

# A428 Black Cat to Caxton Gibbet improvements

TR010044

Volume 9

9.67 Applicant's comments on Cambridgeshire County Council's  
response to WQ2.11.2.1

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**The Infrastructure Planning (Examination Procedure)  
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**A428 Black Cat to Caxton Gibbet  
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Development Consent Order 202[ ]**

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# 1 Introduction

1.1.1 This document sets out the Applicant's comments on the Cambridgeshire County Council (CCC), Huntingdonshire District Council (HDC) and South Cambridgeshire District Council (SCDC) (together, the Cambridgeshire Authorities) response to the Examining Authority (ExA)'s Second Written Questions (WQ2) [PD-009] Q2.11.2.1. The Cambridgeshire Authorities response was provided in **[REP4-056]**. The text below reflects that question from the ExA.

*CCC **[REP1-048]** have requested that new highways infrastructure be provided in accordance with DMRB.*

- d) With particular regard to route continuity and road safety considerations, how is this justified where the existing roads leading to those points do not currently appear to conform with DMRB? Please provide justification for each location referred to.*
- e) Do other Local Highway Authorities share the view that new highways infrastructure, for which they will be responsible for in future, should conform with DMRB?*

1.1.2 The rationale and processes behind the proposals submitted in the application for local authority highway design are outlined below and the Applicant will then address the items presented by the Cambridgeshire Authorities as set out in their response document **[REP4-056]**. In addition, the Applicant will address comments raised by the Cambridgeshire Authorities made at Deadline 4. In doing this, the Applicant seeks to exhibit how safety has driven the decisions taken to achieve an outcome that is safe for users by being consistent and in context with the existing road and the surrounding environment.

## 2 Design Approach

- 2.1.1 The A428 Scheme involves the construction of a new dual carriageway which will sever a number of local roads maintained by local highway authorities. In order to maintain connectivity, the Applicant proposes to reconnect the existing routes affected. The Applicant proposes to reconnect these routes, with new highway that is consistent with the existing character of the severed routes.
- 2.1.2 The Applicant, in undertaking the design of these local highway roads, has endeavoured to incorporate the lessons learnt from many previous DCO schemes, notably the A14 Cambridge to Huntingdon Improvement Scheme (A14 Scheme), which the Cambridgeshire Authorities also refer to and were a key stakeholder on.
- 2.1.3 On the A14 Scheme, where local road changes were built to Design Manual for Roads and Bridges (DMRB) carriageway widths without deviation, the Stage 3 Road Safety Audit (undertaken in accordance with DMRB GG119 – Road Safety Audit Standard) identified some safety concerns post opening. The Safety Audit team, which consisted of members from Cambridgeshire County Council as Audit Observers, raised concerns of overtaking and head-on collisions where the roads transitioned between wider and narrower carriageways. Following recommendations from the Road Safety Audit process National Highways undertook design amendments on the affected local roads. These amendments included the provision of additional measures, namely road markings and signage to inform the road users of a new hazard.
- 2.1.4 The health and safety of road users and road workers is a primary consideration for Designers during design development. The Construction (Design and Management) Regulations 2015 (CDM Regulations) Part 3 Section 9, places obligations on the Designer to apply the principles of prevention – a hierarchical process to address safety as outlined below:
- a. Eliminate
  - b. Reduce
  - c. Inform
  - d. Control
- 2.1.5 At the design stage, the principles are to first eliminate risks to any persons, where possible. In the event that this cannot be achieved, it is the duty of the Designer to reduce the risk so far as is reasonably practicable and if that is not possible, control the risks through subsequent design processes. Failure to comply with the CDM 2015 Regulations is a criminal offence.
- 2.1.6 Following the Stage 3 Road Safety Audit, the A14 Scheme was required to use a 'lower' principle of prevention – 'inform' – by implementing road markings and signage; this is a reactive approach to the health, safety and well-being of road users. A Stage 3 Road Safety Audit is undertaken when any highway improvement scheme is substantially complete and preferably before the works are open to road users.

- 2.1.7 Taking lessons from the A14 Scheme and this known road safety issue, the Applicant has adopted a preventative and proactive approach on the Scheme by applying the higher principle of prevention in accordance with the CDM Regulations by developing designs that reduces the risk of road traffic incidents. The design of the local roads for the Scheme avoids these safety issues by proposing a cross-section and alignment proportionate and consistent to the existing road to maintain route continuity.
- 2.1.8 The Applicant has used the guidance and advice as set out in the DMRB standards in the development of the local road design solutions. The DMRB is a suite of documents that contain requirements and advice relating to works on motorway and all-purpose trunk roads. The DMRB documents are not statutory or regulatory documents.
- 2.1.9 The Applicant has used the DMRB as a useful baseline and guidance in the development of roads that fit into context of the existing route. The Applicant has considered its appropriateness on the local road networks and seeks Departures from Standards to ensure route continuity.
- 2.1.10 The DMRB recognises that the standards cannot be applied wholly and without consideration of the local surroundings and context. The DMRB operates a 'Departure from Standards' process that allows the Design Organisation to seek modification where:
- a. It can be justified that a requirement is inappropriate in a particular situation.
  - b. The application of a requirement would have unintended adverse consequences.
  - c. Innovative methods or materials are to be proposed.
  - d. A requirement not in the DMRB, National Application Annexes (NAA) or Manual of Contract Document for Highway Works (MCHW) is adopted as more appropriate in a particular situation.
  - e. An aspect not covered by requirements is identified.
- 2.1.11 The Applicant proposes to depart from the DMRB standard carriageway width for the local highways because it is inappropriate and inconsistent at these particular locations, because it would have adverse safety consequences and introduce additional hazards.
- 2.1.12 Though the proposed 6m carriageway width, for which a Departure is being sought, is not a specific legislative requirement, the reduction of risk to road users is, and this factor was a key driver for the decision to propose a width consistent with the existing route.
- 2.1.13 Further to the road safety issues raised above, the Applicant has proposed road designs that are in line with the National Highways Road to Good Design principles (for further details see 9.26 Scheme Design Approach and Design Principles [**REP3-014**]) and the National Policy Statement for National Networks (NPS NN), which explains that applying good design to projects should:

- a. Produce sustainable infrastructure sensitive to place, efficient in the use of natural resource and energy used in their construction, matched by an appearance that demonstrates good aesthetics as far as possible. (NPS NN Para 4.29)
- b. Mitigate adverse impacts, wherever possible, for example, in relation to safety or the environment (NPS NN Para 4.31)
- c. Take the opportunity to improve safety, including introducing the most modern and effective safety measures where proportionate (NPS NN Para 4.60)
- d. Make road safe and useful (Road to Good Design – Principle 1).
- e. Make roads understandable (Road to Good Design – Principle 3).

2.1.14 The Applicant has applied these principles by proposing a carriageway width consistent and proportionate to the existing route and one which is in accordance with the Guidance on road classification and the primary route network, Retrieved November 8, 2021<sup>1</sup> (Guidance). The Guidance states that:

"Classifications [of roads] must be set in a way that reflects the road network in their local area. Any standards must therefore be relative:

- a. An A road will generally be among the widest, most direct roads in an area, and will be of the greatest significance to through traffic.
- b. A B road will still be of significance to the traffic, but less so than an A road.
- c. A classified unnumbered road will be of lower significance and be of primarily local importance, but will perform a more important function than an unclassified road.
- d. An unclassified road will generally have very low significance to traffic and be only very local importance.'

2.1.15 Applying a cross-section width as set out in DMRB, which is intended for the Strategic Road Network, on isolated sections of local roads without deviation or consideration of the local context will introduce road safety risk and will confuse the relative road classification in this area. These effects will impact the road user's understanding of the road which is contrary to the CDM Regulations, policy and good design principles.

2.1.16 The Road Safety Audit of the Scheme did not raise concerns about the proposed carriageway widths for the new sections of local highway, which as stated previously have been designed to be consistent to the existing carriageway widths. This approach to the design of the Scheme has reduced, as far as reasonably practicable, these safety issues on the local roads.

