result in pedestrians crossing at another location where drivers do not expect or to slips and falls in icy conditions.



Recommendation

It is recommended that gullies be provided immediately upstream of the dropped kerb and not along the path of the crossing.

4.0 Observations

4.1 Observation

The following have not been provided to the Audit Team;

- Site Clearance
- Cross sections
- Some road markings (centreline of N2)
- Some signage including directional signage
- Utility diversions.
- Ramp gradients at raised tables.
- Colour and type of tactile paving.

4.2 Observation

The bridge over the River Dee may need to be checked for additional dead weight and loading due to the propose raised table.

4.3 Observation

Departures from Standard (Design Cycle Manual and TII Publications where appropriate) have not been provided to the Audit Team.

4.4 Observation

Some electric vehicle charging points have recently been installed in the car park north of the River Dee bridge.

4.5 Observation

It is assumed that suitable gradient transition kerbs will be provided between the full height kerbs and lower or flush kerbs.

4.6 Observation

EV charger locations and infrastructure has not been shown on the drawings

4.7 Observation (October 2024)

The swept path for HGV entering Ash Walk would be extremely difficult to carry out. It is assumed that the N52 access would be used by such vehicles.

5.0 Audit Statement

We certify that we have examined the site and the information provided. The examination has been carried out with the sole purpose of identifying any aspects of the design which could be added, removed or modified in order to improve the safety of the scheme.

The problems identified have been noted in this report together with associated safety improvement suggestions which we would recommend should be studied for implementation. The 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.

