

**Leicestershire County Council:
North and East Melton
Mowbray Distributor Road
(MMDR)**

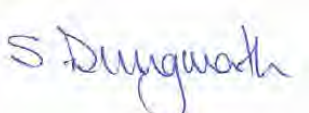
Stage 1 Road Safety Audit



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Revision Table

| Rev No | Comments | Date |
|--------|--|------------|
| 01 | DRAFT Report Issued to Client for Review | 03/09/2018 |
| 02 | FINAL Report Issued to Designer for their Designer's Responses | 21/12/2018 |

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Job No: 60542201.M001.RSA Reference: 60542201/M001/RSA/RSA1/02 Date Created: 21st December 2018

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1.0 Introduction

1.1 Audit Details

1.1.1 This report results from a Stage 1 Road Safety Audit carried out on the North and East Melton Mowbray Distributor Road (MMDR). The Audit was carried out at the request of Andrew Sherwood of AECOM's Nottingham office on behalf of Leicestershire County Council (LCC).

1.1.2 The Road Safety Audit Team membership approved by the Overseeing Organisation Project Manager was as follows:

| | |
|-------------------|---|
| 1. Pete Denton | BSc (Hons) DipASM MCIHT MSoRSA |
| Audit Team Leader | AECOM Infrastructure & Environment UK Limited |
| 2. Jamie Stone | BEng(Hons) EngTech MICE MSoRSA |
| Audit Team Member | AECOM Infrastructure & Environment UK Limited |

1.1.3 The Road Safety Audit was undertaken in accordance with the instruction received via the Audit Brief and the Audit comprised of an examination of the documents provided by the design team, which are listed in **Appendix A**. The documents consisted of a complete set of preliminary design drawings, including, but not limited to plan and profiles, drainage and Non-Motorised User (NMU) provisions.

1.1.4 The Road Safety Audit took place in the AECOM Chesterfield office during July and August 2018 and the site was examined by both members of the Road Safety Audit Team together during daylight hours on 26th July 2018. The weather during the daylight site visit was sunny and dry with a dry road surface. The site visit was carried out during the off-peak period between the hours of 10:00 and 12:00. There were no road works or incidents affecting the area.

1.1.5 The terms of reference of the Audit are as described in the Design Manual for Roads and Bridges (DMRB) document HD 19/15 'Road Safety Audit'. The advice issued in the DMRB applies to trunk road and motorway highway improvement schemes.

1.1.6 An absence of any comment relating to specific road users / modes in Section 3 of this report does not imply that they have not been considered; instead the Audit Team feel that they are not adversely affected by the proposed changes.

1.1.7 Nothing in this Audit should be regarded as a direct instruction to include or remove a measure from within the scheme. Responsibility for designing the scheme lies with the Designer and as such the Audit Team accepts no design responsibility for any changes made to the scheme as a result of this Audit.

- 1.1.8 The scheme has been examined, and this report compiled, only with regard to the safety implications to road users of the scheme as presented. It has not been examined or verified for compliance with any other standards or criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may, on occasion, have referred to a design standard without touching on technical audit.
- 1.1.9 Unless general to the scheme, each problem has been identified with reference to key features and highlighted on the problem location plans in **Appendix B**.

2.0 Site Description

2.1 Existing Layout

- 2.1.1 The scope of the project is to undertake the design for North and East Melton Mowbray Distributor Road (MMDR) to the start of construction currently programmed for the summer of 2020.
- 2.1.2 The scheme consists of a 7km long, 7.3m wide single carriageway, to the east of Melton Mowbray. This route links the A606 Burton Road, North of Burton Lazars, to the A606 Nottingham Road, at St. Bartholomew's way, via B676 Saxby Road; A607 Thorpe Road; Melton Spinney Road and Scalford Road. It crosses six watercourses, the flood plains of the River Eye and an active railway line.
- 2.1.3 A location plan for the scope of the Stage 1 Road Safety Audit can be found at **Figure 1** below.

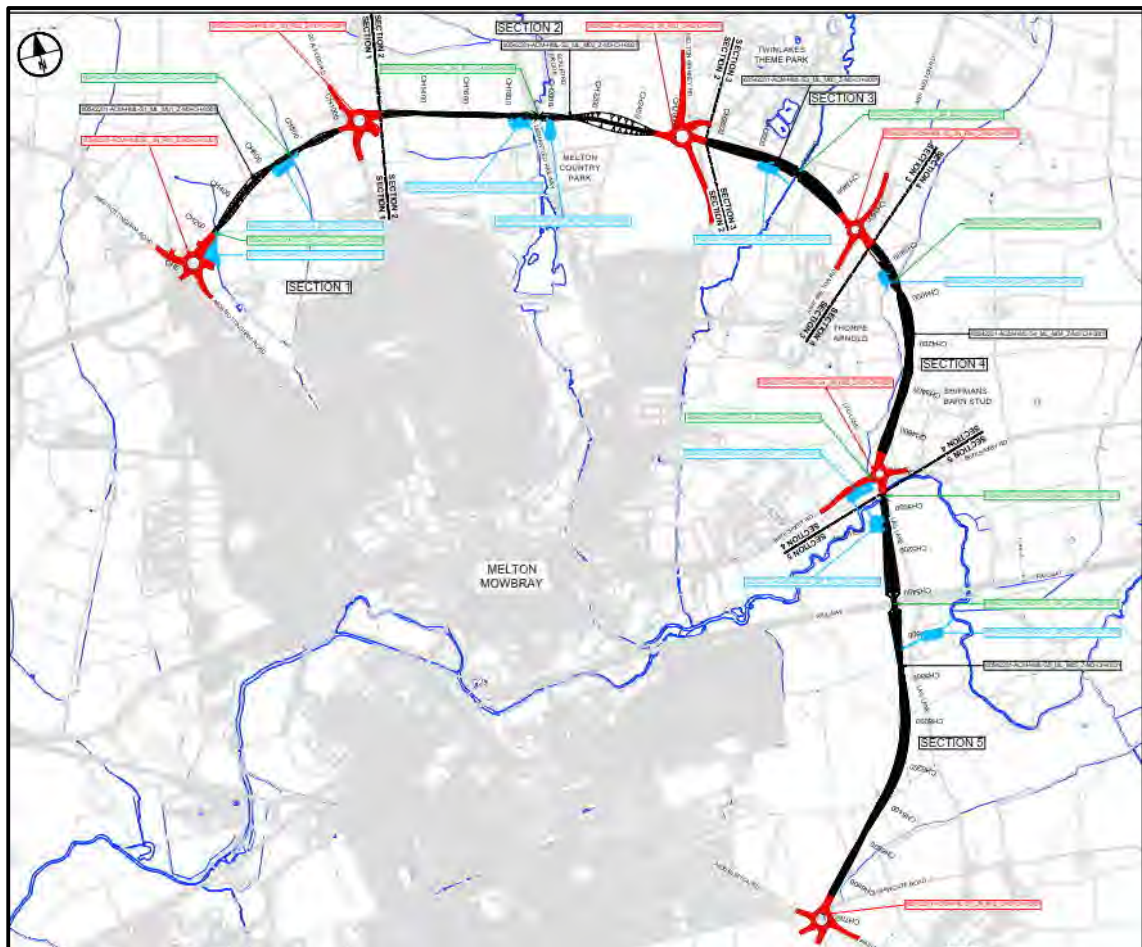


Figure 1: Scheme Location Plan

3.0 Items Raised at this Stage 1 Road Safety Audit

The following road safety issues were identified during this Stage 1 Road Safety Audit.

3.1 **GENERAL**

3.1.1 **DEPARTURES FROM STANDARDS**

3.1.1.1 No Departures from Standards have been issued to the Audit Team as part of this Stage 1 Road Safety Audit. However, the Road Safety Audit Brief states that there are likely to be a number of Departures from Standards raised. These Departures will be reviewed as part of the Stage 2 Road Safety Audit process.

3.1.2 **CROSS-SECTIONS AND CROSS-SECTIONAL VARIATION**

3.1.2.1 No issues that were considered to be detrimental to the safety of road users were identified in relation to this subject.

3.1.3 **BASIC DESIGN PRINCIPLES**

3.1.3.1 **PROBLEM**

Drawing No(s): 60542201-ACM-ENM-S2_GEN_ZZ_Z-DR-Z-0002 P01.3.

Location: Non-Motorised User (NMU) route along the dismantled railway adjacent to Melton Country Park.

Summary: Inappropriate NMU route across MMDR increasing the likelihood of vulnerable road user injuries with vehicles travelling along the MMDR.

The existing dismantled railway is to be closed as part of the scheme, with an NMU diversion being diverted across the MMDR. No details have been provided at this stage outlining the facilities across the MMDR, however, if NMU users are diverted across the MMDR there is an increased risk that NMU injuries or collisions may be experienced.

RECOMMENDATION

It is recommended that the dismantled railway is utilised as an NMU route across the MMDR as part of this scheme.

Designer Response

A combined NMU and accommodation track underpass is now proposed within the Scafford Brook watercourse underbridge in this location. This will avoid the need for the existing Jubilee Way footpath to cross the MMDR at-grade in this location. Should the dismantled railway become a right of way in future, this will also be able to utilise

the underpass. NB need to provide for NMU traffic on west side of brook in addition to east side.

3.1.3.2 PROBLEM

Drawing No(s): 60542201-ACM-HGN-GEN_ZZ_Z-SK-CH-0010 P01.

Location: Mainline section between roundabouts 3 and 4.

Summary: Proposed speed limit between roundabouts may lead to late braking and shunt type collisions occurring due to short section of carriageway.

There is a proposed 60mph speed limit between roundabout 3 and roundabout 4 which is approximately 700m in length; prior to roundabout 3, the speed limit along the MMDR is 40mph. There are concerns that due to this relatively short section of carriageway and the fact there are two proposed balancing pond accesses between roundabout 3 and roundabout 4, the change in speed limit may lead to shunt type collisions with vehicles approaching the roundabouts too quickly or leaving the MMDR to access the balancing pond access tracks.

RECOMMENDATION

It is recommended that a review of the 60mph speed limit between roundabouts 3 and 4 is undertaken and consideration to reducing the speed limit to 40mph is considered at detail design.

Designer Response

Both the roundabout approaches and the access tracks will be designed with the appropriate stopping sight distance visibility on approach, giving motorists adequate time to react and slow down. In addition, access will be required to the balancing pond access tracks on a very occasional basis by appropriately equipped vehicles. Although the relatively short distance between the roundabouts may result in lower 85th percentile speeds along this section this would not result in a significant safety hazard or justify a reduction in the speed limit.

3.1.4 DRAINAGE

3.1.4.1 PROBLEM

Drawing Number(s): Various

Location: Various locations throughout the scheme extents.

Summary: Low points and flat spots within the carriageways, potentially leading to ponding water increasing the likelihood of loss of control collisions.

There are a number of locations throughout the scheme extents where low points and flat spots appear to be present within the carriageway. If these low points remain without adequate drainage facilities, ponding water may be present resulting in loss of control

collisions occurring. This issue will be exacerbated during cold weather conditions or during periods of heavy rainfall.

RECOMMENDATION

It is recommended that sufficient drainage provisions are included at detail design stage and a review of the carriageway alignment is undertaken to assess if the low points within the carriageway can be adequately drained.

Designer Response

The vertical highway alignment and drainage provision is currently ongoing and will ensure that appropriate cross-fall, long-fall and drainage provision are included to prevent ponding on the carriageway at low-points.

3.1.4.2 PROBLEM

Drawing Number(s): 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0002 1.

Location: Proposed balancing ponds B and C.

Summary: Inappropriately located balancing ponds, increasing the likelihood of late braking and shunt type collisions occurring.

There are two balancing ponds located in close proximity to each other between CH1900m and CH2100m. It is unclear why there are two ponds located so close together between these locations. If the ponds and associated access tracks remain in these locations, the likelihood of late braking resulting in shunt type collisions occurring between maintenance operatives and other road users will be heightened. Additionally, the forward visibility around the left hand bend may restrict drivers Stopping Sight Distance (SSD) on the approach to pond C increasing the likelihood of loss of control or shunt type collisions.

RECOMMENDATION

It is recommended that balancing pond C is relocated away from the bend, with consideration to combining ponds B and C.

Designer Response

It is not feasible to combine these balancing ponds as there is a natural low point either side of the Brook. The location of the access tracks junction with the MMDR carriageway will be reviewed to ensure that the appropriate stopping sight distance visibility is provided on approach, giving motorists adequate time to react and slow down. Access will be required to the balancing pond tracks on a very occasional basis by appropriately equipped vehicles.

3.1.5 SKID RESISTANCE

3.1.5.1 PROBLEM

Drawing Number(s): 60542201-ACM-HGN-GEN_GEN_ZZ_Z-SK-CH-0010 P01.

Location: Northbound and southbound approaches to roundabout 5.

Summary: Insufficient Polished Stone Value (PSV) potentially leading to vehicles failing to stop efficiently as they approach the roundabout.