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<sup>1</sup> Department for Transport (2012, March 13), *Guidance on road classification and the primary route network*, Retrieved November 8, 2021 from [REDACTED]

- 2.1.17 The following chapters will further address the above points and the submission by the Cambridgeshire Authorities to the Examining Authority's written question Q2.11.2.1.



### 3 Specific issues raised in the Cambridgeshire Authorities response to WQ2.11.2.1 and the Applicant's comments on Written Representations made at Deadline 3.

3.1.1 This chapter seeks to address the specific topics raised in the Cambridgeshire Authorities response to WQ2.11.2.1 as set out in **[REP4-056]** and where relevant, the Cambridgeshire Authorities 'Comments on the Applicant's comments on Written Representations' **[REP4-060]**.

#### 3.2 Use of the DMRB

3.2.1 The Applicant accepts the Cambridgeshire Authorities observation that there are mainly two recognised sets of standards within the UK for Highways Design. The first is the Manual for Streets (MfS) which is widely considered to be the design guide when addressing residential areas. The second is the DMRB which, as stated in the document (GG 101, Introduction to the Design Manual for Roads and Bridges), is a suite of documents that contains requirements and advice relating to works on motorway and all-purpose trunk roads. It is important to note that there are no widely accepted standards between the DMRB and MfS for use on non-trunk roads that are not in residential areas.

3.2.2 As set out in Appendix A of the Guidance, any road on the Strategic Road Network is known as a trunk road. The Strategic Road Network is a network of nationally significant roads used for the distribution of goods and services, and a network for the travelling public. In legal terms, it can be defined as those roads which are the responsibility of the Secretary of State for Transport and are managed by National Highways.

3.2.3 The Applicant has proposed within the Scheme, designs for five local roads which are affected by the proposed new dual carriageway and that are to be maintained by Cambridgeshire County Council as Local Highway Authority.

3.2.4 These affected local highway authority roads all have B-road classification or lower and do not fall under the usual intended use of DMRB. Notwithstanding this, given these roads are in rural locations and subject to national speed limits, the Applicant agrees with the Cambridgeshire County Council that DMRB was a more appropriate baseline for proposals than MfS. However, as stated above, when applying DMRB it is important to note that not all of the standards/requirements will be appropriate in all locations.

3.2.5 This follows on from the Guidance which states (at paragraph 3.4) the following:  
*"There are wide disparities in the road networks in different parts of England. It is not helpful to adopt a single standard for selecting different classes of road in every part of the country. Classifications must be set in a way that reflects the road network in their local area."*

- 3.2.6 The application of DMRB without consideration of the classification and character of the road is contrary to the Guidance and the principle of making roads understandable. Setting a precedent of wider B roads in line with the Strategic Road Network, diminishes the user's understanding of these classifications and the road.
- 3.2.7 The Applicant notes that the Cambridgeshire Authorities point to Clause 1.2.2 of GG101 as justification for the strict adoption of the standards within DMRB, which states:
- "Where these requirements are applied to other roads, the specific highway or local road authority acting as the Overseeing Organisation should decide on the extent to which the requirements are appropriate in any given situation."*
- 3.2.8 While this may be the case, the Applicant cannot design a road (local highway or otherwise) that would contravene its obligations under the CDM Regulations as well as ignore key aspects of the DMRB standard that allows for a departure from standard to be applied in the case where the application of a requirement would have unintended adverse consequences. Unless and until the Cambridgeshire Authorities have convinced the Applicant that the approach sought by them is the safest and most appropriate outcome, the Applicant will continue to seek to apply DMRB with a departure from standard as this is the outcome that ensures the safest design is brought forward and complies with its obligations under the CDM Regulations.
- 3.2.9 The Applicant notes that this approach was accepted by the neighbouring authorities (Bedford Borough Council and Central Bedfordshire Council) during early consultation with the Applicant expressing their desires for local road cross-sections (widths) and alignments to be in keeping with their existing road networks.

### 3.3 Route Continuity

- 3.3.1 The Applicant agrees with the Cambridgeshire Authorities that route continuity is comprised of multiple factors, namely the alignment and layout constraint as defined in DMRB CD109.
- a. Alignment Constraint – the degree of constrain imparted by the road alignment.
  - b. Layout Constraint – the degree of constraint imparted by the road cross-section, verge width and frequency of junctions and accesses.
- 3.3.2 Within the Cambridgeshire Authorities response they state:
- 'it is only as part of a package of measures, such as introducing horizontal curvature and reducing forward visibility, that narrowing the highway could safely reduce vehicle speeds'*
- The application of speed reduction measures (bendier alignments, reduced visibility, narrower roads) have all been shown to reduce speeds individually, with the effect amplified when used in conjunction with one another. The Applicant understands that alignment and visibility play a part in speed reduction, but is of the view that these should be applied appropriately, where necessary to make the road safe and useful and to fit into context with the existing road. Furthermore, the Applicant is not proposing to narrow the existing highway, the proposal is, where possible, to match the existing width or to provide a minimum of 6m where this is not currently achieved – a width that is safe and fits into context of the route.
- 3.3.3 The Applicant proposes to reduce the layout constraint by proposing a wider (6m) carriageway than the existing road. In addition, the Applicant proposes to reduce the alignment constraint by providing smoother curves along the alignment than the existing road. By using these measures, the Applicant has decreased both constraint factors, whilst maintaining the route continuity which has been done proportionately to one another. This approach is consistent and in keeping with the principles of good road design.
- 3.3.4 The Councils' requests for 7.3m wide carriageways with additional hardstrips are 1.3m wider than the Applicant's proposals of 6m. The Councils made the argument that inconsistencies provide less safe solutions, however, what they seek is principally more inconsistent to the continuation of the route. The Applicant proposes widths that are consistent to the existing route and therefore provide a safer solution.
- 3.3.5 The DMRB document CD 109 (Highway Link Design) contains guidance on how to determine the design speed for road improvements using the alignment and layout constraints and is calculated for a minimum road length of 2km incorporating the section of road improvement.
- 3.3.6 In this instance, the proposals for the local roads are not for new roads, but rather for reconnecting existing roads severed by the new dual carriageway. As required of the Designer, the Applicant has selected appropriate design speeds for the new sections of road by measuring the named constraints within the

standard over a length not only incorporating the affected section but also the adjacent length of road into which it adjoins. The selected design speeds for local roads on the Scheme are congruent with the continuation of the existing routes.

### 3.4 Consistent application of an appropriate design speed

- 3.4.1 Road designs are based on the design speed assessments which determine the necessary geometrical parameters to be used in the design. Whilst design speed is not always the same as the speed limit that will be imposed upon the stretch of road, it is important to be cognisant that drivers are subconsciously aware of one (design speed) and consciously aware of the other (speed limit). The speed limits of the local highway authority roads affected by the proposals are all national speed limit.
- 3.4.2 This being said, it is still important to maintain route continuity. An increase or variance in design speed can indicate to drivers that it is safer to drive at higher speeds. The Applicant has typically used desirable minimum geometrical parameters in the DMRB for the given design speed to ensure that safe stopping sight distance and horizontal curvature is maintained. The Applicant has done this to create designs which are safe for their intended purpose but has provided a narrower carriageway (than the DMRB standard) to limit the drivers perceived and false sense of increased road standard which can lead to increased driver speeds on these rural roads. The selection of the design speed does not determine the carriageway width.
- 3.4.3 During the design process, statistical data (STATS19 – personal injury road traffic accidents) on collision and incident records helped inform the Applicant of existing trouble spots along this route. What was apparent from the assessment was the connection between road traffic incidents and tight bends within close proximity to junctions and the associated reduced visibility. The design is removing some of these collision hotspots.
- 3.4.4 Therefore, rather than introducing a discontinuity of the route by designing sections of road with increased changes in width, direction and reducing the visibility, the Applicant has sought changes which limit risks through psychological factors rather than those proving dangerous to road users.
- 3.4.5 The Cambridgeshire Authorities have stated within their response under paragraph 4.3 of **[REP4-056]** that changing just one of the alignment or layout constraint factors so that it is inconsistent with the others is likely to lead to a **less safe situation**, they further state within paragraph 4.4 of **[REP4-056]** that the Applicant's approach is flawed in this sense as if the intent was to safely reduce vehicle speeds, the approach taken should have been to introduce greater alignment constraint by increasing the change in direction along the proposed road (increased bendiness) and reducing the harmonic mean visibility