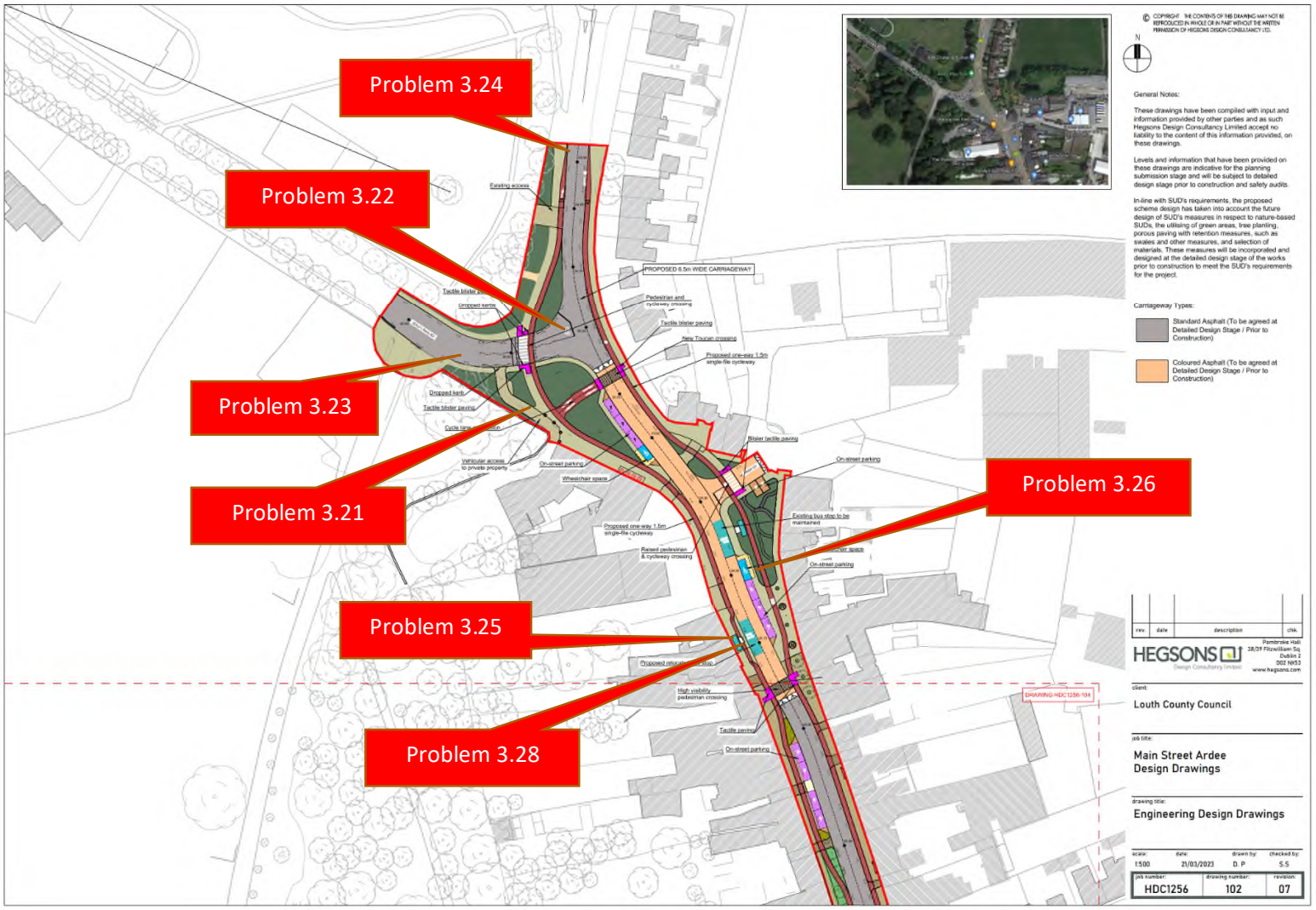
Norman Bruton **Signed:** _____

(Audit Team Leader) **Dated:** _____

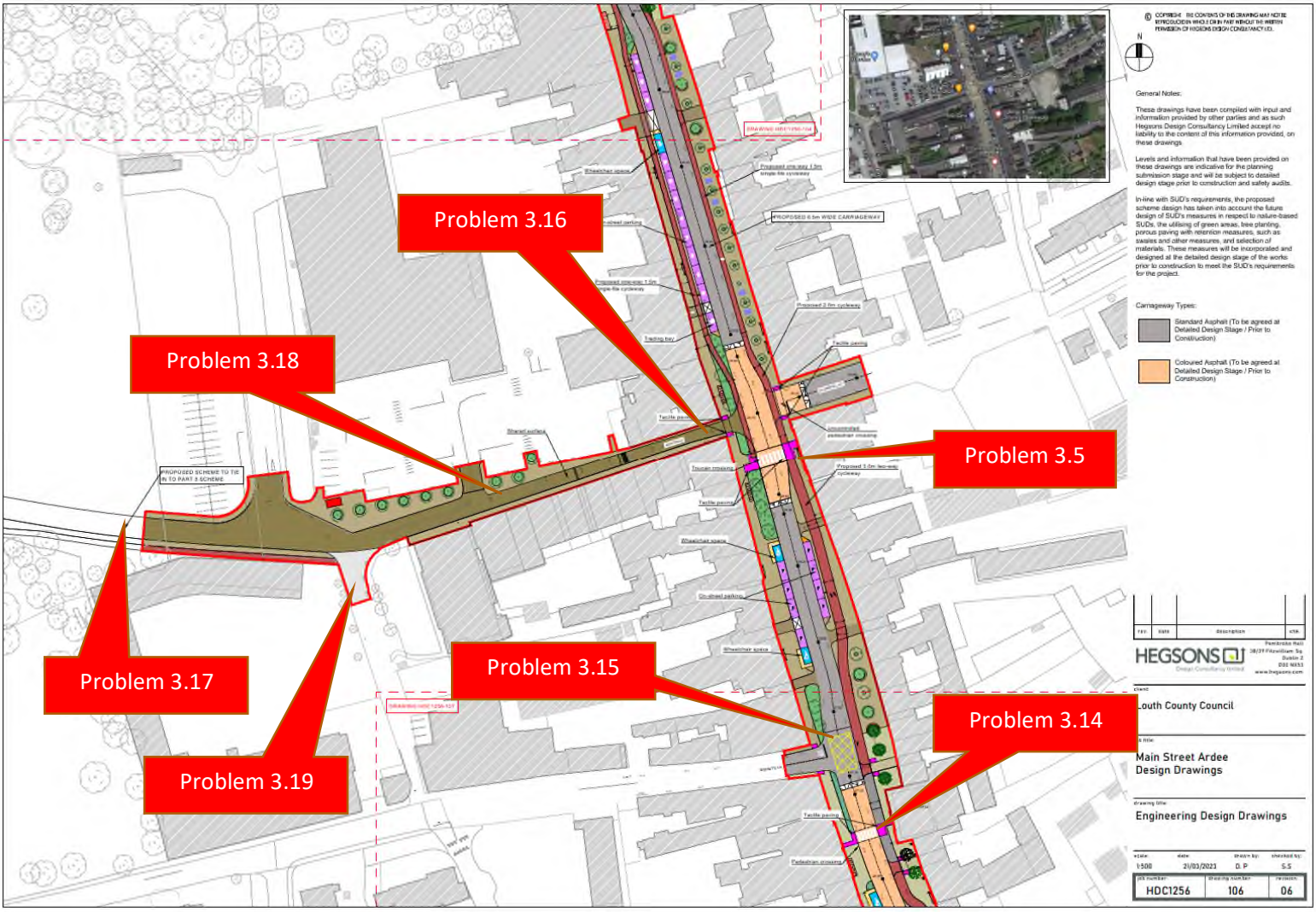