The northbound and southbound approaches to roundabout 5 consist of a straight section of downhill carriageway with a relatively steep gradient. At this stage of the design, no pavement details have been provided to the Audit Team; however, there are concerns that high vehicular approach speeds, along with the carriageway alignment, may lead to late braking resulting in shunt type collisions, or loss of control and/or overshoot collisions as vehicles approach the roundabout too quickly.

RECOMMENDATION

It is recommended that a PSV of 68+ or High Friction Surfacing (HFS) is installed on the northbound and southbound approaches to roundabout 5.

Designer Response

An appropriate Polished Stone Value (PSV) surfacing will be specified on the approach to all roundabouts as part of the detailed pavement design.

3.1.6 LANDSCAPING

3.1.6.1 No issues that were considered to be detrimental to the safety of road users were identified in relation to this subject.

3.1.7 LAY-BYS

3.1.7.1 PROBLEM

Drawing Number(s): Various.

Location: Mainline extents of the MMDR scheme.

Summary: Lack of lay-bys and over-run areas to allow for broken down vehicles to stop in an emergency increasing the likelihood of collisions occurring with other road users.

Lay-bys provide safe areas for drivers to gain respite and recover from fatigue, as well as being safe places for broken down vehicles to pull off the carriageway in an emergency. Throughout the MMDR scheme there are no provisions to allow for drivers to leave the carriageway in the case of an emergency, of particular concern is the 60mph section of the scheme. There are concerns that if lay-bys, or sufficient facilities are not provided for fatigued drivers or broken down vehicles along the MMDR, unsafe parking activities could occur leading to collisions with other road users. The situation could be further exacerbated by driver fatigue due to lay-bys not being provided at reasonable intervals throughout the extents of the MMDR scheme.

RECOMMENDATION

It is recommended that a review of TD69/07 be undertaken to ascertain whether lay-by facilities should be provided along the MMDR scheme, in particular along the 60mph sections of the scheme.

Designer Response

A 1m hard-strip is provided along the nearside edge of the carriageway throughout the 60mph section. This will reduce the obstruction caused by broken down vehicle throughout this section of the scheme. Lay-by provision on the scheme is being reviewed as part of the detailed design process.

3.1.8 ACCESS

3.1.8.1 PROBLEM

Drawing Number(s): 60542201-ACM-HGN-GEN_GEN_ZZ_Z-SK-CH-0009 P01.

Location: Left in only access adjacent to roundabout 1.

Summary: Proposed access location potentially increasing the likelihood of shunt type collisions with following vehicles due to late or sudden braking and turning manoeuvres.

There are concerns that the proposed 'left in only' access located at approximate CH125m is positioned too close to the MMDR roundabout exit arm. It is unclear at this stage what the access is intended to be used for. Drivers leaving the roundabout onto the MMDR exit may not be expecting vehicles in front to brake in order to leave the carriageway, increasing the likelihood of shunt type collisions with following vehicles.

RECOMMENDATION

It is recommended that the 'left in only' access is relocated onto the A606 Nottingham Road northern arm of roundabout 1; access/egress should be provided at the same location.

Designer Response

The RSA recommendation to co-locate the access / egress on the northern arm of Roundabout 1 would require vehicles to execute right-turning manoeuvres across traffic flow, on the A606, which is likely to increase the risk of vehicular conflict when compared with the proposed left-in / left-out arrangement. The left-in / left-out access and egress adjacent to roundabout 1 is for a proposed LCC highway maintenance depot and its position will be reviewed against the design standards and appropriate signage provided to minimise the risk of unexpected manoeuvres and vehicular conflict. The left-in / left-out arrangement is currently considered to provide the safest option for access to / egress from the proposed depot.

3.1.8.2 PROBLEM

Drawing No(s): Various.

Location: Various balancing pond access tracks throughout the scheme extents.

Summary: Lack of information regarding the proposed positioning of the access tracks potentially leading to poorly positioned accesses increasing the likelihood of collisions with other road users.

There are a number of locations along the MMDR where balancing pond access tracks are to be provided, but their locations are not shown on the drawings; it is unclear why the exact track locations are not shown. If the access tracks are poorly positioned, the likelihood of collisions occurring between maintenance vehicles entering or leaving the MMDR and following vehicles may be heightened.

RECOMMENDATION

It is recommended that all proposed balancing pond access tracks are positioned in appropriate locations at detail design, ensuring sufficient forward visibility and SSD for all road users.

Designer Response

The location of all the access tracks junctions with the MMDR carriageway will be reviewed to ensure that the appropriate stopping sight distance visibility is provided on approach, giving motorists adequate time to react and slow down. Access will be required to the balancing pond tracks on an occasional basis by appropriately equipped vehicles.

3.1.8.3 PROBLEM

Drawing Number(s): 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0004 1 and 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0006 1.

Location: Balancing pond D1 and pond G.

Summary: Poorly aligned balancing pond access increasing the likelihood of shunt type collisions as maintenance vehicles access the track.

Balancing ponds D1 and G are aligned such that maintenance operatives leaving the MMDR will have to slow down considerably in order to access the balancing pond access tracks. If vehicles have to slow significantly to access the balancing ponds, collisions with following vehicles may be experienced, particularly within sections of the MMDR with 60mph speed limits.

RECOMMENDATION

It is recommended that the access into balancing ponds D1 and G are realigned to ensure a smoother entry.

Designer Response

The geometry and location of the balancing pond access tracks is indicative only and will be reviewed as part of the detailed design to ensure that the appropriate stopping sight distance visibility is provided on approach, giving motorists adequate time to react and slow down. Usage of the access tracks is also likely to be very infrequent and only by maintenance vehicles which would normally be equipped with hazard markings and flashing amber beacons.

3.1.9 ROAD RESTRAINT SYSTEMS, FENCES AND BARRIERS

3.1.9.1 PROBLEM

Drawing Number(s): 60542201-ACM-HML-GEN_ML_ZZ_Z-DR-CH-0001 P01.

Location: Adjacent verge to the carriageway within the 40mph section of the MMDR scheme.

Summary: Lack of Road Restraint System (RRS) potentially increasing the severity of injuries should an errant vehicle leave the carriageway.

RRS are to be installed within the verges of the 60mph sections of the scheme; no RRS is proposed within the 40mph sections. Although it is not a standard requirement to provide vehicle restraint systems within 40mph speed limits, there are concerns that a number of areas within the 40mph sections may have hazards within the verges or embankments/slopes greater than the examples within the typical cross section drawings. If these hazards are present, with no barriers provided, the severity of injuries occurring if an errant vehicle leaves the carriageway may be increased.

RECOMMENDATION

It is recommended that a Road Restraint Risk Assessment Process (RRRAP) assessment is undertaken at detail design to review if a RRS should be installed adjacent to the verge within the 40mph sections of the scheme.

Designer Response

The Road Restraint Risk Assessment (RRRAP) is only applicable to roads with speed limits of 50mph or greater. However, a separate risk assessment process will be applied to the 40mph sections of the scheme to ensure that RRS are provided where appropriate.

3.1.9.2 PROBLEM

Drawing Number(s): Various.

Location: Balancing pond access tracks located throughout the scheme extents.

Summary: Unprotected access tracks and balancing ponds increasing the severity of injuries should an errant vehicle leave the carriageway.

At this stage of the design no details have been provided outlining the proposed barrier installations at the various balancing pond locations; either the gated access or around the ponds itself. If gates or similar are not provided at the top of the access tracks, or barriers not provided around the extents of the ponds, the severity of injuries will be increased should an errant vehicle leave the carriageway at these locations.

RECOMMENDATION

It is recommended that adequate gates and fencing systems are provided at detail design to deter inappropriate usage of the balancing pond access tracks.

Designer Response

The provision of gates and fencing systems will be reviewed as part of detailed design to deter inappropriate usage of balancing pond access tracks and reduce the risk posed by the balancing ponds to the occupants of errant vehicles.

3.1.10 NEW/EXISTING ROAD INTERFACE

3.1.10.1 PROBLEM

Drawing Number(s): Various.

Location: Various transitions from the existing carriageway to the new carriageway tie-in points, leading to potential loss of control collisions occurring.

Summary: Transition from existing carriageway to new carriageway leading to potential loss of control collisions.

It was noted during the site inspection that the existing carriageway surface at a number of locations appeared worn with signs of rutting and cracking. If the existing carriageway surface is below standard at the tie-in points there is a heightened risk of loss of control collisions occurring as vehicles transition to the new carriageway surface.

RECOMMENDATION

It is recommended that the existing carriageway surface is checked to ensure that it is sufficient as vehicles transition between existing and new carriageway interfaces.

Designer Response

A survey has been undertaken of the existing pavement condition at tie-ins to inform designers of any existing defects in these locations. The pavement condition will also be monitored during construction to ensure that any improvements required to the existing carriageway at tie-ins are identified and included within the works.

3.2 LOCAL ALIGNMENT

3.2.1 VISIBILITY

3.2.1.1 PROBLEM

Drawing No(s): 60542201-ACM-ENM-S5_GEN_ZZ_Z-DR-Z-0006 P01.3.

Location: Widened bridleway bridge over the diverted River Eye immediately south of roundabout 5.

Summary: Realigned farm bridge located adjacent to the MMDR northbound carriageway potentially leading to drivers becoming dazzled by farm traffic, increasing the likelihood of loss of control collisions.

The proposed bridleway that runs adjacent to the MMDR in the vicinity of roundabout 5 is to be accommodated using a widened bridge over the diverted River Eye. This bridleway will also be utilised by farm traffic. There are concerns that due to the close proximity of the bridleway to the northbound MMDR carriageway, farm traffic travelling south along the bridleway may dazzle drivers on the mainline increasing the likelihood of loss of control collisions or sudden braking resulting in shunt type collisions between following vehicles.

RECOMMENDATION

It is recommended that visibility screening (or similar) is installed between the MMDR northbound carriageway and the realigned farm bridge over the diverted River Eye.

Designer Response

Use of the bridleway by farm traffic during the hours of darkness is likely to be very low and vehicles will be offset from motorists travelling along the MMDR northbound carriageway by at least 4.5m. It is also intended that the fence separating the bridleway from the cycleway will have a 1.6m solid infill at the base to reduce the likelihood of horses being frightened by passing vehicles. It is therefore very unlikely that drivers on the mainline will be dazzled by farm vehicle headlights at night.

3.2.2 VERTICAL ALIGNMENT

3.2.2.1 No issues that were considered to be detrimental to the safety of road users were identified in relation to this subject.

3.3 JUNCTIONS

3.3.1 SIGNING

3.3.1.1 No signage details have been provided for review during this Stage 1 Road Safety Audit. All potential issues relating to road markings will be reviewed during the Stage 2 Road Safety Audit process.

3.3.2 LAYOUT

3.3.2.1 No issues that were considered to be detrimental to the safety of road users were identified in relation to this subject.

3.3.3 VISIBILITY

- 3.3.3.1 No issues that were considered to be detrimental to the safety of road users were identified in relation to this subject.

3.3.4 TRAFFIC SIGNALS

- 3.3.4.1 Not applicable.

3.3.5 ROUNDABOUTS

3.3.5.1 PROBLEM

Drawing No(s): 60542201-ACM-ENM-S4_GEN_ZZ_Z-DR-Z-0005 P01.3.

Location: Lag Lane access/egress onto roundabout 5.

Summary: Inappropriate access/egress from roundabout, increasing the likelihood of collisions involving vehicles travelling around the roundabout circulatory and users entering or leaving Lag Lane.

Lag Lane is to be connected to the north-western section of roundabout 5 with a gated access provided to allow for NMU users and farm traffic to access and leave the facility. No details in relation to the gated access have been provided to the Audit Team; however there are concerns that if the gate is located too closely to the roundabout circulatory, farm traffic may stop on the circulatory increasing the likelihood of shunt type or grazing collisions occurring.

RECOMMENDATION

It is recommended that the access/egress for Lag Lane is relocated away from the roundabout, preferably located along the B676 Saxby Road west of the roundabout.

Designer Response

The proposed farm access/egress for Lag Lane accessed from Roundabout 5 is considered to be in the safest location since it enables direct access in a low speed environment without requiring right turn manoeuvres across traffic on the B676 Saxby Road. Sufficient space will be provided to ensure that farm traffic wishing to access the gated section of Lag Lane can fully exit the carriageway prior to opening the gate, thus reducing the risk of any shunt type accidents.

3.3.5.2 PROBLEM

Drawing No(s): 60542201-ACM-ENM-S5_GEN_ZZ_Z-DR-Z-0007 P01.3.

Location: Sawgate Road access/egress onto roundabout 6.

Summary: Inappropriate access/egress from roundabout, increasing the likelihood of collisions involving vehicles travelling around the roundabout circulatory and users entering or leaving Sawgate Road.