- 3.4.6 Contrary to the Cambridgeshire Authorities' opinion on this matter, studies have been conducted on the subject and as pointed out within *Road design measures to reduce drivers' speed via 'psychological' processes: A Literature Review* was prepared by Transport Research Laboratory, it was documented that carriageway narrowing was found to reduce mean estimated driving speeds by as much as 7 mph. Other research projects in which reported speed has been measured (e.g. Fildes et al., 1987), and those in which actual vehicle speeds have been measured (e.g. Kolsrud, 1985; Vey and Ferreri, 1968; Yagar and Van Aerde, 1983) support this finding.
- 3.4.7 Lane width can be expected to influence driving speeds through a number of psychological mechanisms. The extra effort required to negotiate a vehicle down a narrower carriageway compared with a wider one could result in increased cognitive load for example. Depending on other treatments to the roadside space, narrowing of a carriageway could also result in increased flow in the visual periphery.
- 3.4.8 This school of thought is widely accepted within the industry as evidenced in the A14 Cambridge to Huntingdon scheme Stage 3 Road Safety Audit (refer to 3.6 A14 experience chapter).
- 3.4.9 With reference to the specific location references by the Cambridgeshire Authorities please see the below:
- B1046**
- 3.4.10 The bendiness either side of the proposed B1046 realignment and on the approach to Eynesbury, St Neots and Abbotsley is typically low with straighter alignment and high visibility. The exception of the bends to the immediate east of the realignment, near where footpaths 1/9 and 1/10 join the B1046. The Applicant proposes a straighter/less bendy alignment proportionate to these straighter alignments and also proposes an increase in typical carriageway cross-section to 6m which is proportionate to this modification. From the Cambridgeshire Authorities response, they seek a 7.3m wide carriageway with hardstrips, this will create a significantly disproportionate section of road compared to the existing standard. There are no hardstrips on the existing B1046. In addition, the Applicant does not propose to reduce visibility because this will create road safety issues on the approach to junctions. The introduction of more bends into the horizontal alignment, whilst maintaining visibility, will create a longer road than is necessary, inefficient use of land that diminishes the Applicant's case for compulsory acquisition.
- Potton Road**
- 3.4.11 The alignment of Potton Road is dictated by its intersection with B1046 and as such it is inappropriate to provide an alignment with more bends. Therefore, the most appropriate and proportionate speed reduction measure available to the Applicant is providing a carriageway width consistent to the existing widths.



## Toseland Road

- 3.4.12 As the council notes, 'the existing road continues in a straight line for approximately 1.4km to the junction with High Street.' The Applicant proposes an alignment with bends which are congruent to the straight route. The Applicant proposes an increase in carriageway width that is proportionate to the existing road and its context in the environment. The Cambridgeshire Authorities acknowledge that there is no evidence to suggest that the National Speed Limit on Toseland Road is unsafe and therefore that the operation of the existing condition can and should be maintained. The Cambridgeshire Authorities request an increase in carriageway width; it is therefore the Cambridgeshire Authorities' responsibility to justify the claim, contrary to the position of Road Safety Audits (discussed below), that the use of wider road is safe and appropriate at this location.
- 3.4.13 The Applicant notes the Cambridgeshire Authorities' point on the two changes in carriageway width at each tie-ins but still maintain that road safety issues discussed previously remain and that the wider carriageway is not justified.

## 3.5 Road Safety Auditor's recommendation

- 3.5.1 The Applicant, prior to the design of the proposed non-trunk road diversion, sought the Road Safety Auditor's clarification on the "A428 Black Cat to Caxton Gibbet Improvement Pre-Stage 1 Road Safety Review (Black Cat Junction options a, b & c and route Options 1, 5 & 6) Report No: 60541541-AECOM-SR-RP-0D Dated 17th May 2017" (as highlighted by the Cambridgeshire Authorities) and the existing standard of the road. The Safety Auditor provided the following commentary in relation to Problem D21 on designing local rural roads to full DMRB standard:

*'most existing country roads are not built to any standards and have narrow carriageways, poor visibility and tight geometry. When a new bridge is designed to carry these country roads over a new high speed road (as the A428 will be), the width of the carriageway is increased over the approaches and span. The total effect is that up to 800m or so of new carriageway would be built and the combined effect of the widened road and with an improved forward visibility is that it would give drivers an opportunity to increase their speed, and even possibly an invitation to overtake. If the alignment then went back into the existing cross section drivers may easily continue their higher speed that would be inappropriate for the lower standard existing road(s) beyond.'*

- 3.5.2 The Applicant notes the Cambridgeshire Authorities' comment on the Pre-Stage 1 Stage Audit and agree that suitable transitions will be provided between differing carriageway widths. In this instance, the transitions will be from a width less than 6m to 6m for the new section of local road.
- 3.5.3 The Scheme proposes geometry, visibility and carriageway widths that are proportionate to the existing road and its classification in keeping with the government guidance. This will likely discourage speeding and overtaking, and will reduce as low as reasonably practicable the risk of road traffic incidents. As

stated in **[REP3-008]** printed page 50, the Applicant has undertaken a Stage 1 Road Safety Audit **[APP-241]** and no safety concerns were raised as to the 6m minimum width of the new sections of local roads (non-trunk roads). The Applicant contends that to introduce tight geometry and visibility without due consideration of the surrounding junctions and accesses will lead to an increased number of road traffic incidents. In many locations across the Scheme, the Applicant proposes to resolve collision hotspots by improving junctions as well as approaching alignments, visibility and carriageway widths on the local road network. The Applicant has been consistent with its approach to highway design and principle that roads should be safe, useful and fits into the context of the surrounding environment.

## 3.6 The A14 Experience

- 3.6.1 The Applicant notes the comments made by the Cambridgeshire Authorities associated with the A14 Scheme.
- 3.6.2 In relation to the point about consistency, the Applicant on the A428 Scheme has been consistent with its approach to highway design and the principle that roads should be safe, useful and fit into the context of the surrounding environment.
- 3.6.3 Contrary, to the Cambridgeshire Authorities correction of two assertions, the Applicant has provided, in the appendices, two Road Safety Audits for the B1040 Potton Road (Appendix A) and Connington Road (Appendix B) conducted on the A14 Scheme. Firstly, the Applicant, in page 50, did not assert that the wider roads were the specific cause of the road marking modification along the B1040 and B1043 but that it was implemented to prevent overtaking, as witnessed during the audit and recorded in the audit report. The Applicant, however, does maintain its view that an increase in the paved width of road will generally provide a greater opportunity for drivers to perform an overtaking manoeuvre. Secondly, 'Road narrows ahead' warning signs were used on Connington Road, a rural road suitable for two vehicles to pass and greater than 3.5m in cross-sectional width.
- 3.6.4 Furthermore, within Appendix B Table 1 Ref 001, the Stage 1 Road Safety Audit highlighted 'that due to the alignment of the carriageway in advance of the double white line system and propensity for vehicles speeds to increase as the cross-section improves that inappropriate overtaking manoeuvres may result, increasing the risk of head-on collisions'. This issue is well-known by Cambridgeshire County Council, who as a council member was an Observer within the Audit Team. It would be remiss of the Applicant to know of a road safety issue and disregard it to conform to a standard that is intended for a different classification of road.
- 3.6.5 The Cambridgeshire Authorities through these representations **[REP4-056]** and the Road Safety Audits acknowledge that there are road safety concerns associated with the transition between wider to narrower carriageway and overtaking manoeuvres. It is these road safety concerns that mean that the Applicant cannot agree to the carriage widths sought by the Cambridgeshire Authorities whilst still complying with their obligations under the CDM Regulations.