Owen O'Reilly **Signed:** _____

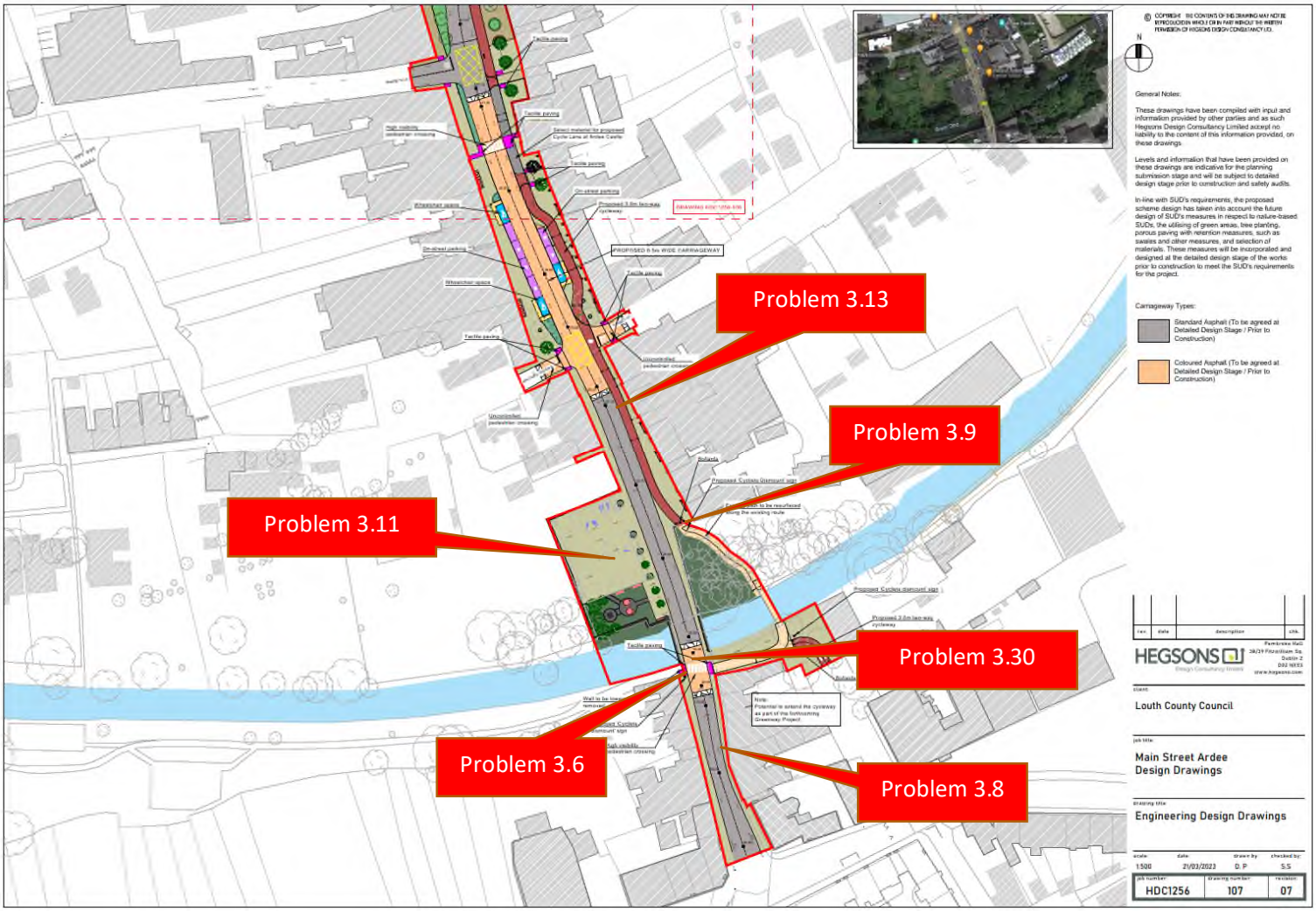
(Audit Team Member) **Dated:** _____

Appendix A – Problem Location Map (June 2024)