Sawgate Road links into the northern arm of roundabout 6; however, farm vehicles wishing to enter or leave Sawgate Road onto or from the MMDR carriageway may be unable to undertake the turn manoeuvres due to a tight alignment, increasing the likelihood of kerb strikes or collisions with following vehicles due to slow turn movements. Additionally, farm traffic leaving Sawgate Road will potentially have insufficient visibility to allow for safe movements onto the MMDR access onto the roundabout.

RECOMMENDATION

It is recommended that the access/egress for Sawgate Road is relocated away from the roundabout, preferably located along the A608 Burton Road east of the roundabout.

Designer Response

The proposed farm access/egress for Sawgate Road positioned on Roundabout 5 is considered to be in the safest location since it enables direct access in a low speed environment without requiring right turn manoeuvres as would be the case on the A606 approaches to the roundabout. Sufficient space will be provided to ensure that farm traffic wishing to access the gated section of Sawgate Road can fully exit the carriageway prior to opening the gate, thus reducing the risk of any shunt type accidents. The access geometry and visibility from the access will also be reviewed to ensure this meets the required standards as part of the detailed design process.

3.3.5.3 PROBLEM

Drawing No(s): Various.

Location: Roundabout circulatory carriageways throughout the scheme extents.

Summary: Insufficient carriageway widths potentially leading to grazing type collisions as vehicles attempt to pass side by side.

It is unclear whether all roundabouts throughout the scheme extents are to consist of a single lane or two lanes around the circulatory. If the carriageways are too narrow for all movements, grazing or side swipe collisions could be experienced around the roundabout circulatories.

RECOMMENDATION

It is recommended that swept path analysis is undertaken at each of the proposed roundabouts to ensure two vehicles can pass safely without conflict side by side.

Designer Response

Swept path analysis has been undertaken and will be further reviewed as part of the detailed design process to minimise the risk of any conflict.

3.3.5.4 PROBLEM

Drawing No(s): 60542201-ACM-HML-S4_JN_R05_Z-DR-CH-0001 P01.

Location: MMDR southbound approach and B676 Saxby Road approach to roundabout 5.

Summary: Lack of deflection increasing the likelihood of high approach speeds leading to loss of control collisions around circulatory.

The southbound approach to roundabout 5 consists of a straight section of carriageway with minimal deflection on the roundabout for vehicles continuing along the MMDR. Additionally, the B676 Saxby Road approach onto the MMDR also appears to have reduced deflection. There are concerns that due to this lack of deflection, drivers may approach the roundabout too quickly and continue through the roundabout at higher than appropriate speeds, increasing the likelihood of loss of control collisions.

RECOMMENDATION

It is recommended that the MMDR southbound approach and the B676 Saxby Road approach to roundabout 5 is reviewed to ensure sufficient deflection is attained to slow vehicles on the approach and travelling through the roundabout.

Designer Response

The highway geometry will be reviewed as part of the detailed design process to ensure that it complies with the necessary requirements for deflection.

3.4 NON-MOTORISED USER PROVISION**3.4.1 LAYOUT****3.4.1.1 PROBLEM**

Drawing No(s): 60542201-ACM-ENM-S1_GEN_ZZ_Z-DR-Z-0001 P01.3.

Location: Proposed footway/cycleway tie-in along the A606 Nottingham Road northbound and southbound carriageways.

Summary: Inconsistent cycle provision increasing the likelihood of cyclist collisions or injuries with other Non-Motorised Users (NMU).

The drawing states that the proposed 3m shared footway/cycleway is to tie in to the existing footpath provision along the northbound and southbound A606 Nottingham Road carriageway. However, the existing provisions are shown as footpath only, with no details provided outlining how cyclists continue their onward journey southbound, or how cyclists leave the northbound carriageway to join the shared facility. If dropped kerbs (and markings) are not provided, cyclists may continue along the footpath provision (southbound) increasing the likelihood of injuries with pedestrians. Additionally, cyclists should be provided with dropped kerbs to guide users onto the shared facility northbound to avoid potential collisions with other road users on the approach to or around the roundabout.

RECOMMENDATION

It is recommended that appropriate provisions are incorporated for cyclists to continue their journeys along the A606 Nottingham Road southbound carriageway and to leave the northbound carriageway and join the NMU facilities.

Designer Response

Appropriate provision will be incorporated within the detailed design to ensure that cyclists are able to access and egress the MMDR NMU facilities safely. The need for improved NMU facilities beyond the extents of the MMDR scheme has been highlighted to LCC for consideration as part of the Melton Mowbray Town Centre transport strategy.

3.4.1.2 PROBLEM

Drawing No(s): 60542201-ACM-ENM-S2_GEN_ZZ_Z-DR-Z-0002 P01.3.

Location: Dismantled railway (NMU route) adjacent to Melton Country Park.

Summary: Insufficient deterrent to ensure NMU route is not accessed, potentially leading to injuries.

There is a dismantled railway that is frequently used as an NMU route but not currently a recognised Public Right of Way (PRoW); signage is proposed to indicate to users that the dismantled railway is a no through route and a diverted route is shown as crossing the MMDR. The Audit Team do not feel that signage alone will be sufficient to deter users from continuing to travel along the dismantled railway and are unsure why the dismantled railway is not used as an NMU route as part of the scheme.

RECOMMENDATION

It is recommended that physical measures are installed along the dismantled railway to ensure NMU users cannot access the 'no through route'.

Designer Response

It is beyond the scope of this scheme for the dismantled railway to be upgraded to a formal right of way. However, no physical measures are proposed along the dismantled railway to prevent NMU access and the proposed Scafford Brook underpass is being widened to enable its future use by a right of way following the disused railway, should this be formalised in the future.

3.4.1.3 PROBLEM

Drawing No(s): 60542201-ACM-ENM-S3_GEN_ZZ_Z-DR-Z-0004 P01.3.

Location: Shared use underpass between roundabout 3 and roundabout 4.

Summary: Proposed shared use facility alignment restricting forward visibility potentially leading to collisions or injuries between users.

The proposed shared use underpass facility between roundabout 3 and roundabout 4 is to be used by pedestrians, cyclists, equestrians and farm traffic. There are concerns that due to the alignment of the underpass, user's forward visibility may be restricted by the proposed alignment of the underpasses'. If all users are not catered for, collisions or injuries may occur due to the restricted visibility.

RECOMMENDATION

It is recommended that the underpass alignment is amended to ensure users have sufficient forward visibility throughout.

Designer Response

Visibility for the proposed underpass will be reviewed to take account of likely usage and the needs of multiple user categories.

3.4.1.4 PROBLEM

Drawing No(s): 60542201-ACM-ENM-S5_GEN_ZZ_Z-DR-Z-0006 P01.3.

Location: Shared use bridleway/access to/from Lag Lane between roundabout 5 and roundabout 6.

Summary: Poorly aligned access to/from Lag Lane, increasing the likelihood of collisions between following vehicles.

The drawing shows a direct access for EA/farmers to and from Lag lane is to be positioned within the eastern verge of the MMDR southbound carriageway. At this stage of the design, details of the access/egress have not been provided to the Audit Team; however, there are concerns that the alignment of the access/egress may be too tight

to allow drivers to safely enter or leave Lag Lane from the MMDR. If the alignment is too tight for drivers to carry out turning manoeuvres safely, collisions with following vehicles or vehicles in the opposing carriageway may be experienced. This issue will be exacerbated due to the 60mph speed limit through this section of the scheme.

RECOMMENDATION

It is recommended that an alternative access to/from Lag lane is incorporated into the detail design.

Designer Response

The geometry and location of this access track is indicative only and will be reviewed as part of the detailed design to ensure that it is appropriate for the intended usage and that the appropriate stopping sight distance visibility is provided on approach, giving motorists adequate time to react and slow down. It should be noted that an alternative (longer) farm and EA access route will also be possible via Burton Lazars at the southern end of Lag Lane.

3.4.2 PEDESTRIANS/CYCLISTS

3.4.1.4 PROBLEM

Drawing No(s): 60542201-ACM-ENM-S4_GEN_ZZ_Z-DR-Z-0005 P01.3 and 60542201-ACM-ENM-S5_GEN_ZZ_Z-DR-Z-0007 P01.3.

Location: At grade pedestrian crossings located between roundabout 4 and 5 and between roundabout 5 and 6.

Summary: Poorly located pedestrian crossings increasing the likelihood of pedestrian collisions occurring with vehicles traveling along MMDR.

There are two at grade pedestrian crossings located between roundabouts 4 and 5 and roundabouts 5 and 6; both of these crossings are located within a national speed limit section of the scheme. There are no details outlining the provisions at the crossing or whether a splitter island is to be installed at the crossings. There are concerns that due to the proposed location of these crossings, pedestrian collisions may occur due to high vehicular approach speeds. Additionally, kerb strikes may be experienced if splitter islands are installed as part of these crossing provisions leading to secondary collisions or increasing the severity of injuries.

RECOMMENDATION

It is recommended that the proposed at grade pedestrian crossings at the above locations are removed and pedestrians are directed to the shared crossing facilities at the adjacent roundabouts to cross the MMDR.

Designer Response

A pedestrian refuge is currently proposed adjacent to Roundabout 4 positioned on the pedestrian desire line for the existing footpath which intersects with the route in this location. However, this footpath is subject to very low usage and it is likely that vehicle speeds in the vicinity will be considerably less than 60mph due to its close proximity to the roundabout. If no pedestrian refuge is to be provided in this location, the adjacent footpath will need to be closed/diverted to the roundabout to ensure that no pedestrians choose to cross here without any refuge provision. This issue will be reviewed as part of the detailed NMU design, in order to determine the most appropriate solution.

The proposed at grade pedestrian refuge located between Roundabouts 5 & Roundabout 6 will be removed from the scheme and the footpath diverted to cross at the splitter island on Roundabout 6. This is due to the fact this refuge would be sited in the vicinity of an overtaking section on the national speed limit section of the MMDR and is also more heavily used, being part of the Jubilee Way footpath.

3.4.2 EQUESTRIANS

3.4.2.1 PROBLEM

Drawing No(s): 60542201-ACM-ENM-S4_GEN_ZZ_Z-DR-Z-0005 P01.3.

Location: B676 Saxby Road eastbound approach to Pegasus crossing.

Summary: Restricted visibility increasing the likelihood of collisions involving equestrians.

The Pegasus crossing located on the B676 Saxby Road is located within a sinuous section of the B676, particularly for eastbound vehicles. If drivers are not provided with sufficient forward visibility, late braking could lead to collisions with following vehicles or equestrians could be struck as they cross the carriageway.

RECOMMENDATION

It is recommended that significant vegetation clearance is undertaken within the verges of the B676 Saxby Road and that Pegasus crossing warning signs are installed during the detail design.

Designer Response

Visibility to/from the proposed equestrian crossing on the B676 is currently being reviewed as part of the detailed design with measures considered to improve visibility and provide appropriate warning at this and other equestrian crossing locations.

3.5 ROAD SIGNS, CARRIAGEWAY MARKINGS & LIGHTING

3.5.1 ADVANCE DIRECTION SIGNS (ADS) AND LOCAL TRAFFIC SIGNS

3.5.1.1 No signage details have been provided for review during this Stage 1 Road Safety Audit. All potential issues relating to road markings will be reviewed during the Stage 2 Road Safety Audit process.

3.5.2 POLES/COLUMNS

3.5.2.1. No poles/column details have been provided for review during this Stage 1 Road Safety Audit. All potential issues relating to road markings will be reviewed during the Stage 2 Road Safety Audit process.

3.5.3 LIGHTING

3.3.5.1 No lighting details have been provided for review during this Stage 1 Road Safety Audit. All potential issues relating to road markings will be reviewed during the Stage 2 Road Safety Audit process.

3.5.4 ROAD MARKINGS

3.5.4.1 No road markings details have been provided for review during this Stage 1 Road Safety Audit. All potential issues relating to road markings will be reviewed during the Stage 2 Road Safety Audit process.

4.0 Audit Team Statement

- 4.1 We certify that this Audit has been carried out in accordance with Road Safety Audit Standard (HD 19/15).

AUDIT TEAM LEADER

Pete Denton BSc (Hons) DipASM MCIHT MSoRSA

AECOM Infrastructure & Environment UK Ltd
Royal Court
Basil Close
Chesterfield
Derbyshire
S41 7SL

Signed:



Date: 3rd September 2018

AUDIT TEAM MEMBER

Jamie Stone BEng (Hons) EngTech MICE MSoRSA

AECOM Infrastructure & Environment UK Ltd
Royal Court
Basil Close
Chesterfield
Derbyshire
S41 7SL

Signed:



Date: 3rd September 2018

AUDIT TEAM OBSERVERS

There were no Audit Team Observers present during the site visit.

OTHERS INVOLVED

There were no other persons involved in this audit than previously stated above.