## 3.7 The Need for Hard Strips

- 3.7.1 The Applicant notes the quotation of the DMRB standards by the Cambridgeshire Authorities with respect to the hardstrips. The Applicant, as stated in the response to reference number REP1-048ag (printed page 56) of 9.21 Applicant's Comments on Written Representations **[REP3-008]**, proposes either kerbs or a 300mm wide hardstrip edge treatment. This will address the key issues (listed below) stated by CCC.
- a. Pavement integrity/stability



- b. Snow and water collection
- c. Support edge lines
- d. Reduces the risk of vegetation encroachment over edges lines.

3.7.2 During detailed design, the Applicant will progress the details for pavement and edge treatment whereby the design will further consider mitigation measures to the deterioration of the pavement. This matter will be covered in the Local Highways Standards, to be agreed as part of the Legal Agreement between the Applicant and the Cambridgeshire Authorities. However, at this stage, it is the Applicant's view that the pavement construction with a stepped edge rather than vertical cut will minimise edge damage.

3.7.3 It is noted from Figure 1 of **[REP4-056]** that all of the stated side roads do not contain a hard-strip, notably Hilton Road Bridge and Connington Road Bridge with a 6.0m wide carriageway. This is contrary to the Cambridgeshire Authorities' view that these are necessary for edge of pavement integrity, maintenance activity and potentially unsafe drainage provision. From a desktop study these roads (Hilton and Connington Road) were built with reduced hardstrips, kerbs and gullies. The Applicant further notes that, through engagement with the Cambridgeshire Authorities, they have advised that they would be accepting of reduced hardstrips or kerbed edge treatment, see item 6 in meeting record attached (Appendix C). The Applicant proposes this provision in line with the Cambridgeshire Authorities' advice.

## 3.8 Operational and Maintenance Considerations

### Edge of Pavement Integrity

3.8.1 As stated previously, the detailed design will consider the pavement and the edge treatment further and will address concerns with the integrity of the pavement's edge. This matter will be covered in the Local Highways Standards, to be agreed as part of the Legal Agreement between the Applicant and the Cambridgeshire Authorities. The Applicant notes the deterioration of the roads within Cambridgeshire County Council's authority as shown by the photographs (Figure 3 through to 20) in Appendix D of [REP4-056]. These photographs relate to Toseland Road, B1046 and Potton Road, all of which have no edge treatment, no signs of surface or sub-surface drainage provision and are, in some cases significantly, below 6m carriageway width. The deterioration of these roads is symptomatic of ineffective subgrade drainage. From the topographical survey the Applicant has determined that average carriageway/paved width of the roads are as followed:

- a. B1046 – 5.7m
- b. Potton Road – 5.3m
- c. Toseland Road – 5.4m

The Applicant proposes increase paved width which is proportionate and conducive to the route along with effective drainage provision, this will mitigate concerns with regard to edge of pavement integrity.

### Constraints on Maintenance Activity

3.8.2 As stated in REP3-008 in responds to REP1-048ah, paragraph 4.8.3 on printed page 58:

*'the Applicant agrees that the maintenance/resurfacing works would have to be undertaken under full road closure, similar to the existing situation. Providing an isolated section of wider paved width will not resolve this issue. Using full closure, which have to be used on adjacent existing section of road in any event will remove conflict between workers and road users and will therefore be safer.'*

### Potentially unsafe drainage provision

3.8.3 The Applicant would refer the ExA to paragraph 3.7.3 above where the Cambridgeshire Authorities have adopted roads on the A14 that use kerbs and gully and which have a carriageway width of 6m. At detailed design, the Applicant will consider the specific types of kerbs and gullies to be provided and this may include a side inlet gully which are currently maintained on the Council network as evidenced in Figure 9 of the Council's Q2.11.2.1 response [REP4-056].

### HGVs cause most road pavement damage, particularly when turning

3.8.4 The Applicant proposes along B1046, Potton Road and Toseland an increase in carriageway width from those identified above in paragraph 3.8.1 to 6m. This is an increase that is proportional, conducive with the setting of the road, and safe. These improved cross-sections will better cater for the operational needs of the

two commercial properties along Toseland Road and B1046 and Potton Road. Any misuse or damage caused by careless or reckless driving by third-parties is an issue for the maintaining authority, as and when this occurs.

## 4 Conclusion

- 4.1.1 The Applicant has exercised its best judgement in the development of safe design solutions in accordance with the required legislation and regulations, whilst having due consideration for route continuity, safety of the road user and the road classification system as a whole. It is the application of these principles that has required the departure from the DMRB standards in relation to carriage widths and as such this is still sought on these grounds.
- 4.1.2 As noted above, unless and until the Applicant is convinced that strict compliance with all DMRB standards is the most safe and appropriate outcome, specifically on the local roads, it cannot design this into the Scheme. The Cambridgeshire Authorities have not provided sufficient evidence to date that would convince the Applicant that the safety concerns do not exist. The Cambridgeshire Authorities are not the Designer of the road, they are the maintaining authority and as such they do not have to comply with the CDM Regulations, which require the Applicant to propose a design that aims to eliminate/reduce the likelihood of a known hazard.

## Appendix A – B1040 Potton Road Interim Stage 3 Road Safety Audit

# **A14 Cambridge to Huntingdon Improvement Scheme:**

## **B1040 Potton Road**

### **Interim Stage 3 Road Safety Audit**

# A14 Cambridge to Huntingdon Improvement Scheme: B1040 Potton Road

## Interim Stage 3 Road Safety Audit 264223PL-TPN-ITD-412-A

July 2018

### Revision Record

Revision No	Date	Originator	Checker	Approver	Description
001	10/07/2018	B A Pledge	M S Ring	M D Lewis	First Issue

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# 1 Introduction

This report is an Interim Stage 3 Road Safety Audit undertaken on part of the proposed A14 Cambridge to Huntingdon Improvement Scheme. It has been requested in order to review elements of the permanent works for the scheme, which have been constructed to facilitate traffic movements over the new A14 alignment, to the north of Hilton.

The A14 Cambridge to Huntingdon Improvement Scheme is located in the East of England and falls within the Area 8 maintenance area and the East of England Regional Control Centre (RCC). It involves the improvement and upgrading of a 34km length of the strategic highway network between Cambridge and Huntingdon running from the Alconbury Junction on the A1 to the west to Junction 33 of the A14, near Milton, to the east.

The A14 Cambridge to Huntingdon Improvement Scheme is separated into six distinct sections, and the works audited in this report are located within Section 3B, at the B1040 Potton Road and new overbridge.

## Scheme Description

This scheme is located on the B1040 Potton Road which is a single-lane, two-way road (S2) that incorporates a new road bridge over the new A14 section to the north of Hilton. The route runs in a general north-south alignment.

The new road and overbridge is now open to traffic however, with a temporary posted speed limit of 40mph. When the temporary speed restriction is lifted, it will be a derestricted road and subject to the national speed limit. No street lighting is provided as part of the scheme.

At the time of this Interim Stage 3 Road Safety Audit, the works were substantially complete, and only elements of the verge reinstatement (some top-soiling, seeding and landscaping) and the NMU provision on the western side outstanding.

## General

This Road Safety Audit has been carried out in accordance with Design Manual for Roads and Bridges HD19/15 (Road Safety Audit) and the contents of the Road Safety Audit Brief, provided by the Design Team.

The Audit has been carried out at the request of the Design Team (A14 Integrated Delivery Team) on behalf of the Project Sponsor (Highways England).

The Audit took place at the Southampton office of Mott MacDonald and comprised an examination of the information presented in the documents and drawings listed in **Appendix A**.

It is confirmed that this is an Interim Stage 3 Road Safety Audit and that the audit was undertaken upon substantial completion of the constructed works.