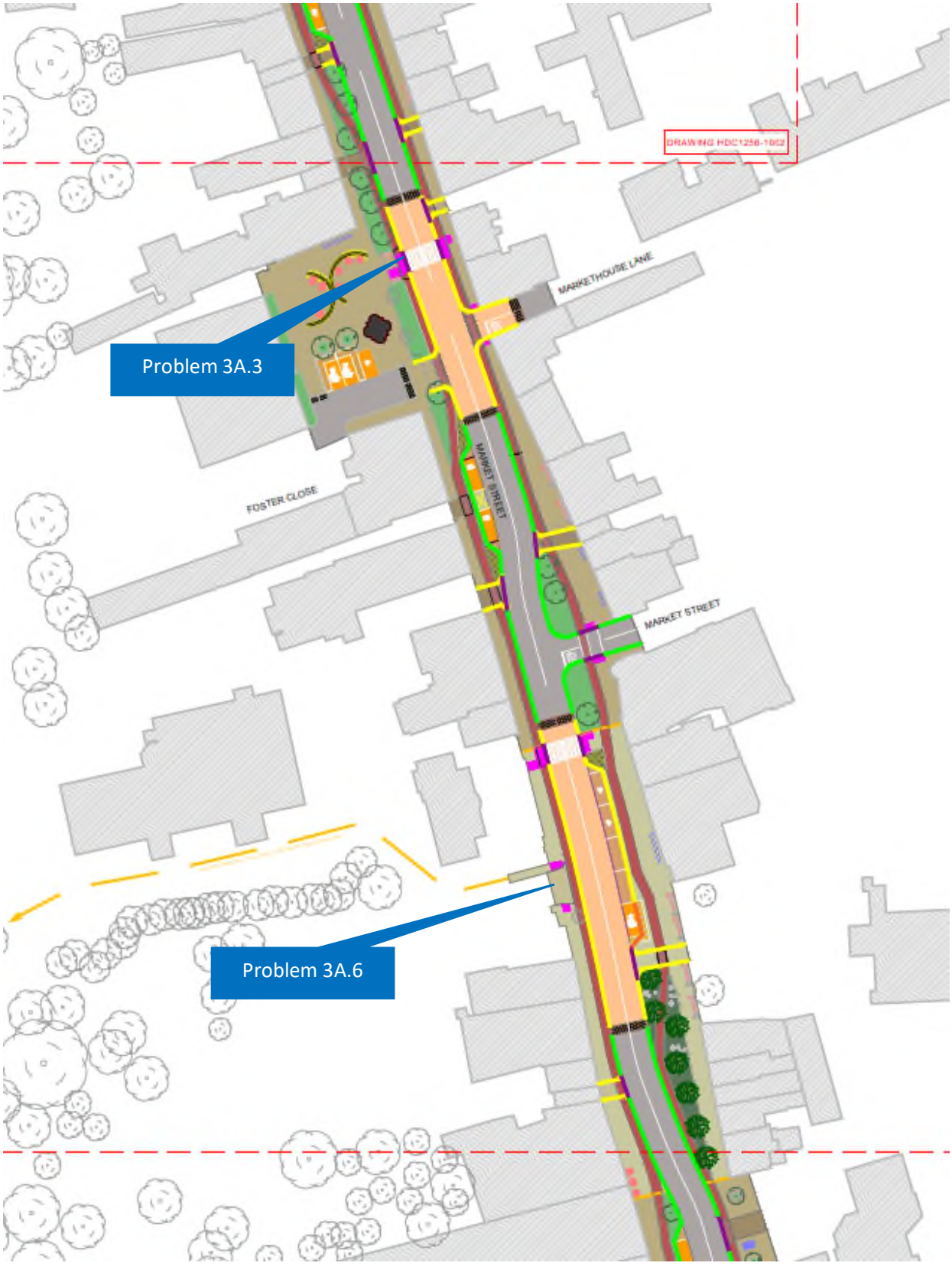


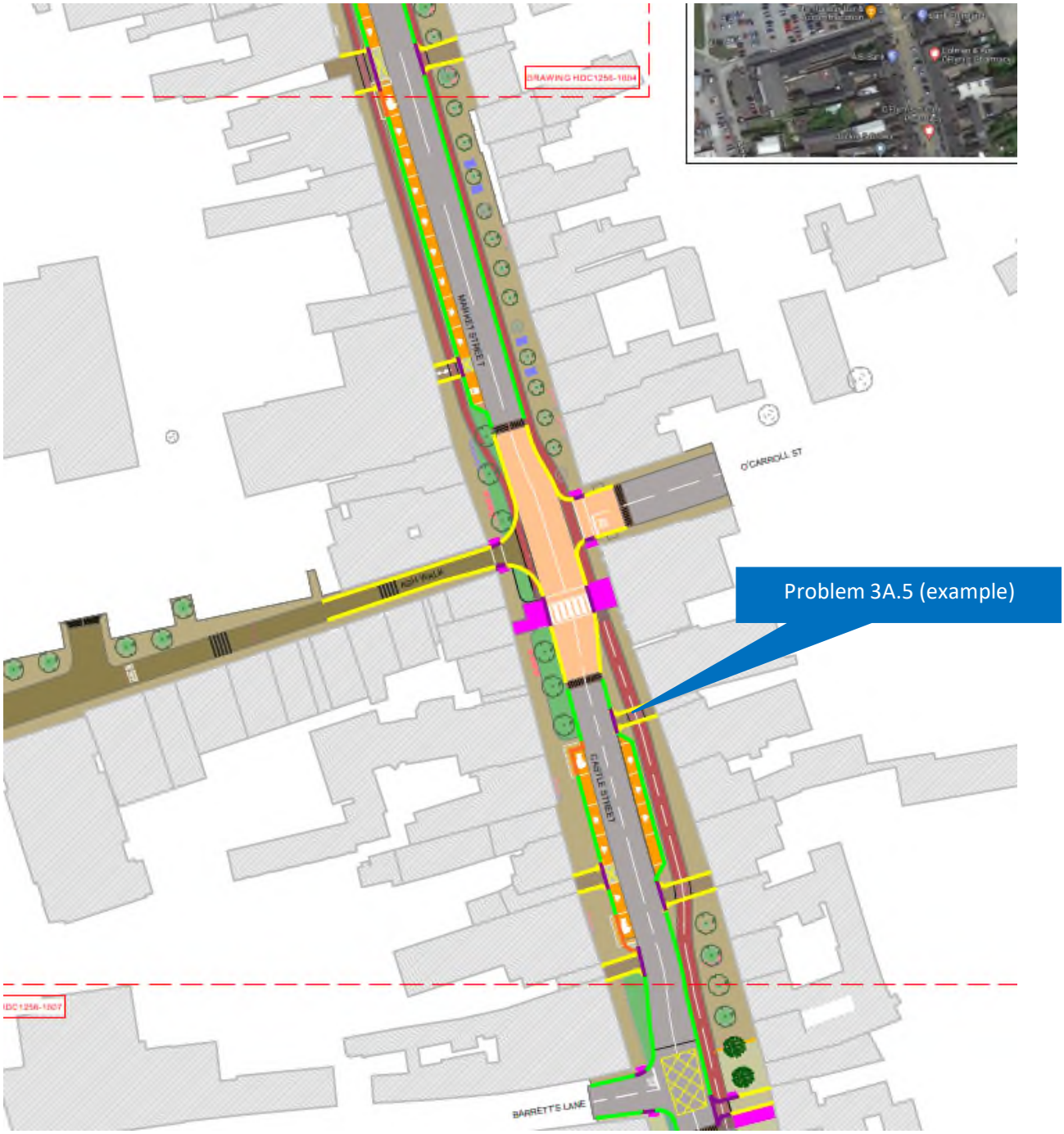

General Notes:
These drawings have been compiled with input and information provided by other parties and as such Hegsons Design Consultancy Limited accept no liability to the content of this information provided, on these drawings.
Levels and information that have been provided on these drawings are indicative for the planning submission stage and will be subject to detailed design stage prior to construction and safety audits.
In-line with SUD's requirements, the proposed scheme design has taken into account the future design of SUD's measures in respect to nature-based SUDs, the utilising of green areas, tree planting, porous paving with retention measures, such as swales and other measures, and selection of materials. These measures will be incorporated and designed at the detailed design stage of the works prior to construction to meet the SUD's requirements for the project.
Carriageway Types:
Standard Asphalt (To be agreed at Detailed Design Stage / Prior to Construction)
Coloured Asphalt (To be agreed at Detailed Design Stage / Prior to Construction)
HEGSONS
Louth County Council
Main Street Ardee
Design Drawings
Engineering Design Drawings
1:500
21/03/2023
D.P
S.S
HDC1256
104
05


Problem 3.16
Problem 3.18
Problem 3.5
Problem 3.17
Problem 3.15
Problem 3.14
Problem 3.19
HEGSONS
Louth County Council
Main Street Ardee
Design Drawings
Engineering Design Drawings
HDC1256
106
06


Problem 3.13
Problem 3.9
Problem 3.11
Problem 3.30
Problem 3.6
Problem 3.8
Louth County Council
Main Street Ardee
Design Drawings
Engineering Design Drawings
HDC1256
107
07