Appendix A – Documents Submitted to the Audit Team

The following documents were submitted as part of the Road Safety Audit:

| Document No. | Rev. | Description | Date |
|--|-------|-------------------------------------|------------|
| 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0001 | | Overview Plan | |
| 60542201-ACM-HML-S1_JN_R01_Z-DR-CH-001 | P01 | Scheme Overview Plan | 20/04/2018 |
| 60542201-ACM-GEN-GEN_GEN_ZZ_Z-DR-ZM-0001 | P01.1 | Scheme Zone Location Plan | 27/02/2018 |
| 60542201-ACM-HGN-GEN_GEN_ZZ_Z-DR-CH-0001 | P01 | Red Line Boundary | 16/05/2018 |
| 60542201-ACM-HGN-S1_GEN_ZZ_Z-DR-CH-0001 | P02 | Red Line Boundary Sheet 1 | 20/07/2018 |
| 60542201-ACM-HGN-S2_GEN_ZZ_Z-DR-CH-0002 | P02 | Red Line Boundary Sheet 2 | 20/07/2018 |
| 60542201-ACM-HGN-S2_GEN_ZZ_Z-DR-CH-0003 | P02 | Red Line Boundary Sheet 3 | 20/07/2018 |
| 60542201-ACM-HGN-S3_GEN_ZZ_Z-DR-CH-0004 | P02 | Red Line Boundary Sheet 4 | 20/07/2018 |
| 60542201-ACM-HGN-S4_GEN_ZZ_Z-DR-CH-0005 | P02 | Red Line Boundary Sheet 5 | 20/07/2018 |
| 60542201-ACM-HGN-S5_GEN_ZZ_Z-DR-CH-0006 | P02 | Red Line Boundary Sheet 6 | 20/07/2018 |
| 60542201-ACM-HGN-S5_GEN_ZZ_Z-DR-CH-0007 | P02 | Red Line Boundary Sheet 7 | 20/07/2018 |
| 60542201-ACM-HGN-GEN_GEN_ZZ_Z-DR-CH-0009 | P01 | Route Plan Sheet 1 of 3 | 30/05/2018 |
| 60542201-ACM-HGN-GEN_GEN_ZZ_Z-DR-CH-0010 | P01 | Route Plan Sheet 2 of 3 | 30/05/2018 |
| 60542201-ACM-HGN-GEN_GEN_ZZ_Z-DR-CH-0011 | P01 | Route Plan Sheet 3 of 3 | 30/05/2018 |
| 60542201-ACM-HML-S1_ML_M01_Z-DR-CH-0001 | P01 | Section 1 Mainline Plan and Profile | 20/04/2018 |

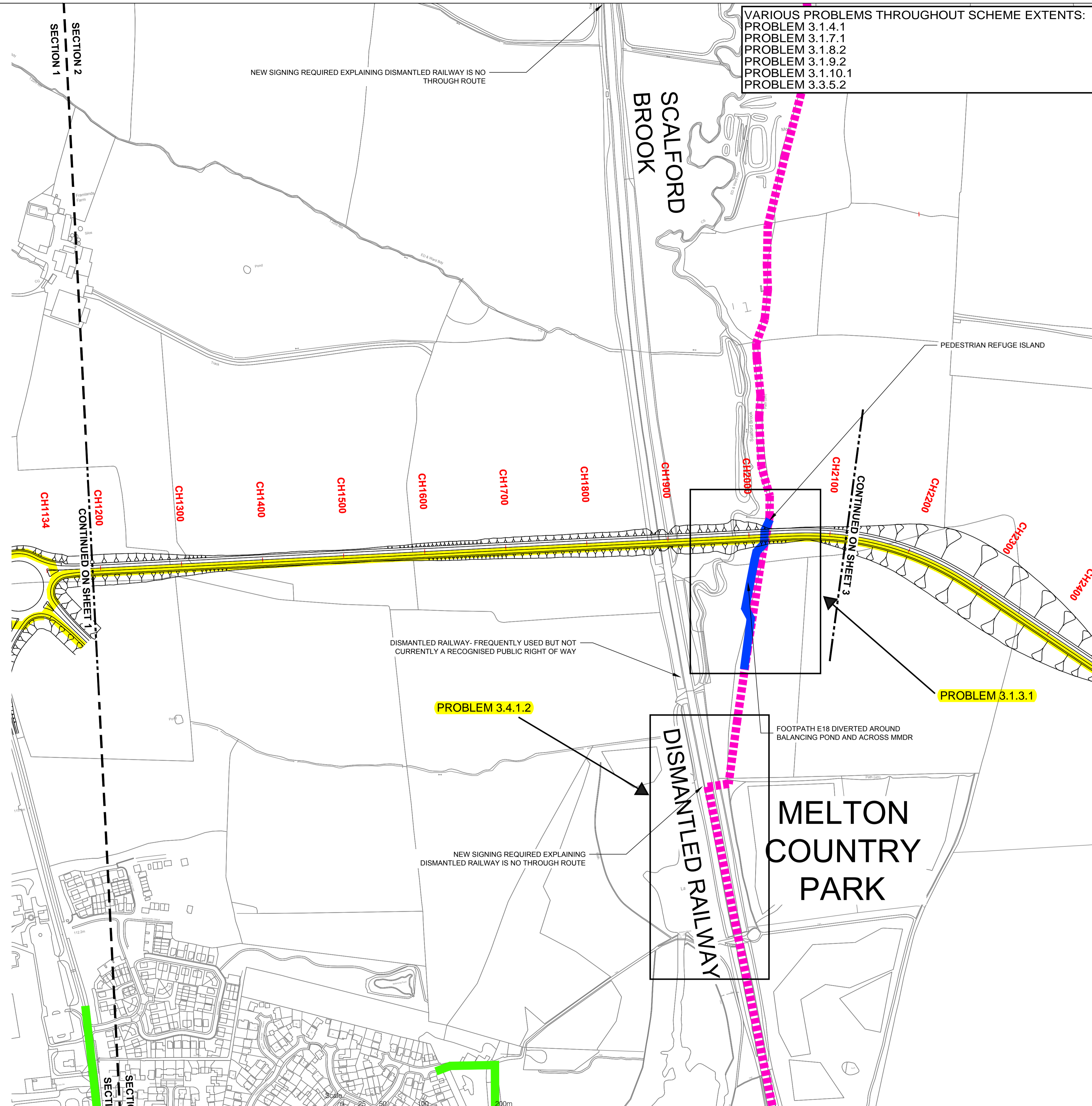
| 60542201-ACM-HML-S1_JN_R01_Z-DR-CH-0001 | P01 | Section 1 Roundabout 1 Plan and Profile | 20/04/2018 |
|--|-------|--|------------|
| Document No. | Rev. | Description | Date |
| 60542201-ACM-HML-S1_JN_R02_Z-DR-CH-0001 | P01 | Section 1 Roundabout 2 Plan and Profile | 20/04/2018 |
| 60542201-ACM-HML-S2_JN_R03_Z-DR-CH-0001 | P01 | Section 2 Roundabout 3 Plan and Profile | 20/04/2018 |
| 60542201-ACM-HML-S2_ML_M02_Z-DR-CH-0001 | P01 | Section 2 Mainline Plan and Profile Sheet 1 of 2 | 20/04/2018 |
| 60542201-ACM-HML-S2_ML_M02_Z-DR-CH-0002 | P01 | Section 2 Mainline Plan and Profile Sheet 2 of 2 | 20/04/2018 |
| 60542201-ACM-HML-S3_JN_R04_Z-DR-CH-0001 | P01 | Section 3 Roundabout 4 Plan and Profile | 20/04/2018 |
| 60542201-ACM-HML-S3_ML_M03_Z-DR-CH-0001 | P01 | Section 3 Mainline Plan and Profile | 20/04/2018 |
| 60542201-ACM-HML-S4_JN_R05_Z-DR-CH-0001 | P01 | Section 4 Roundabout 5 Plan and Profile | 20/04/2018 |
| 60542201-ACM-HML-S4_ML_M04_Z-DR-CH-0001 | P01 | Section 4 Mainline Plan and Profile | 20/04/2018 |
| 60542201-ACM-HML-S5_JN_R06_Z-DR-CH-0001 | P01 | Section 5 Roundabout 6 Plan and Profile | 20/04/2018 |
| 60542201-ACM-HGN-GEN_GEN_ZZ_Z-SK-CH-0012 | P01 | Section 5 Mainline Draft Amended Alignment | 22/06/2018 |
| 60542201-ACM-HML-S5_ML_M05_Z-DR-CH-0001 | P01 | Section 5 Mainline Plan and Profile Sheet 1 of 2 | 20/04/2018 |
| 60542201-ACM-HML-S5_ML_M05_Z-DR-CH-0002 | P01 | Section 5 Mainline Plan and Profile Sheet 2 of 2 | 20/04/2018 |
| 60542201-ACM-ENM-S1_GEN_ZZ_Z-DR-Z-0001 | P01.3 | Proposed Permanent NMU Routes | 19/07/2018 |
| 60542201-ACM-ENM-S1_GEN_ZZ_Z-DR-Z-0002 | P01.3 | Proposed Permanent NMU Routes | 19/07/2018 |
| 60542201-ACM-ENM-S1_GEN_ZZ_Z-DR-Z-0003 | P01.3 | Proposed Permanent NMU Routes | 19/07/2018 |
| 60542201-ACM-ENM-S1_GEN_ZZ_Z-DR-Z-0004 | P01.3 | Proposed Permanent NMU Routes | 19/07/2018 |
| 60542201-ACM-ENM-S1_GEN_ZZ_Z-DR-Z-0005 | P01.3 | Proposed Permanent NMU Routes | 19/07/2018 |

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|--|-------|-------------------------------|------------|
| 60542201-ACM-ENM-S1_GEN_ZZ_Z-DR-Z-0006 | P01.3 | Proposed Permanent NMU Routes | 19/07/2018 |
|--|-------|-------------------------------|------------|

| Document No. | Rev. | Description | Date |
|--|-------|---|------------|
| 60542201-ACM-ENM-S1_GEN_ZZ_Z-DR-Z-0007 | P01.3 | Proposed Permanent NMU Routes | 19/07/2018 |
| 60542201-ACM-HGN-GEN_JN_ZZ_Z-SK-CH-0001 | P01.1 | Speed Limit Drawings All Roundabouts Site Wide | 26/04/2018 |
| 60542201-ACM-HGN-S1_JN_R01_Z-SK-CH-0001 | P01.1 | Speed Limit Drawings | 26/04/2018 |
| 60542201-ACM-HGN-S1_JN_R02_Z-SK-CH-0001 | P01.1 | Speed Limit Drawings Roundabout 2 | 26/04/2018 |
| 60542201-ACM-HGN-S1_JN_R03_Z-SK-CH-0001 | P01.1 | Speed Limit Drawings Roundabout 3 | 26/04/2018 |
| 60542201-ACM-HGN-S1_JN_R04_Z-SK-CH-0001 | P01.1 | Speed Limit Drawings Roundabout 4 | 26/04/2018 |
| 60542201-ACM-HGN-S1_JN_R05_Z-SK-CH-0001 | P01.1 | Speed Limit Drawings Roundabout 5 | 26/04/2018 |
| 60542201-ACM-HGN-S1_JN_R06_Z-SK-CH-0001 | P01.1 | Speed Limit Drawings Roundabout 6 | 26/04/2018 |
| 60542201-ACM-HML-GEN_ML_ZZ_Z-DR-CH-0001 | P01 | Highway Cross Sections Typical Sections 40mph Section | 19/04/2018 |
| 60542201-ACM-HML-GEN_ML_ZZ_Z-DR-CH-0002 | P01 | Highway Cross Sections Typical Sections 60mph Section | 19/04/2018 |
| 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0001 | 1 | Surface Water Management Plan Sheet 1 of 7 | |
| 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0002 | 1 | Surface Water Management Plan Sheet 2 of 7 | |
| 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0003 | 1 | Surface Water Management Plan Sheet 3 of 7 | |
| 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0004 | 1 | Surface Water Management Plan Sheet 4 of 7 | |
| 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0005 | 1 | Surface Water Management Plan Sheet 5 of 7 | |
| 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0006 | 1 | Surface Water Management Plan Sheet 6 of 7 | |
| 60542201-ACM-VOL-SEC_TYP_ID_D-DR-RO-0007 | 1 | Surface Water Management Plan Sheet 7 of 7 | |

Appendix B – Location of Problems Drawings

- NOTES**
- THIS DRAWING IS BASED ON ORDNANCE SURVEY DATA.
 - THIS DRAWING IS BASED ON ORDNANCE SURVEY DATA AND THE COMBINED AECOM AND LCC TOPOGRAPHICAL SURVEY .
 - HIGHWAY ALIGNMENT IS BASED ON PRELIMINARY DESIGN (APRIL 2018)
 - EXISTING FOOTPATHS, SHOWN BY DASHED PINK LINE, ARE TO BE ABANDONED OVER THE EXTENT OF THE PROPOSED FOOTPATHS, SHOWN BY CONTINUOUS ORANGE LINE
 - PROPOSED RIVER DIVERSION NOT SHOWN
 - LOCATION OF PEDESTRIAN REFUGE ISLANDS ARE INDICATIVE
 - ALL CYCLE ROUTES ARE SHOWN, INCLUDING THOSE NOT ON THE NATIONAL CYCLE ROUTE. NATIONAL CYCLE ROUTE 64 IS IDENTIFIED ON THE DRAWING
 - EXISTING FOOTPATH AND BRIDLEWAY INFORMATION HAS BEEN EXTRACTED FROM JACOBS CONCEPT DESIGN DRAWING