The Road Safety Audit Team was approved by John Border, the Highways England Project Sponsor and consisted of:

Barry Pledge            MCIHT, MSoRSA  
Audit Team Member, Mott MacDonald

Matthew Ring            BSc Hons, MCIHT, MSoRSA  
Audit Team Member, Mott MacDonald

Andre Chabot            Audit Team Observer, Cambridgeshire County Council

The Audit Team visited the site of the works together on Monday 02/06/2018 at approximately 15:30hrs (daytime visit) and again at approximately 22:15hrs (under night-time conditions). During the site visits the weather conditions were warm and sunny and the road surface was dry.

The Audit Team were escorted around the site by Julian See (A14 Integrated Delivery Team) and accompanied by Derek Crosby 6760 (Cambridgeshire Police) during the day time visit.

The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria.

The comments and suggestions for road safety improvements made in this report seek to address matters that might have an adverse effect on road safety in the context of the chosen design. No attempt has been made to comment on the justification of the scheme. Consequently, the Audit Team accept no responsibility for the design or construction of the scheme.

All of the issues raised in this report are considered to be required for action. The comments contained in the report are based on safety related concerns and as such the design engineer will need to consider carefully how to respond to each of the issues. The Audit Response Report to the audit should be completed by the Design Team and kept on file for future reference.

A Road Safety Audit Brief was provided to the Audit Team (Document reference: (Document reference HA528983-ACJV-HGN-S3-RSA3-RP-C-0001) and further information was provided at pre-site visit meetings with the A14 Integrated Delivery Team.

A location key plan is provided in **Appendix B**.

### **Factors Affecting Road Safety**

All factors were identified in the Stage 2 Road Safety Audit and discussed within the Designer's Response (HA528983-ACJV-HGN-S3\_RSA2-RP-C-0002 Section 2 RSA 2 Designers Response).

### **Departures from Standard**

There is Departure from Standard for the B1040 Potton Road scheme; required for a combination of one step below desirable crest curve and SSD ( $K=30$ ,  $SSD=120m$ ,  $85kph$ ).

The Audit Team has been made aware by Cambridgeshire County Council that the above departure for B1040 Potton Road scheme has yet to be approved.

## 2 Previous Road Safety Audits

It is understood that the following Road Safety Audits have been previously undertaken on this scheme:

### 2.2 Stage 1 Road Safety Audit

The scope of the Stage 1 Road Safety Audit (Document Reference 264223GU/ITD/ITQ/161 Revision 003) included the area between Swavesey and Girton, which was referred to as 'Section 2', at the time.

A Designers Response report to the Stage 1 Audit was provided by Arup, in October 2014 (Document reference: A14-ARP-H0-E2-RP-C-00002).

### 2.3 Stage 2 Road Safety Audit

A Stage 2 Road Safety Audit was conducted in March 2017, by Mott MacDonald Sweco JV (Document reference: 264223LF-TPN-ITD-299-002). This was undertaken upon completion of the detailed design for Section 3B of the scheme.

In total, 14 problems were identified in the report, of which one is considered to be related to the area of works undertaken at Potton Road (detailed below). A Road Safety Audit Designer's Response to the Stage 2 RSA was provided by the A14 Integrated Delivery Team in November 2017 (Document reference: HA528983-ACJV-HGN-S3B\_RSA2-RP-C-0002).

#### 2.3.1 Problem (013)

*Location:* B1040 Potton Road overbridge.

*Summary:* Vertical Profile.

*Drawing No. HA528983-ACJV-HGN-S3B-PROFILE-DR-C-0010 shows the proposed profile for Potton Road. The Audit Team notes the departure for a combination of one step below desirable crest curve and stopping sight distance.*

*There is an access on the western side of Potton Road some 120m south of the proposed overbridge. Whilst the number of waiting right turning vehicles here is expected to be low, there is the potential for rear end collisions with vehicles waiting here.*

#### **Recommendation**

*It is recommended that a side road ahead warning sign (side junction to the right) to TSR&GD Dia.506.1 with a distance plate is provided.*

### ***Design Team Response***

*DISAGREE S3B.013 Designer's Response: The Auditor has miscalculated the location of the access in relation to the bridge; it is actually at least 240m from the bridge. This is a minor rural road and the junction only provides access to a balancing pond and a farmer's field. It is larger than a standard field access to accommodate the larger turning circles of pond maintenance vehicles. Traffic flows are expected to be very low. Para 2.7 of TSM Chapter 4 states that signs should not normally be provided at these locations and hence it is the Designer's opinion that no sign is required.*

### **RSA Team comment at Stage 3**

The Audit Team accept the points raised by the Design Team, and have no further comments on this issue.

## 3 Items raised at this Interim Stage 3 Audit

This section describes road safety related issues identified by the Audit Team that are associated with the constructed works. A Reference Key Plan is shown at **Appendix B**.

### 3.1 Problem 001

*Location:* B1040 Potton Road, at the northern tie-in with the realigned road, southbound approach.

*Summary:* Road users failing to appreciate the road alignment ahead.

At the northern tie-in between the old B1040 and the new alignment, traffic travelling southbound may be potentially influenced by a 'see through' effect of the old B1040 carriageway.

This has the potential for drivers to misinterpret the alignment and could result in vehicles leaving the carriageway on the offside.

#### Photo 1: Potton Road, southbound approach, at the tie-in with the old road



Source: Mott MacDonald

### Recommendation

It is recommended that additional measures are investigated to ensure that drivers comprehend the new alignment. This could be in the form of permanent hazard marker posts / chevron signs or the provision of landscaping to mask the presence of the old alignment.



## 3.2 Problem 002

*Location:* Potton Road overbridge, southbound and northbound.

*Summary:* Risk of collisions due to overtaking manoeuvres on the overbridge (both directions).

A warning centreline marking (to TSR&GD Diag.1004.1) has been provided over and on the approaches to Potton Road overbridge, in both directions. There are currently temporary 'no overtaking' signs (to TSR&GD Diag.632) provided on the nearside, and the road is subject to a temporary 40 mph speed limit.

However, during the day-time road safety audit, the Audit Team witnessed two occasions of vehicles overtaking on the link (one in each direction), which could have resulted in collisions with oncoming traffic. There is a concern that these types of manoeuvres will be more likely after the removal of the temporary traffic management, resulting in an increased risk of head-on collisions.

### Photo 2: Potton Road, northbound approach to the overbridge



Source: Mott MacDonald

### Recommendation

It is recommended that the provision of a double white line system (no overtaking) is investigated and implemented as appropriate, to deter overtaking.

### 3.3 Problem 003

*Location:* Potton Road overbridge, southbound and northbound.

*Summary:* Risk of collisions with barrier terminals (both directions).

On the overbridge, in both directions, the P4 terminal ends of the new vehicle restraint system were not reflectorised.

Typically, a black / yellow diagonal hazard plate is provided to highlight their presence to oncoming traffic.

This may result in an increased risk of collisions with the terminal ends of the barrier, particularly at night or in poor weather conditions.

#### Photo 3: Potton Road, example of barrier terminal detail



Source: Mott MacDonald

#### Recommendation

It is recommended that the barrier terminals (on both sides and in both directions) are provided with a reflectorised (black / yellow diagonal detail) hazard plate.



## 4 Audit Team Statement

We certify that this audit has been carried out in accordance with Departmental Standard DMRB HD19/15.