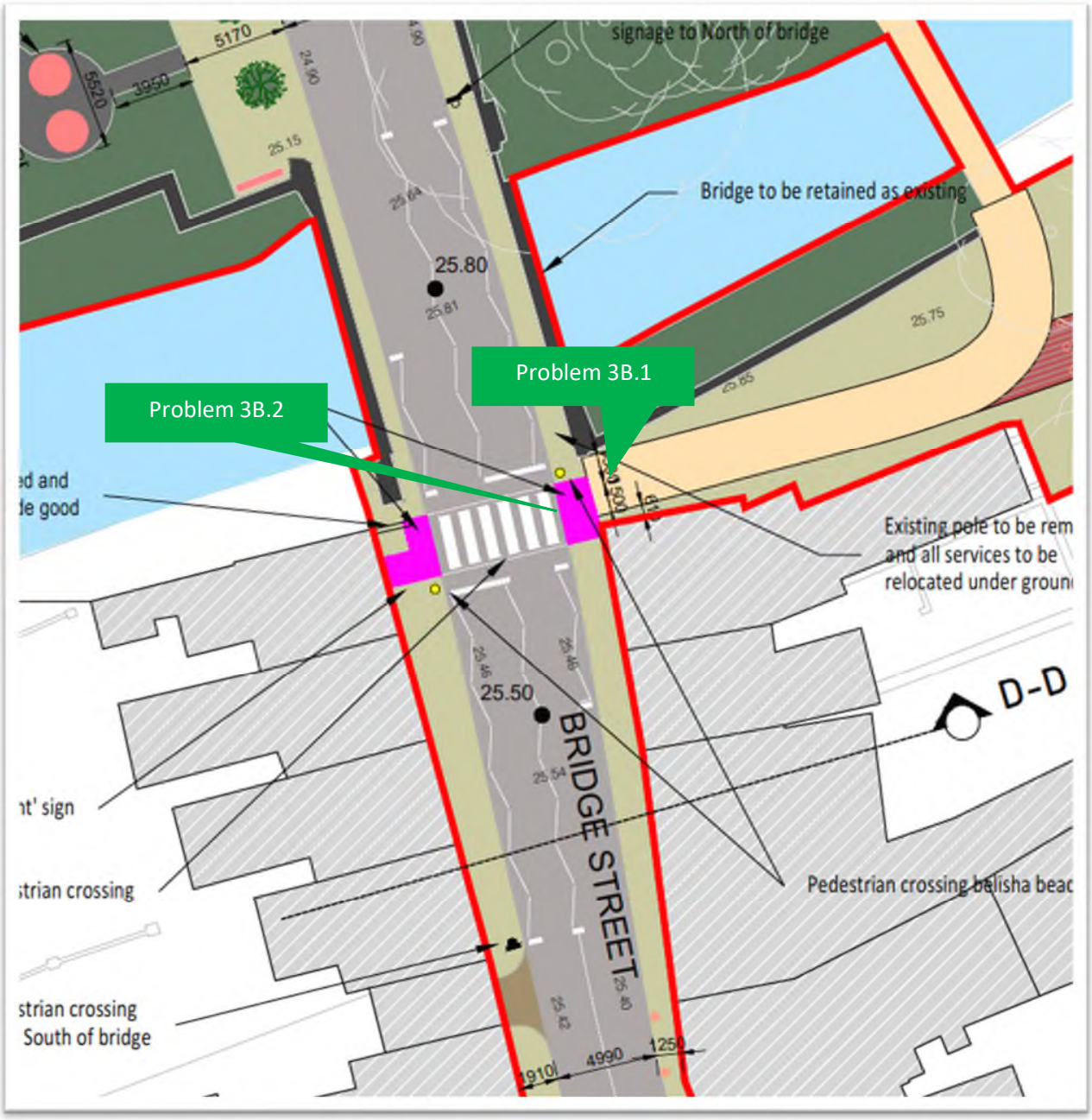
Appendix A – Problem Location Map (October 2024)


DRAWING HDC1256-1002
MARKETHOUSE LANE
Problem 3A.3
FOSTER CLOSE
MARKET STREET
MARKET STREET
Problem 3A.6


DRAWING HDC1256-1604
MARKET STREET
O'CARROLL ST
ASH WALK
CASTLE STREET
BARRETT'S LANE
Problem 3A.5 (example)


DRAWING HDC1258-1208
CASTLE STREET
TIERNEY STREET
MALONE'S TERRACE
BRIDGE STREET
Car Park
BRIDGE STREET
HALE STREET
WILLIAM STREET

Appendix A – Problem Location Map (March 2025)



Appendix B

Information Supplied to the Audit Team (June 2024)

- Drawing LOUX3002-P-000-112 A
- Drawing LOUX3002-P-000-114 A
- Drawing LOUX3002-P-000-115 A
- Drawing LOUX3002-P-000-118 A
- Drawing 20240604_ARW_Ardee.dwg
- Drawing ARD-MET-ZZ-XX-DR-E-6001A Rev P01
- Drawing ARD-MET-ZZ-XX-DR-E-6001B Rev P01
- Visibility Analysis table for junctions, Hegsons
- Drawing HDC1256 102 Rev 07
- Drawing HDC1256 104 Rev 05
- Drawing HDC1256 106 Rev 06
- Drawing HDC1256 107 Rev 07
- Drawing HDC1256 102 Ex
- Drawing HDC1256 104 Ex
- Drawing HDC1256 106 Ex
- Drawing HDC1256 107 Ex
- Drawing HDC1256 102 Rev 07 (Kerbs)
- Drawing HDC1256 104 Rev 05 (Kerbs)
- Drawing HDC1256 106 Rev 06 (Kerbs)
- Drawing HDC1256 107 Rev 07 (Kerbs)
- Drawing HDC1256 102 Rev 07 (Visibility)
- Drawing HDC1256 104 Rev 05 (Visibility)
- Drawing HDC1256 106 Rev 06 (Visibility)
- Drawing HDC1256 107 Rev 07 (Visibility)
- Drawing 533273-NOD-01-XX-DR-C-020101 P03
- Drawing 533273-NOD-01-XX-DR-C-020102 P03
- Drawing 533273-NOD-01-XX-DR-C-020103 P03
- Drawing 533273-NOD-01-XX-DR-C-020104 P03
- Drawing 533273-NOD-01-XX-DR-C-020105 P03
- Drawing 533273-NOD-01-XX-DR-C-020106 P03
- Drawing 533273-NOD-01-XX-DR-C-020107 P03