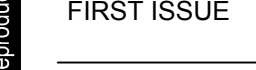


VARIOUS PROBLEMS THROUGHOUT SCHEME EXTENTS:
 PROBLEM 3.1.4.1
 PROBLEM 3.1.7.1
 PROBLEM 3.1.8.2
 PROBLEM 3.1.9.2
 PROBLEM 3.1.10.1
 PROBLEM 3.3.5.2

PROBLEM 3.4.1.2

PROBLEM 3.1.3.1

KEY

| | |
|---|--|
|  | VEHICLE RESTRICTED, USE TO BE NMU AND FARM VEHICLES ONLY |
|  | FOOTPATH DIVERSIONS (SEE NOTE 4) |
|  | 2m FOOTPATH ROUTE |
|  | 3m SHARED FOOTWAY AND CYCLE WAY |
|  | EXISTING CYCLE ROUTE-WITH TRAFFIC |
|  | EXISTING CYCLE ROUTE-TRAFFIC FREE |
|  | EXISTING FOOTPATHS |
|  | EXISTING BRIDLEWAYS |
|  | PROPOSED BRIDLEWAYS |

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|------------------|-------|----------|--------|
| FIRST ISSUE | --- | 19/07/18 | P01.3 |
| REVISION DETAILS | BY | DATE | SUFFIX |
| | CHECK | | |

PROJECT MANAGEMENT INITIALS

| | | |
|--------------------------------|---------------------------|---------------|
| DESIGNED: --- | CHECKED: --- | APPROVED: --- |
| INTERNAL PROJECT NUMBER | SCALE | |
| 60542201 | 1:2500 | |
| STATUS | BS1192 SUITABILITY | |
| | S0 | |

SHEET TITLE
PROPOSED PERMANENT NMU ROUTES

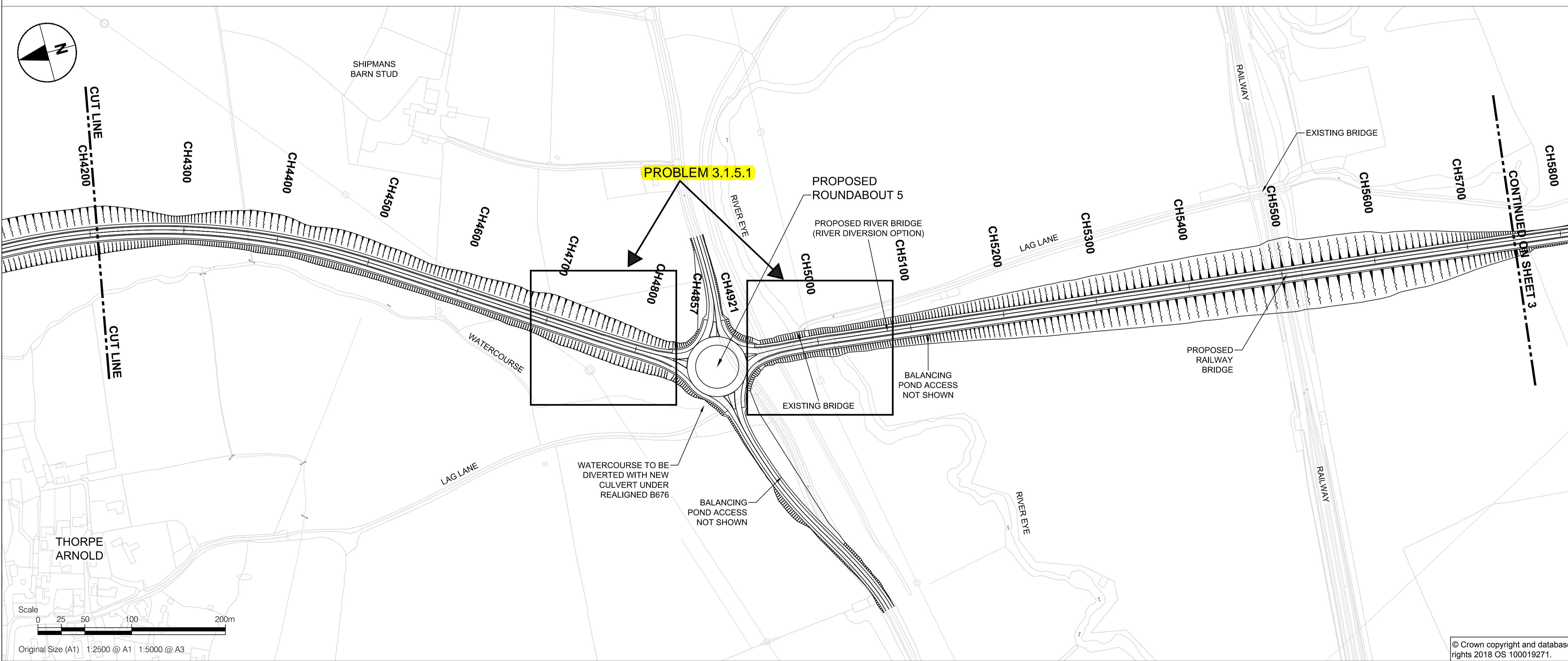
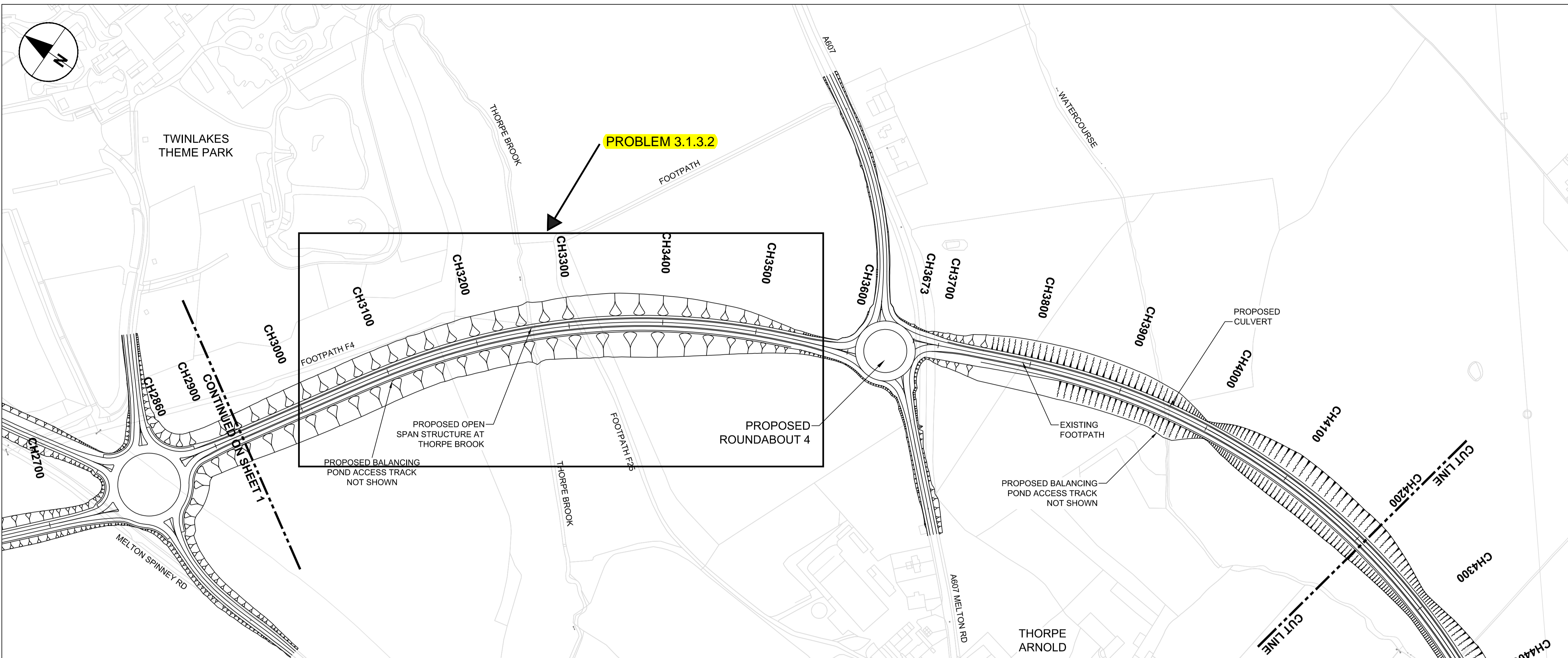
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| DRAWING NUMBER | REV |
| 60542201-ACM-ENM-S2_GEN_ZZ_Z -DR-Z -0002 | P01.3 |

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

SIGNIFICANT AND SPECIFIC HAZARDS ASSOCIATED WITH THE WORKS DETAILED ON THIS DRAWING. TO BE READ IN CONJUNCTION WITH THE DESIGNER HAZARD ASSESSMENT REGISTER (REF: 60542201-ACM-GHS-GEN_GEN_ZZ_Z-RP-ZS-0001)

| | |
|----------------------|---------|
| Hazard/Residual Risk | CDM Ref |
| 1 | |

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- NOTES**
1. ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE.
 2. THIS DRAWING IS BASED ON ORDNANCE SURVEY DATA.
 3. PROPOSED HIGHWAY ALIGNMENT SHOWN IS PRELIMINARY DESIGN VERSION P01.

| | | | | |
|------------------|----|-------|----------|--------|
| FIRST ISSUE | MH | MG | 30/05/18 | P01 |
| REVISION DETAILS | BY | CHECK | DATE | SUFFIX |