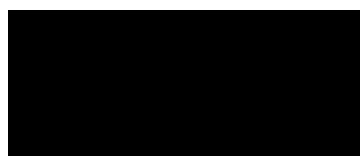
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Signed:



Date: 10<sup>th</sup> July 2018

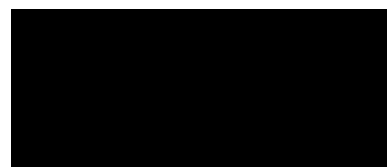
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Date: 10<sup>th</sup> July 2018

**Others Involved** (Such as an observer, Police/Network Management representative or specialist advisor)

**Andre Chabot** Road Safety Audit Team Observer, Cambridgeshire  
County Council

**Derek Crosby 6760** Cambridgeshire Police representative

## Appendix A Document and Drawings Reviewed

Table A-1: Documents

Document Ref	Document Title	Revision
AUDITS		
HA528983-ACJV-HGN-S3A_RSA2-RP-C-0001	S3A RSA2 Brief	
264223LF-TPN-ITD-298-002 Section 3A RSA2	Section 3A RSA 2	
HA528983-ACJV-HGN-3A_RSA2-RP-C-0002	S3A RSA2 Designers Response	
HA528983-ACJV-HGN-S3B_RSA2-RP-C-0001	S3B RSA2 Brief	
264223LF-TPN-ITD-299-002 Section 3B RSA2	Section 3B RSA 2	
HA528983-ACJV-HGN-SB_RSA2-RP-C-0002	S3B RSA2 Designers Response	
HA528983-ACJV-HGN-SG_RSA1-SH-C-0001	Previous RSA Action Tracker(s)	
HA528983-ACJV-GEN-SG_NMU-RP-C-0001	Stage 1 NMU Audit. Stage 1	
TRAFFIC FLOW DATA		
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0013	A14_2014Base_AADT_FlowSchematic	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0014	A14_2014Base_FlowSchematic_AM	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0015	A14_2014Base_FlowSchematic_IP	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0016	A14_2014Base_FlowSchematic_PM	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0001	A14_2020DS_AADT_FlowSchematic_v3.0	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0002	A14_2020DS_FlowSchematic_AM_V3.0	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0003	A14_2020DS_FlowSchematic_IP_V3.0	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0004	A14_2020DS_FlowSchematic_PM_V3.0	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0005	A14_2035DS_AADT_FlowSchematic_v3.0	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0006	A14_2035DS_FlowSchematic_AM_V3.0	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0007	A14_2035DS_FlowSchematic_IP_V3.0	
HA528983-ACJV-HTA-SG_TRAFFIC-TA-C-0008	A14_2035DS_FlowSchematic_PM_V3.0	
OTHER DOCUMENTS		
HA528983-ACJV-HTA-SG_XX-TA-C-0002	2016 Traffic Survey?	
HA528983-ACJV-GEN-SG_DFSTRACK-SH-C-0001	Departure from Standards Tracker	
HA528983-ACJV-EBD-SG_ECOSCH-SH-C-0001_C01_22122016	A14 Ecology Schedule	C01
HE-A14-EX-222_TRM SL and Pr Plans_FINAL	Speed Limit Plan from DCO	
HA528983-ACJV-GEN-S2_ACC-DS-C-0070	Personal Injury Data	
HA528983-ACJV-GEN-S2_ACC-DS-C-0072		
HA528983-ACJV-HGN-SG_FPD-SH-C-0001	FPD Schedule	

**Project Support Framework (Consultancy) 2011 – 2015**  
**A14 Cambridge to Huntingdon Improvement Scheme:**  
**B1040 Potton Road**  
**Interim Stage 3 Road Safety Audit**

FPD Decision Log	Design Decision Log	
HA528983-ACJV-HRR-S3A_04-SP-C-0003	VRS Schedule	C04
HA528983-ACJV-HSN-S3A_12-SP-C-0001	Traffic Sign Schedule	C02
HA528983-ACJV-HRR-S3B_04-SP-C-0003	VRS Schedule	C04
HA528983-ACJV-HSN- S3B 12-SP-C-0001	Traffic Sign Schedule	C03
HA528983-ACJV-HGN-SG_DRA-HS-C-0001_C04	Highways DRA	C04
HA528983-ACJV-EGN-SG_DRA-HS-C-0001_C01	Environmental DRA	C01
HA528983-ACJV-HPV-SG_07-SP-C-0001	Pavement Specification – Appendix 7/1	C09
HA528983-ACJV-HFE-SG_03-SP-C-0002	Annex 3.1.2 - Sp. Appendix 3/1 -Fencing, Gates and Stiles	C04
DEPARTURE DOCUMENTS		
HA528983-ACJV-GEN-S3B_DFS-DS-C-0011	Potton Road SSD Vertical Curve Departure	1
HE-A14-EX-233 SoCG Report Deadline 14.pdf	HE-A14-EX-233 SoCG Report Deadline 14	
HA528983-ACJV-GGN-S3B_VIS-DS-C-0002	S3B - B1040 Potton Road - Stopping Sight Distance	P01
HA528983-ACJV-GGN-S3B_RAF-DS-C-0001	Potton Road - GD04 Risk Assessment	1
HA528983-ACJV-GGN-S3B_ACC-DS-C-0001	Accident Bubble Diagram B1040 Potton Road IC S3B DFS 0011	P01

**Table A-2: Drawings**

Drawing No	Drawing Title	Revision
Drawing Number		
HA528983-ACJV-SBR-S3A_BN09-DR-C-0010_C01_20161212	BN09 GENERAL ARRANGEMENT	C01
HA528983-ACJV-HSN-SG_XX-DR-C-0001_C02.pdf	TRAFFIC SIGN LOCATIONS SCHEME WIDE KEY DRAWING	C02
HA528983-ACJV-HSN-SG_12-SP-C-0003_C02.pdf	SPECIFICATION APPENDIX 12/3 - ROAD MARKINGS AND STUDS	C02
HA528983-ACJV-HSN-SG_12-SP-C-0002_C01.pdf	SPECIFICATION APPENDIX 12/2 - MARKER POSTS	C01
HA528983-ACJV-HSN-SG_12-SP-C-0001_C01.pdf	SPECIFICATION APPENDIX 12/1 - TRAFFIC SIGNS - GENERAL	C01
HA528983-ACJV-HRR-SG_XX-DR-C-0001_C02.pdf	Road Restraint Systems - Scheme Wide Key Drawing	C02
HA528983-ACJV-HRR-S3B_B1040-DR-C-0003_C03.pdf	B1040 Potton Road Road Restraint System - Section 3B - Sheet 3 of 4	C03
HA528983-ACJV-HRR-S3B_B1040-DR-C-0002_C03.pdf	B1040 Potton Road Road Restraint System - Section 3B - Sheet 2 of 4	C03
HA528983-ACJV-HRR-S3B_B1040-DR-C-0001_C02.pdf	B1040 Potton Road Road Restraint System - Section 3B - Sheet 1 of 4	C02
HA528983-ACJV-HPV-SG_XX-DE-C-0011_C01	Pavement Details - Longitudinal Tie In Detail - Various Scales	C01
HA528983-ACJV-HPV-S3B_B1040-DR-C-0004_C01	Section 3B - B1040 Potton Road Pavement Design - 1:500 - Sheet 4 of 4	C01
HA528983-ACJV-HPV-S3B_B1040-DR-C-0003_C02.pdf	B1040 Potton Road Pavement Design - Section 3b - Sheet 3 of 4	C02
HA528983-ACJV-HPV-S3B_B1040-DR-C-0002_C02.pdf	B1040 Potton Road Pavement Design - Section 3b - Sheet 2 of 4	C02
HA528983-ACJV-HPV-S3B_B1040-DR-C-0001_C02.pdf	B1040 Potton Road Pavement Design - Section 3b - Sheet 1 of 4	C02
HA528983-ACJV-HMK-SG_XX-DR-C-0001_C02.pdf	Road Marking - Scheme Wide Key Drawing	C02
HA528983-ACJV-HMK-S3B_B1040-DR-C-0003_C04.pdf	B1040 Potton Road Road Marking - Section 3B - Sheet 3 of 4	C04
HA528983-ACJV-HMK-S3B_B1040-DR-C-0002_C03.pdf	B1040 Potton Road Road Marking - Section 3B - Sheet 2 of 4	C03
HA528983-ACJV-HMK-S3B_B1040-DR-C-0001_C04.pdf	B1040 Potton Road Road Marking - Section 3B - Sheet 1 of 4	C04
HA528983-ACJV-HKF-SG_XX-DR-C-0003_C02.pdf	Public rights of way - Scheme wide key drawing	C02
HA528983-ACJV-HKF-SG_XX-DR-C-0002_C03.pdf	Kerbs, footways & paved areas - Scheme wide key drawing	C03
HA528983-ACJV-HKF-S3B_B1040-DR-C-0004_C02.pdf	B1040 Potton Road Kerbs, Footways & Paved Areas - Section 3B - 4 of 4	C02
HA528983-ACJV-HKF-S3B_B1040-DR-C-0003_C04.pdf	B1040 Potton Road Kerbs, Footways & Paved Areas - Section 3B - 3 of 4	C04
HA528983-ACJV-HKF-S3B_B1040-DR-C-0002_C04.pdf	B1040 Potton Road Kerbs, Footways & Paved Areas - Section 3B - 2 of 4	C04
HA528983-ACJV-HKF-S3B_B1040-DR-C-0001_C04.pdf	B1040 Potton Road Kerbs, Footways & Paved Areas - Section 3B - 1 of 4	C04