Information Supplied to the Audit Team (October 2024)

- Drawing HDC1256 1002 (K) Rev 03
- Drawing HDC1256 1004 (K) Rev 03
- Drawing HDC1256 1006 (K) Rev 03
- Drawing HDC1256 1007 (K) Rev 03
- Drawing HDC1256 1002 (VT) Rev 03
- Drawing HDC1256 1003 (VT) Rev 03
- Drawing HDC1256 1006 (VT) Rev 03
- Drawing HDC1256 1007 (VT) Rev 03
- Drawing HDC1256 1002 (VS) Rev 03
- Drawing HDC1256 1004 (VS) Rev 03
- Drawing HDC1256 1006 (VS) Rev 03
- Drawing HDC1256 1007 (VS) Rev 03
- Drawing LOUX3002-P-000-125-A
- Drawing LOUX3002-P-000-126-A
- Drawing LOUX3002-P-000-112-A
- Drawing LOUX3002-P-000-113-A
- Drawing LOUX3002-P-000-114-A
- Drawing LOUX3002-P-000-115-A
- Drawing LOUX3002-P-000-116-A
- Drawing LOUX3002-P-000-117-A
- Drawing LOUX3002-P-000-118-A
- Drawing LOUX3002-P-000-119-A
- Drawing LOUX3002-P-000-120-A
- Drawing LOUX3002-P-000-121-A
- Drawing LOUX3002-P-000-122-A
- Drawing LOUX3002-P-000-123-A
- Drawing LOUX3002-P-000-124-A
- Drawing ARD-MET-ZZ-ZZ-DR-E-6001A_P03
- Drawing ARD-MET-ZZ-ZZ-DR-E-6001B_P03
- Drawing 533273-NOD-01-XX-DR-C-020101
- Drawing 533273-NOD-01-XX-DR-C-020102
- Drawing 533273-NOD-01-XX-DR-C-020103
- Drawing 533273-NOD-01-XX-DR-C-020104
- Drawing 533273-NOD-01-XX-DR-C-020105
- Drawing 533273-NOD-01-XX-DR-C-020106
- Drawing 533273-NOD-01-XX-DR-C-020107

Information Supplied to the Audit Team (March 2025)

Drawing LOUX3002-P-000-108-B

Drawing LOUX3002-P-000-109-B

Drawing LOUX3002-P-000-119-B

Drawing LOUX3002-P-000-120-B

Drawing Appendix 2 - Existing Site Layout

Drawing Appendix 3 - Proposed Design Drawings

Drawing Appendix 4 - Design Drawings - Autotrack, Kerb Height, Visibility Splays, Lighting

Drawing Appendix 5 - Proposed Drainage Design

N2 Ardee Preliminary Design Report Addendum (TII Departure No. 36213)_March 2025 (DRAFT)

Appendix C

Feedback Form

SAFETY AUDIT FORM – FEEDBACK ON AUDIT REPORT

Scheme: Ardee Main Street
Stage: 2 Road Safety Audit
Date Audit (Site Visit) Completed: 17-06-2024

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)
3.1	Yes	No	The Council are promoting sustainable transport modes. A Car Parking Strategy will accompany the future planning application. These are existing spaces therefore no new signage will be required.	Yes
3.2	Yes	Yes	N/A	
3.3	Yes	Yes	There are 3 no. existing loading/trading bays along Main Street. 3 no. loading bays have been provided in a similar position to those existing. We consider that this will ensure that a similar level of accessibility to shops as currently exists remains following the construction of the proposed development.	
3.4	Yes	Yes	N/A	
3.5	Yes	Yes	N/A	
3.6	Yes	No	There is inadequate space available to the south of the bridge to accommodate an on-road to off road transition directly south of the Bridge Street bridge. Additional road signage will be proposed at the junction of the N2 / R170 which will direct cyclists approaching from the south in this direction. Further signage at the junction of the R170 / Hale Street will direct cyclists to turn up Hale Street to join the start	Yes