PROJECT MANAGEMENT INITIALS

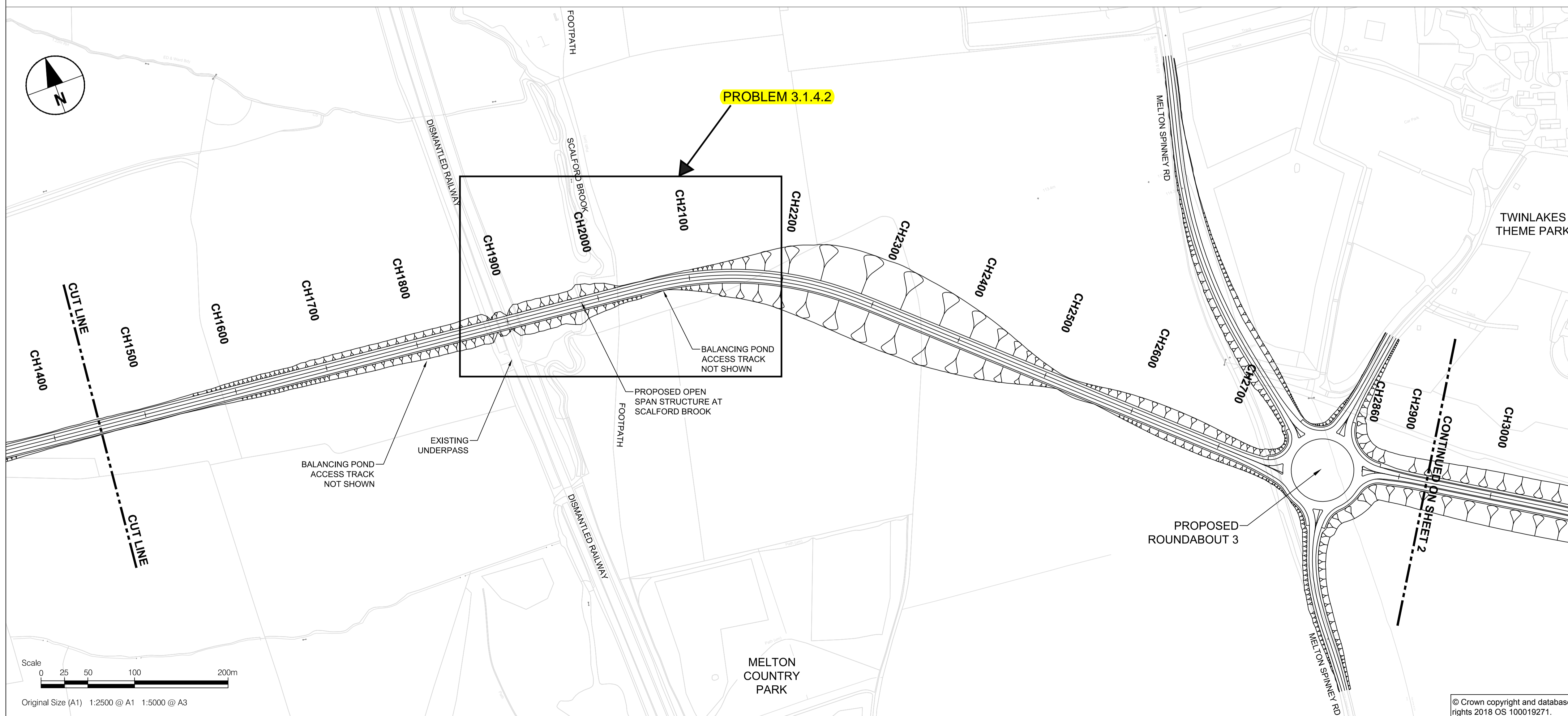
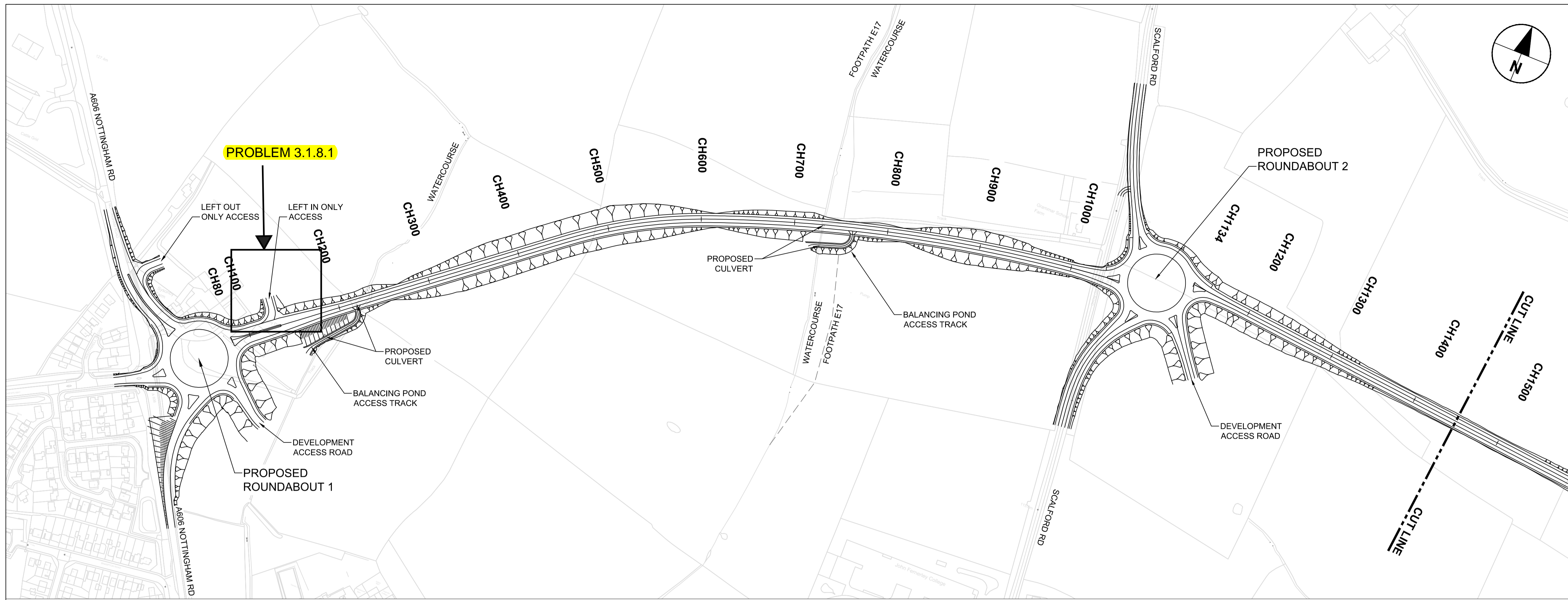
DESIGNED: _____ CHECKED: AS _____ APPROVED: MG _____

INTERNAL PROJECT NUMBER 60542201 **SCALE** ---

STATUS FOR INFORMATION **BS1192 SUITABILITY** S2

SHEET TITLE ROUTE PLAN SHEET 2 OF 3

DRAWING NUMBER 60542201-ACM-HGN-GEN_GEN_ZZ_Z-SK-CH-0010 **REV** P01



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|------------------|----|-------|----------|--------|
| FIRST ISSUE | MH | MG | 30/05/18 | P01 |
| REVISION DETAILS | BY | CHECK | DATE | SUFFIX |

PROJECT MANAGEMENT INITIALS

DESIGNED: _____ CHECKED: AS _____ APPROVED: MG _____

INTERNAL PROJECT NUMBER 60542201 **SCALE** ---

STATUS FOR INFORMATION **BS1192 SUITABILITY** S2

SHEET TITLE ROUTE PLAN SHEET 1 OF 3

DRAWING NUMBER 60542201-ACM-HGN-GEN_GEN_ZZ_Z-SK-CH-0009 **REV** P01

ROUTE PLAN SHEET 1 OF 3

DRAWING NUMBER 60542201-ACM-HGN-GEN_GEN_ZZ_Z-SK-CH-0009 **REV** P01

ROUTE PLAN SHEET 1 OF 3

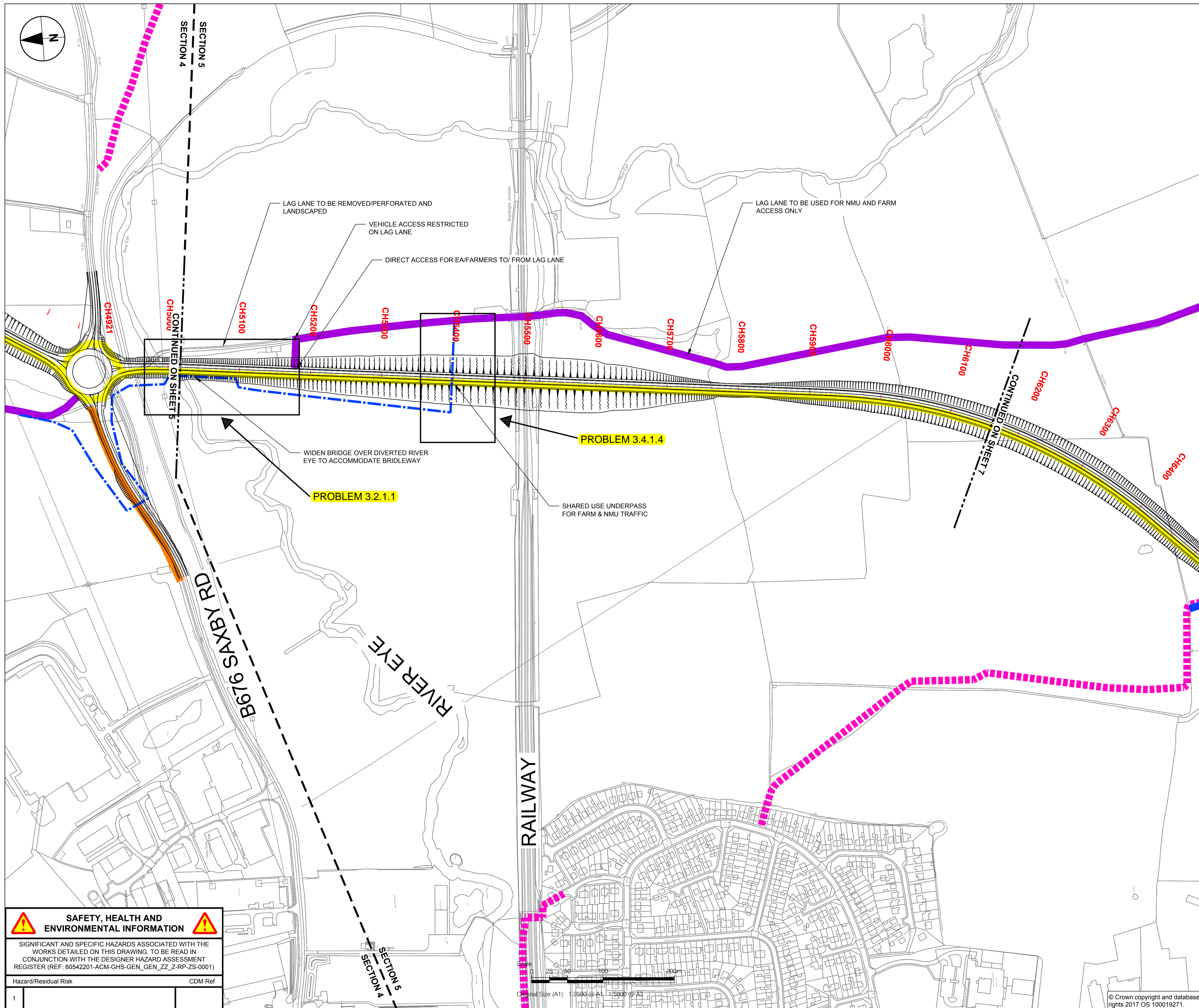
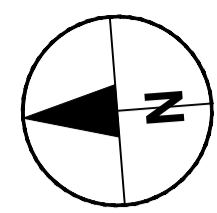
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ROUTE PLAN SHEET 1 OF 3

DRAWING NUMBER 60542201-ACM-HGN-GEN_GEN_ZZ_Z-SK-CH-0009 **REV** P01









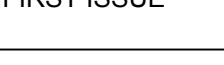
ROUTE PLAN SHEET 1 OF 3

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- NOTES**
1. THIS DRAWING IS BASED ON ORDNANCE SURVEY DATA.
 2. THIS DRAWING IS BASED ON ORDNANCE SURVEY DATA AND THE COMBINED AECOM AND LCC TOPOGRAPHICAL SURVEY .
 3. HIGHWAY ALIGNMENT IS BASED ON PRELIMINARY DESIGN (APRIL 2018)
 4. EXISTING FOOTPATHS, SHOWN BY DASHED PINK LINE, ARE TO BE ABANDONED OVER THE EXTENT OF THE PROPOSED FOOTPATHS, SHOWN BY CONTINUOUS ORANGE LINE
 5. PROPOSED RIVER DIVERSION NOT SHOWN
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 8. EXISTING FOOTPATH AND BRIDLEWAY INFORMATION HAS BEEN EXTRACTED FROM JACOBS CONCEPT DESIGN DRAWING

KEY

| | |
|---|--|
|  | VEHICLE RESTRICTED, USE TO BE NMU AND FARM VEHICLES ONLY |
|  | FOOTPATH DIVERSIONS (SEE NOTE 4) |
|  | 2m FOOTPATH ROUTE |
|  | 3m SHARED FOOTWAY AND CYCLE WAY |
|  | EXISTING CYCLE ROUTE-WITH TRAFFIC |
|  | EXISTING CYCLE ROUTE-TRAFFIC FREE |
|  | EXISTING FOOTPATHS |
|  | EXISTING BRIDLEWAYS |
|  | PROPOSED BRIDLEWAYS |

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| FIRST ISSUE | BY | 19/07/18 | P01.3 |
| REVISION DETAILS | CHECK | DATE | SUFFIX |

PROJECT MANAGEMENT INITIALS

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|--------------------------------|---------------------------|---------------|
| DESIGNED: --- | CHECKED: --- | APPROVED: --- |
| INTERNAL PROJECT NUMBER | SCALE | |
| 60542201 | 1:2500 | |
| STATUS | BS1192 SUITABILITY | |
| | S0 | |

SHEET TITLE
PROPOSED PERMANENT NMU ROUTES

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|--|------------|
| DRAWING NUMBER | REV |
| 60542201-ACM-ENM-S5_GEN_ZZ_Z -DR-Z -0006 | P01.3 |

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

SIGNIFICANT AND SPECIFIC HAZARDS ASSOCIATED WITH THE WORKS DETAILED ON THIS DRAWING. TO BE READ IN CONJUNCTION WITH THE DESIGNER HAZARD ASSESSMENT REGISTER (REF: 60542201-ACM-GHS-GEN_GEN_ZZ_Z-RP-ZS-0001)

| Hazard/Residual Risk | CDM Ref |
|----------------------|---------|
| 1 | |

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KEY

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| | EXISTING CYCLE ROUTE-WITH TRAFFIC |
| | EXISTING CYCLE ROUTE-TRAFFIC FREE |
| | EXISTING FOOTPATHS |
| | EXISTING BRIDLEWAYS |
| | PROPOSED BRIDLEWAYS |