**Project Support Framework (Consultancy) 2011 – 2015**  
**A14 Cambridge to Huntingdon Improvement Scheme:**  
**B1040 Potton Road**  
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Drawing No	Drawing Title	Revision
HA528983-ACJV-HGT-S3A_EW04B-DR-C-0202_C01.pdf	HA528983-ACJV-HGT-S3A_EW04B-DR-C-0202_C01	C01
HA528983-ACJV-HGT-S3A_EW04B-DR-C-0201_C01.pdf	HA528983-ACJV-HGT-S3A_EW04B-DR-C-0201_C01	C01
HA528983-ACJV-HGT-S3A_EW04B-DR-C-0102_C01.pdf	HA528983-ACJV-HGT-S3A_EW04B-DR-C-0102_C01	C01
HA528983-ACJV-HGT-S3A_EW04B-DR-C-0101_C01.pdf	HA528983-ACJV-HGT-S3A_EW04B-DR-C-0101_C01	C01
HA528983-ACJV-HGT-S3A_EW04B-DR-C-0002_C01.pdf	HA528983-ACJV-HGT-S3A_EW04B-DR-C-0002_C01	C01
HA528983-ACJV-HGT-S3A_EW04B-DR-C-0001_C01.pdf	HA528983-ACJV-HGT-S3A_EW04B-DR-C-0001_C01	C01
HA528983-ACJV-HGN-SG_XX-DR-Z-0029_P02.pdf	Scheme Wide Section Location Plan	P02
HA528983-ACJV-HGN-S3B_PROFILE-DR-C-0011_C03.pdf	Longitudinal Profile - Section 3B - B1040 Potton Road Bridge CH:0+650 TO CH:1+009.8	C03
HA528983-ACJV-HGN-S3B_PROFILE-DR-C-0011-C04.pdf	Longitudinal Profile - Section 3B - B1040 Potton Road Bridge CH:0+650 TO CH:1+009.8	C04
HA528983-ACJV-HGN-S3B_PROFILE-DR-C-0010_C03.pdf	Longitudinal Profile - Section 3B - B1040 Potton Road Bridge CH:0+000 TO 0+650	C03
HA528983-ACJV-HGN-S3B_PROFILE-DR-C-0010-C04.pdf	Longitudinal Profile - Section 3B - B1040 Potton Road Bridge CH:0+000 TO 0+650	C04
HA528983-ACJV-HGN-S3B_COVER-DR-C-0003_C02.pdf	Plan and Cover Sheet Mainline 1:1250 Plans	C02
HA528983-ACJV-HGN-S3B_COVER-DR-C-0002_C06.pdf	Plan & Cover Sheet - Side Roads - Section 3B	C06
HA528983-ACJV-HGN-S3B_COVER-DR-C-0002_C05.pdf	Plan & Cover Sheet - Side Roads - Section 3B	C05
HA528983-ACJV-HGN-S3B_COVER-DR-C-0001_C06.pdf	Plan & Cover Sheet - Mainline - Section 3B	C06
HA528983-ACJV-HGN-S3B_COVER-DR-C-0001_C05.pdf	Plan & Cover Sheet - Mainline - Section 3B	C05
HA528983-ACJV-HGN-S3A_PLAN-DR-C-0005_C01.pdf	Plan - Section 3A - Sheet 5	C01
HA528983-ACJV-HGN-S3A_PLAN-DR-C-0004_C01.pdf	Plan - Section 3A - Sheet 4	C01
HA528983-ACJV-HGN-S3A_COVER-DR-C-0018_C01.pdf	Plan & Cover Sheet - Traffic Signs - Side roads - Section 3A	C01
HA528983-ACJV-HGN-S3A_COVER-DR-C-0017_C01.pdf	Plan & Cover Sheet - Traffic Signs - Mainline - Section 3A	C01
HA528983-ACJV-HFE-SG_XX-DR-C-1001 - C03.pdf	Fencing Scheme Wide Key	C03
HA528983-ACJV-HFE-S3B_B1040-DR-C-1004_C04.pdf	Permanent Fencing - Section 3B - Side Road B1040 Potton Road - Sheet 4 of 4	C04
HA528983-ACJV-HFE-S3B_B1040-DR-C-1003_C04.pdf	Permanent Fencing - Section 3B - Side Road B1040 Potton Road - Sheet 3 of 4	C04
HA528983-ACJV-HFE-S3B_B1040-DR-C-1002-C03.pdf	Permanent Fencing - Section 3B - Side Road B1040 Potton Road - Sheet 2 of 4	C03
HA528983-ACJV-HFE-S3B_B1040-DR-C-1001_C04.pdf	Permanent Fencing - Section 3B - Side Road B1040 Potton Road - Sheet 1 of 4	C04
HA528983-ACJV-HDG-SG_KEY-DR-C-0002_S3A_C01.pdf	Drainage Key Sheet 2 of 2	C01
HA528983-ACJV-HDG-SG_KEY-DR-C-0001_C01.pdf	Drainage Key Sheet 1 of 2	C01
HA528983-ACJV-HDG-S3B_B1040-DR-C-1004_C02.pdf	Pre-Earthworks B1040 Potton Road Drainage Layout - Section 3B - Sheet 4 of 4	C02
HA528983-ACJV-HDG-S3B_B1040-DR-C-1003_C03.pdf	Pre-Earthworks B1040 Potton Road Drainage Layout - Section 3B - Sheet 3 of 4	C03
HA528983-ACJV-HDG-S3B_B1040-DR-C-1002_C03.pdf	Pre-Earthworks B1040 Potton Road Drainage Layout - Section 3B - Sheet 2 of 4	C03
HA528983-ACJV-HDG-S3B_B1040-DR-C-1001_C03.pdf	Pre-Earthworks B1040 Potton Road Drainage Layout - Section 3B - Sheet 1 of 4	C03

**Project Support Framework (Consultancy) 2011 – 2015**  
**A14 Cambridge to Huntingdon Improvement Scheme:**  
**B1040 Potton Road**  
**Interim Stage 3 Road Safety Audit**