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)
			of the proposed cycle lane. The planning application site boundary will be extended and notes added to ensure this design approach is visible to cyclists.	
3.7	Yes	Yes	N/A	
3.8	Yes	No	Due to the physical constraints of this section of Bridge Street no new works, apart from resurfacing works, are proposed in this location. Wide vehicles will continue to operate an informal shuttle system to pass each other on this portion of the road. We do not consider that the introduction of a new pedestrian crossing point to the north of Bridge Street will impact on the informal shuttle system in operation at this location nor will the scheme increase traffic volumes in the area (traffic reduction envisaged).	Yes
3.9	Yes	Yes	N/A	
3.10	Yes	Yes	N/A	
3.11	Yes	No	The car park currently operates without any issues and adequate operation turning space is currently available. The car park will be resurfaced as part of the proposed development but no design changes are proposed as part of the proposal.	Yes
3.12	Yes	Yes	N/A	
3.13	No	No	The proposed development is not aiming to deliver a protected cycle lane as we consider this would impact the overall design appearance of the proposed development, which is a promoting	Yes

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)
			a more pedestrian / cyclist friendly public realm. The proposed design will include a stepped cycle track design as per the requirements of the National Cycle Manual. The introduction of a 30kph speed limit needs to be introduced through a separate procedure to this planning application. The proposed design, including raised tables and carriageway width, will create an urban environment which results in reduced vehicle speed.	
3.14	Yes	Yes	N/A	
3.15	Yes	Yes	Swept path analysis has been undertaken and no issues identified.	
3.16	Yes	Yes	N/A	
3.17	Yes	Yes	N/A	
3.18	Yes	Yes	The shared surface will be designed to decrease vehicle speed without the requirement for a physical speed control restraint.	
3.19	Yes	Yes	N/A	
3.20	Yes	Yes	N/A	
3.21	Yes	Yes	N/A	
3.22	Yes	Yes	N/A	
3.23	Yes	Yes	N/A	
3.24	No	No	Adequate space to accommodate cycle and pedestrian movements in the area are limited so the provision of a jug handle type arrangement at this location is not possible. The design proposed has been implemented on other national routes in Ireland e.g. N15 example	Yes

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)
			photograph and we consider will lead to a safe access / egress to the cycle lane.	
3.25	Yes	Yes	N/A	
3.26	Yes	Yes	N/A	
3.27	Yes	Yes	N/A	
3.28	Yes	Yes	Typical details for shared surface bus stop will be incorporated into the proposed design & addressed at the construction stage.	
3.29	Yes	Yes	N/A	
3.30	Yes	Yes	N/A	
3.31	Yes	Yes	N/A	

Signed...(on behalf of Turley)..... **Date** 04/07/2024
Design Team Leader

Signed..... **Date**.....15/7/2024
Audit Team Leader

Signed..... **Date**.....4/7/2024
Employer

SAFETY AUDIT FORM – FEEDBACK ON AUDIT REPORT (OCTOBER 2024)

Scheme: Ardee Main Street
Stage: 2 Road Safety Audit
Date Audit (Site Visit) Completed: 17-06-2024

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)
3A.1	Yes	Yes		
3A.2	Yes	Yes		
3A.3	Yes	Yes		
3A.4	Yes	Yes		
3A.5	Yes	Yes		
3A.6	Yes	Yes		

Signed..... Date 24/10/2024
Design Team Leader (On behalf of Turley)

Signed..... Date 25-10-2024
Audit Team Leader

Signed.....
Employer: For & On Behalf of LCC Date: 24 10 2024

SAFETY AUDIT FORM – FEEDBACK ON AUDIT REPORT (MARCH 2025)

Scheme: Ardee Main Street
Stage: 2 Road Safety Audit
Date Audit (Site Visit) Completed: 17-06-2024

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)
3B.1				
3B.2				

Signed……**Date**…….
Design Team Leader

Signed…….**Date**…….
Audit Team Leader

Signed…….**Date**…….
Employer

Appendix D

From: Pat Phelan <Pat.Phelan@tii.ie>
Sent: Friday, July 26, 2024 3:41 PM
To: Lee Hannigan <lee.hannigan@turley.co.uk>
Cc: Lucy Curtis <LCurtis@kerry.nrdo.ie>
Subject: TII Road Safety Audit Approvals System - N2 Ardee Main Street Audit Team Approval

Lee,

I'm afraid not.

I was just speaking to Owen and he is keen to get his portal access issued resolved, but it won't be immediate as he has issues with his Microsoft Authenticator app.

If you need to progress with the Stage 2 RSA with the same team as previous (Norman Bruton & Owen O'Reilly), please proceed.

Owen is an experienced Audit Team Member and will be approved on the portal once we resolve his access issues. We can then catch up with the electronic approval on the system.

This email can be used as evidence of the approval of Norman (Team Leader) & Owen (Team Member) for the undertaking of the Stage 2 RSA of the N2 Ardee Main Street project in the interim.

Regards,

Pat Phelan | Road Safety Engineer

Transport Infrastructure Ireland

Parkgate Business Centre, Parkgate Place, Parkgate Street, Dublin 8, Ireland, D08 DK10

((01) 6463600 086 0564892 * Pat.Phelan@TII.ie