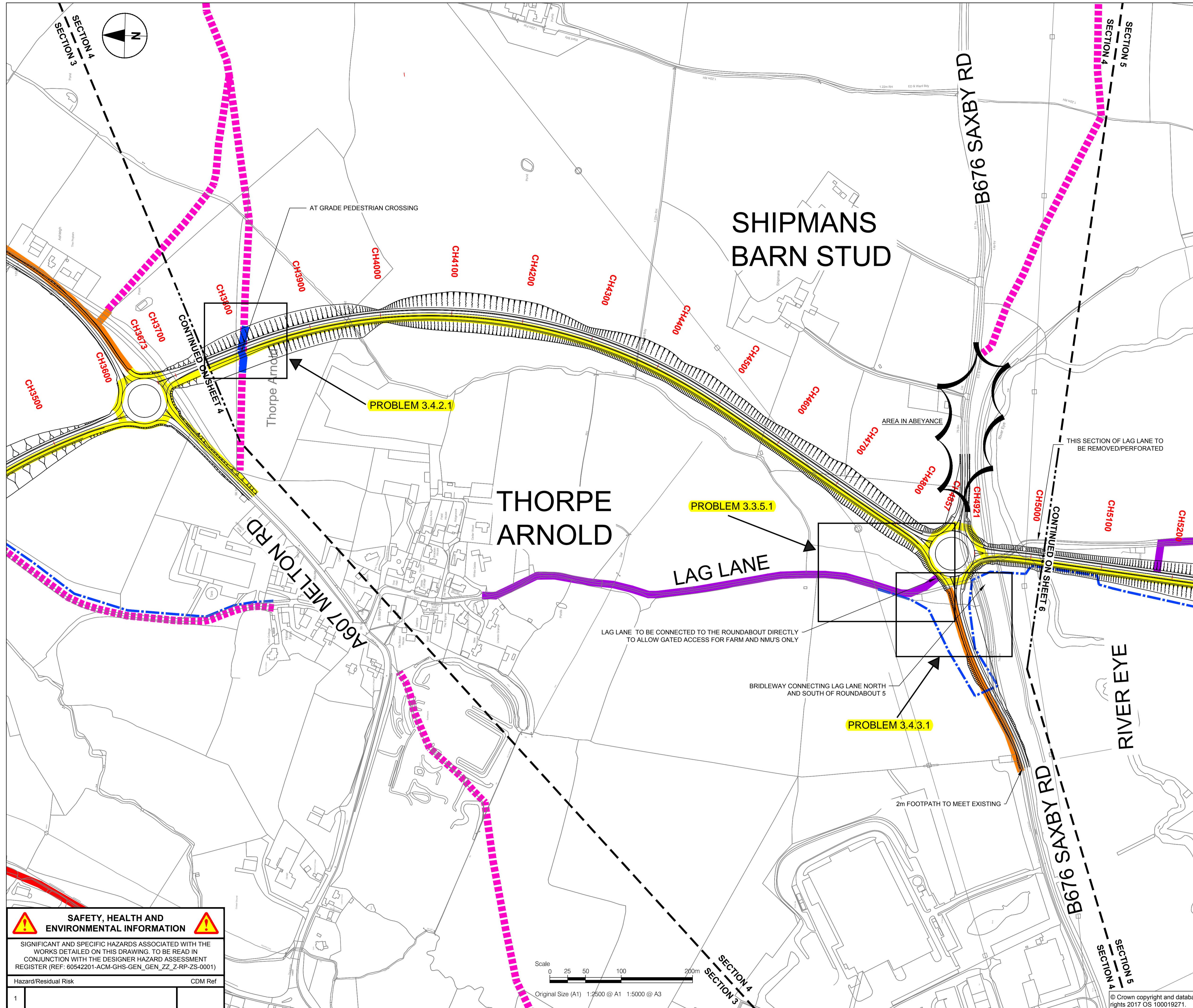
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|------------------|----------|--------|
| FIRST ISSUE | 19/07/18 | P01.3 |
| REVISION DETAILS | BY | DATE |
| | CHECK | SUFFIX |

PROJECT MANAGEMENT INITIALS

| | | |
|--------------------------------|---------------------------|--------------|
| DESIGNED: | CHECKED:--- | APPROVED:--- |
| INTERNAL PROJECT NUMBER | SCALE | |
| 60542201 | 1:2500 | |
| STATUS | BS1192 SUITABILITY | |
| | S0 | |

SHEET TITLE
PROPOSED PERMANENT NMU ROUTES

| | |
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| DRAWING NUMBER | REV |
| 60542201-ACM-ENM-S4_GEN_ZZ_Z -DR-Z -0005 | P01.3 |

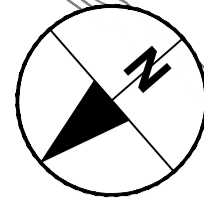


SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

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| Hazard/Residual Risk | CDM Ref |
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ACCESS TO LAG LANE AND SAWGATE ROAD FOR FARM TRAFFIC AND NMU USE ONLY.

BURTON LAZARS

SAWGATE ROAD

LAG LANE

PROBLEM 3.3.5.2

EQUESTRIAN CROSSING

PROBLEM 3.4.2.1

PEDESTRIAN REFUGE ISLAND

2m FOOTPATH TO END OF THE IN. CONNECT TO EXISTING FOOTPATH

A606 BURTON RD

CH6100 CH6200 CH6300 CH6400 CH6500 CH6600 CH6700 CH6800 CH6900 CH7000 CH7100

CONTINUED ON SHEET 6



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www.aecom.com

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| | EXISTING BRIDLEWAYS |
| | PROPOSED BRIDLEWAYS |

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| | CHECK | | |

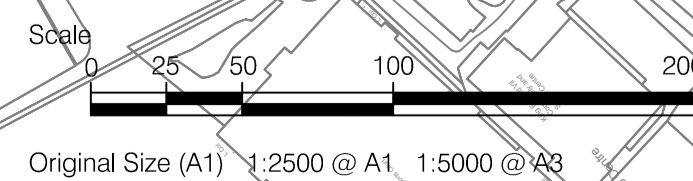
PROJECT MANAGEMENT INITIALS

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|--------------------------------|---------------------------|--------------|
| DESIGNED: | CHECKED:--- | APPROVED:--- |
| INTERNAL PROJECT NUMBER | SCALE | |
| 60542201 | 1:2500 | |
| STATUS | BS1192 SUITABILITY | |
| | S0 | |

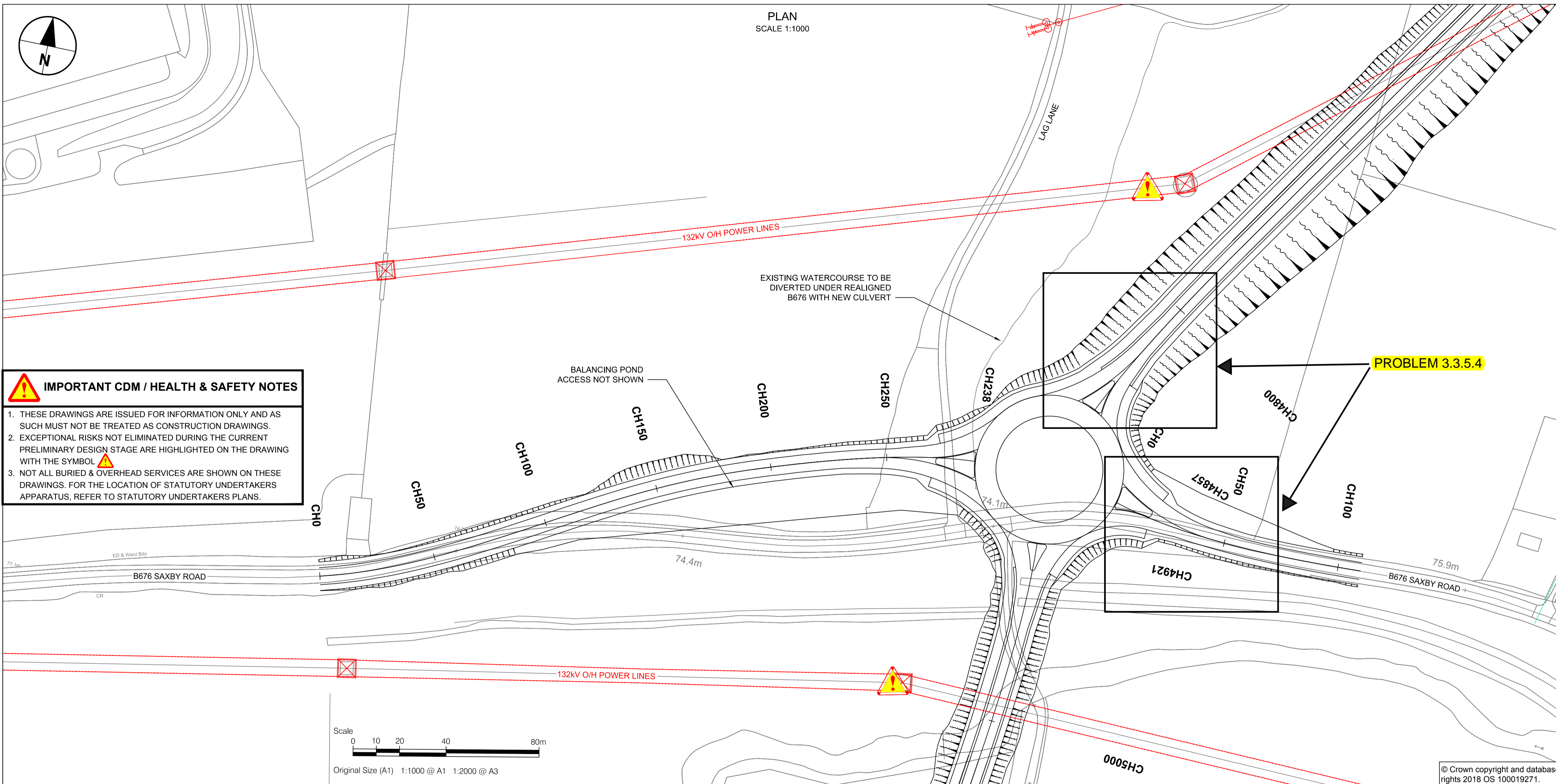
SHEET TITLE
PROPOSED PERMANENT NMU ROUTES

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| DRAWING NUMBER | REV |
| 60542201-ACM-ENM-S5_GEN_ZZ_Z -DR-Z -0007 | P01.3 |

| SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION | |
|---|---------|
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| Hazard/Residual Risk | CDM Ref |
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IMPORTANT CDM / HEALTH & SAFETY NOTES

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2. EXCEPTIONAL RISKS NOT ELIMINATED DURING THE CURRENT PRELIMINARY DESIGN STAGE ARE HIGHLIGHTED ON THE DRAWING WITH THE SYMBOL
3. NOT ALL BURIED & OVERHEAD SERVICES ARE SHOWN ON THESE DRAWINGS. FOR THE LOCATION OF STATUTORY UNDERTAKERS APPARATUS, REFER TO STATUTORY UNDERTAKERS PLANS.

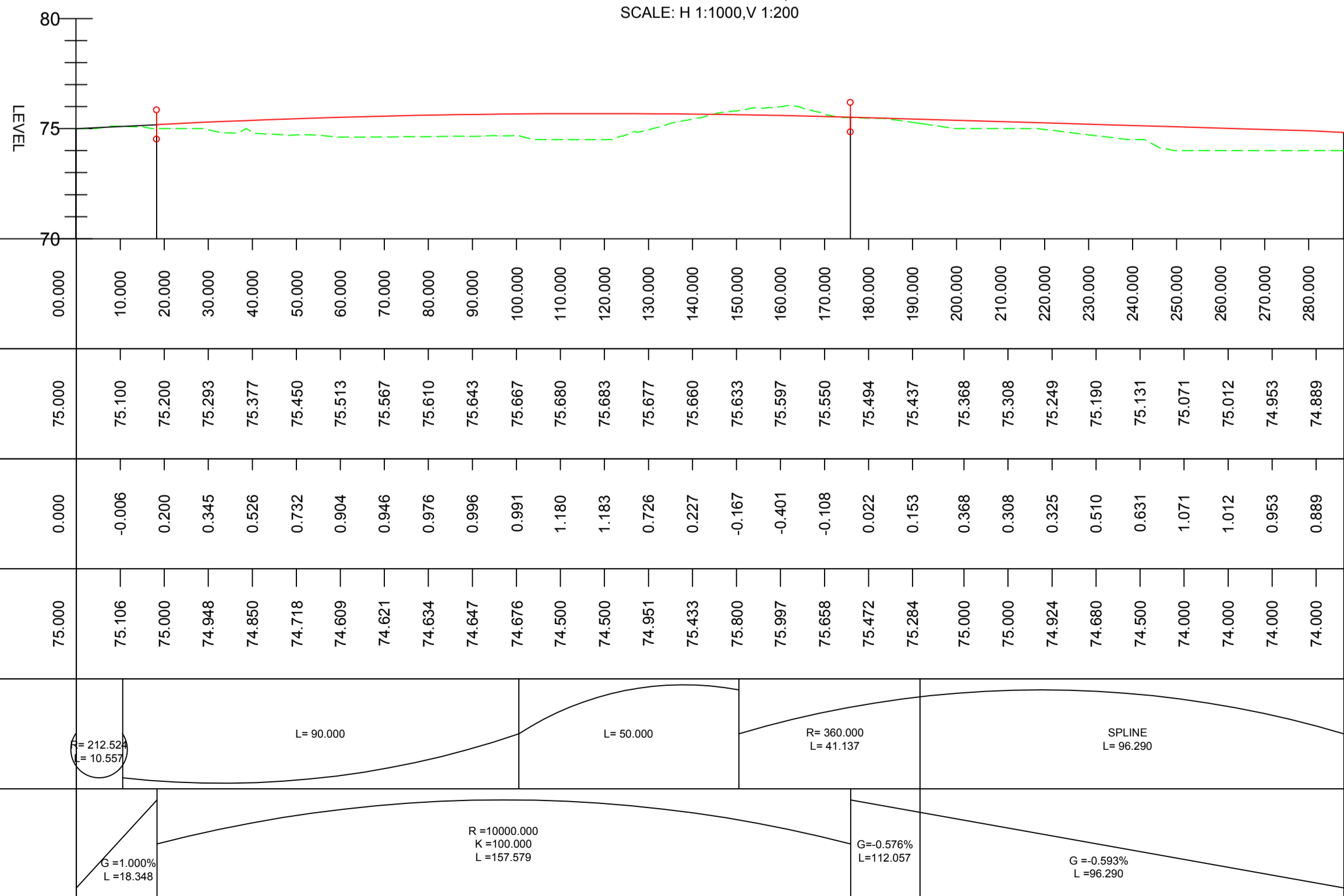
PROBLEM 3.3.5.4

KEY

| | |
|--|--------------------------|
| | EXISTING PROFILE (LIDAR) |
| | EXISTING PROFILE (TOPO) |
| | PROPOSED PROFILE |
| | TANGENT MARKER |

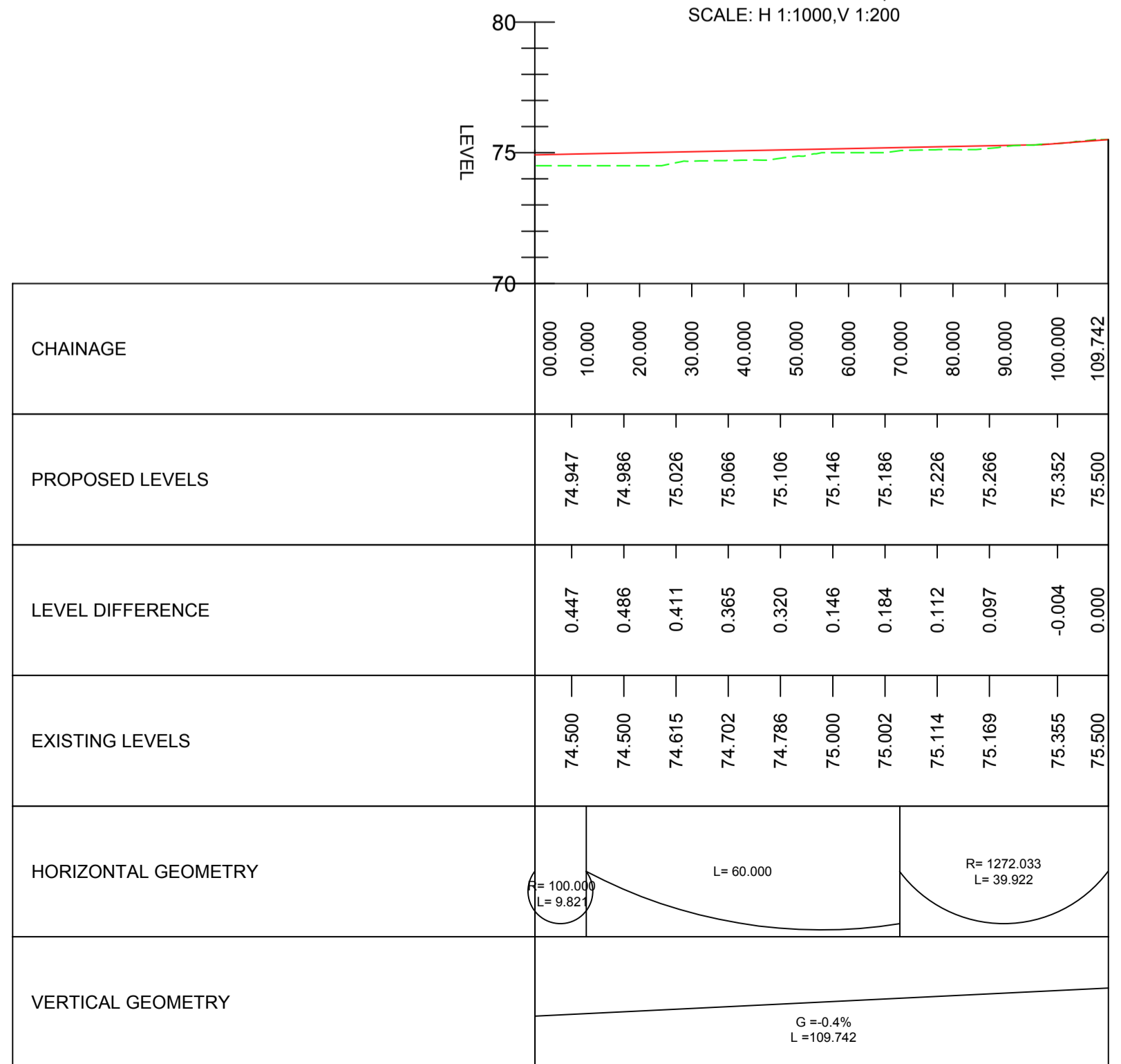
PROPOSED B676 WEST ARM PROFILE

DESIGN SPEED = 100kph
SCALE: H 1:1000, V 1:200



PROPOSED B676 EAST ARM PROFILE

DESIGN SPEED = 100kph
SCALE: H 1:1000, V 1:200



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| REVISION DETAILS | BY | CHECK | DATE | SUFFIX |

PROJECT MANAGEMENT INITIALS

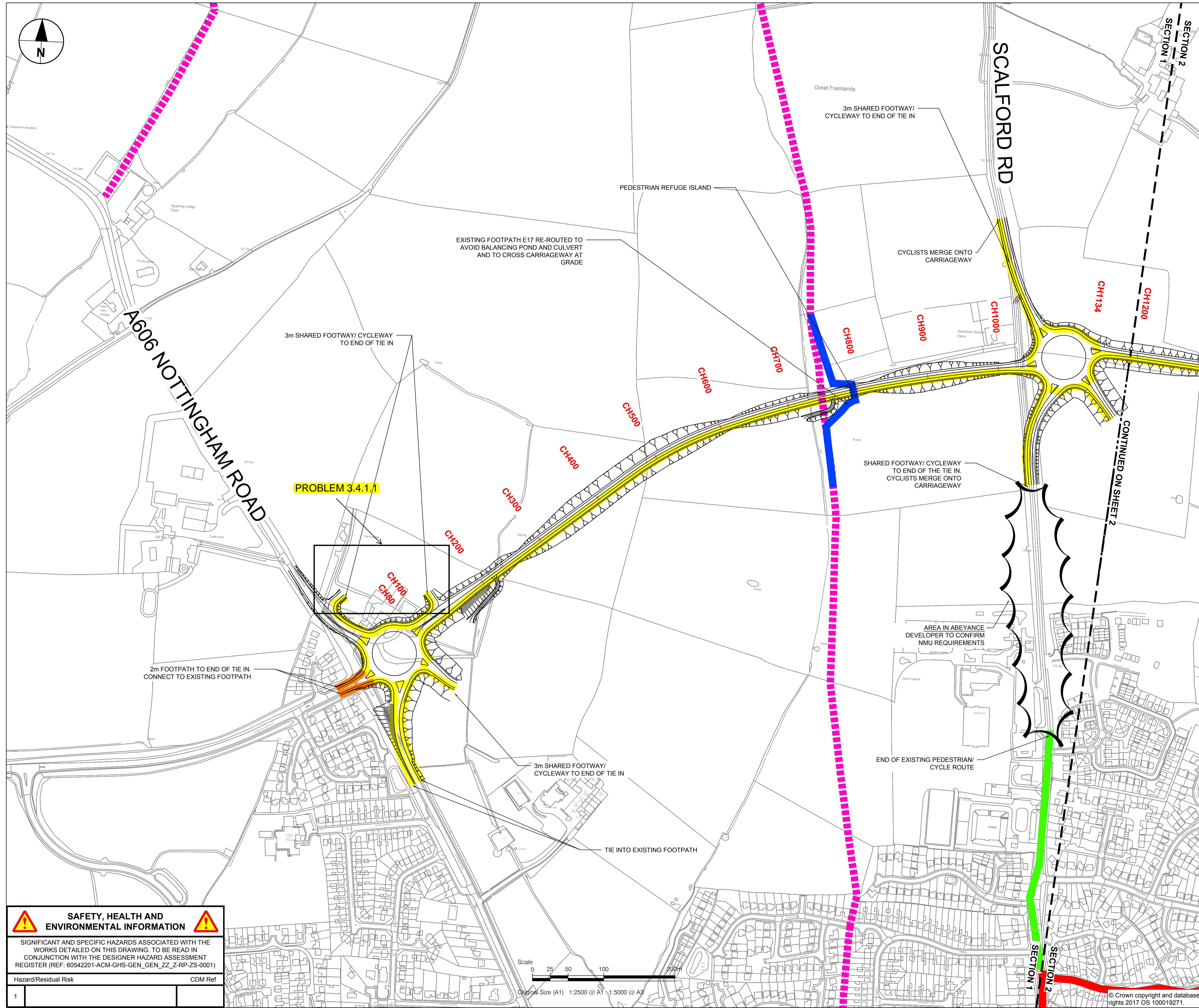
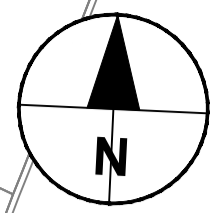
DESIGNED: AP CHECKED: MP APPROVED: AS

INTERNAL PROJECT NUMBER **SCALE**
60542201 AS SHOWN

STATUS **BS1192 SUITABILITY**
FOR INFORMATION S2







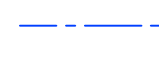

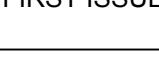
SHEET TITLE
SECTION 4 ROUNDABOUT 5
PLAN AND PROFILE

DRAWING NUMBER **REV**
60542201-ACM-HML-S4_JN_R05_Z -DR-CH-0001 P01



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| | | S0 |

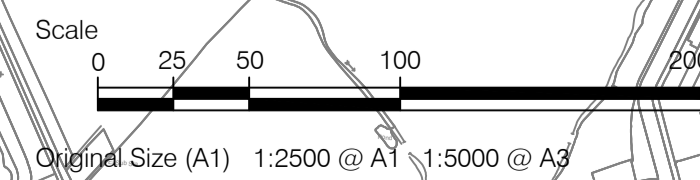
SHEET TITLE
PROPOSED PERMANENT NMU ROUTES

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|--|------------|
| DRAWING NUMBER | REV |
| 60542201-ACM-ENM-S1_GEN_ZZ_Z -DR-Z -0001 | P01.3 |

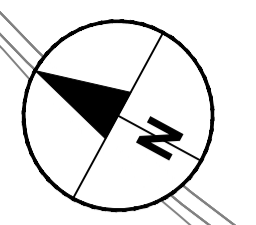
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TWINLAKES THEME PARK

2m FOOTPATH TO END OF TIE IN

NEW FOOTPATH/EQUESTRIAN
CROSSING AT THORPE BROOK

PROBLEM 3.4.1.3

SHARED USE UNDER PASS FOR FARM & NMU TRAFFIC

COMBINED FOOTPATH/ BRIDLEWAY TO CONNECT MELTON
SPINNEY ROAD WITH THORPE ARNOLD/LAG LANE (USING
PROPOSED UNDERPASS)

EXISTING ROAD TO BE BROKEN UP/ PERFORATED &
LANDSCAPED SUBJECT TO BURIED SERVICES

MELTON SPINNEY RD
A17600

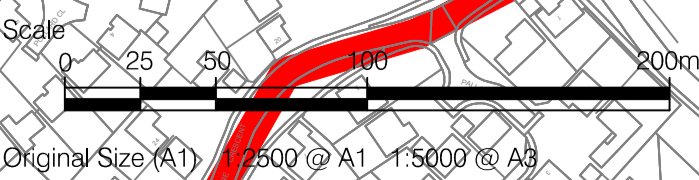
A607 MELTON RD

THORPE
ARNOLD

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

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| 1 | |



PROJECT
NORTH & EAST MMDR



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CONSULTANT
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Chetwynd Business Park
Chilwell, Nottingham, NG9 6RZ
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www.aecom.com

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| | EXISTING FOOTPATHS |
| | EXISTING BRIDLEWAYS |
| | PROPOSED BRIDLEWAYS |
| | UNCLASSIFIED COUNTRY ROAD |

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| | DATE | SUFFIX |

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| | S0 | |

SHEET TITLE
PROPOSED PERMANENT
NMU ROUTES

| | |
|---|------------|
| DRAWING NUMBER | REV |
| 60542201-ACM-ENM-S3_GEN_ZZ_ZZ -DR-Z -0004 | P01.3 |

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United Kingdom

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Fax : 01246 209229

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