Drawing No	Drawing Title	Revision
HA528983-ACJV-HDG-S3B_B1040-DR-C-0003_C05.pdf	Proposed B1040 Potton Road Drainage Layout - Section 3B - Sheet 3 of 4	C05
HA528983-ACJV-HDG-S3B_B1040-DR-C-0002_C05.pdf	Proposed B1040 Potton Road Drainage Layout - Section 3B - Sheet 2 of 4	C05
HA528983-ACJV-HDG-S3B_B1040-DR-C-0001_C05.pdf	Proposed B1040 Potton Road Drainage Layout - Section 3B - Sheet 1 of 4	C05
HA528983-ACJV-HAC-S3B_B1040-SK-C-0001.pdf	Potton Road Plan and Profile	P01
HA528983-ACJV-GEN-S3B_DFS-DS-C-0011	Potton Road SSD Vertical Curve Departure	1
HA528983-ACJV-ELS-SG_KEY-DR-C-0002_C06.pdf	Landscape and Ecological Design Key Plan	C06
HA528983-ACJV-ELS-S3B_34000-DR-C-0110_C02.pdf	Topsoil and Seeding Section 3B Sheet 10 of 27	C02
HA528983-ACJV-ELS-S3B_34000-DR-C-0109_C02.pdf	Topsoil and Seeding Section 3B Sheet 9 of 27	C02
HA528983-ACJV-ELS-S3B_34000-DR-C-0108_C02.pdf	Topsoil and Seeding Section 3B Sheet 8 of 27	C02
HA528983-ACJV-ELS-S3B_34000-DR-C-0010_C03.pdf	Landscape and Ecological Design Section 3B Sheet 10 of 27	C03
HA528983-ACJV-ELS-S3B_34000-DR-C-0009_C03.pdf	Landscape and Ecological Design Section 3B Sheet 9 of 27	C03
HA528983-ACJV-ELS-S3B_34000-DR-C-0008_C03.pdf	Landscape and Ecological Design Section 3B Sheet 8 of 27	C03
HA528983-ACJV-ELS-S3A_28300-DR-C-0112_C02_23022017	Topsoil and Seeding Section 3A Sheet 12 of 21	C02
HA528983-ACJV-ELS-S3A_28300-DR-C-0111_C02_23022017	Topsoil and Seeding Section 3A Sheet 11 of 21	C02
HA528983-ACJV-ELS-S3A_28300-DR-C-0110_C02_23022017	Topsoil and Seeding Section 3A Sheet 10 of 21	C02
HA528983-ACJV-ELS-S3A_28300-DR-C-0012_C01_05052017.pdf	Landscape and Ecological Design Section 3a Sheet 12 of 21	C01
HA528983-ACJV-ELS-S3A_28300-DR-C-0011_C01_05052017.pdf	Landscape and Ecological Design Section 3a Sheet 11 of 21	C01
HA528983-ACJV-ELS-S3A_28300-DR-C-0010_C01_05052017.pdf	Landscape and Ecological Design Section 3a Sheet 10 of 21	C01

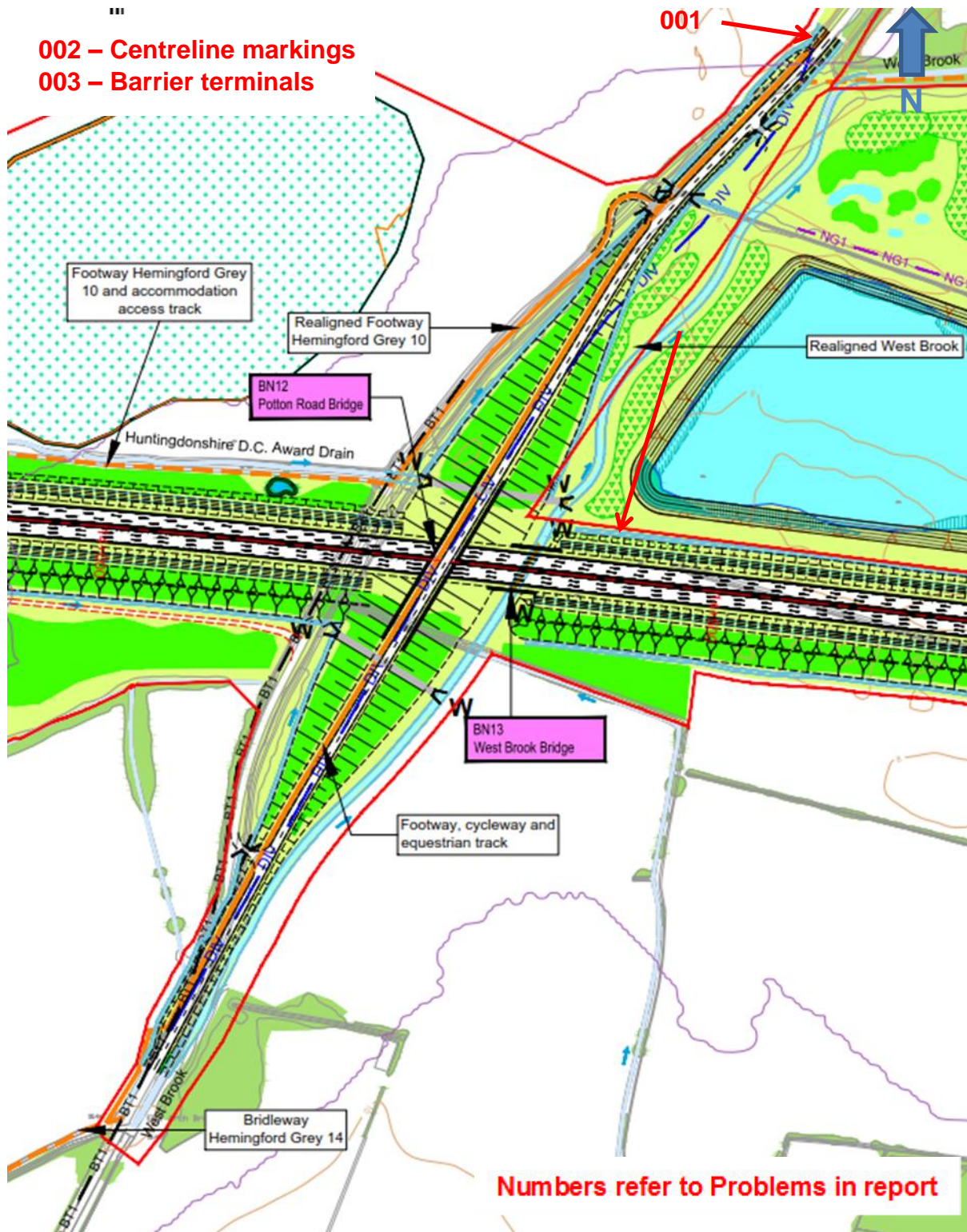
## Appendix B Reference Key Plan

B-1 Key Plan: B1040 Potton Road

17



## B-1 Key Plan: B1040 Potton Road



Source: Julian See, A14 Integrated Delivery Team, based on BN12 Key Plan (Not to scale)



## Appendix B – Connington Road Overbridge Stage 3 Road Safety Audit

# **A14 Cambridge to Huntingdon Improvement Scheme**

## **Conington Road Overbridge**

### **Stage 3 Road Safety Audit**

# A14 Cambridge to Huntingdon Improvement Scheme: Conington Road Overbridge

Interim Stage 3 Road Safety Audit

406395BV-TPN-ITD-058-A

November 2019

## Revision Record

Revision No	Date	Originator	Checker	Approver	Description
001	13/11/2019	B A Pledge	M D Lewis	S A Finney	First Issue

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# 1 Introduction

This report is a Stage 3 Road Safety Audit undertaken on part of the proposed (under construction) A14 Cambridge to Huntingdon Improvement Scheme. This section will facilitate traffic movements over the new A14 alignment, to the south of Fenstanton.

The audit has been carried out at the request of the Design Organisation (A14 Integrated Delivery Team) on behalf of the Overseeing Organisation (Highways England).

The Road Safety Audit Team membership, approved by Christopher Bayliss from the Overseeing Organisation, was as follows:

The Road Safety Audit Team consisted of:

Matthew Lewis      BEng (Hons), CEng, MICE, FCIHT, MSoRSA  
Audit Team Leader, Mott MacDonald

Barry Pledge        MCIHT, MSoRSA  
Audit Team Member, Mott MacDonald

Peter Taylor        Audit Team Observer, Cambridgeshire County Council

The Road Safety Audit took place at the Southampton office of Mott MacDonald Sweco Joint Venture (MMSJV) during October and November 2019. The audit has been undertaken in accordance with the Road Safety Audit Brief and comprised an examination of the information provided in the documents and drawings, which are listed in **Appendix A**.

The Audit Team visited the site of the works together on Tuesday 22/10/2019 between 15:00hrs and 15:45hrs. A second site visit was undertaken at 19:00hrs on the same day to observe the operation during darkness conditions. During the site visits the weather conditions were clear / sunny and the road surface was dry.

The Audit Team were escorted around the site by representatives of the A14 Integrated Delivery Team during the day time site visits. A representative from Cambridgeshire Police was invited to the site visit but was unable to attend.

The comments and suggestions for road safety improvements made in this report seek to address matters that might have an adverse effect on road safety in the context of the chosen design. No attempt has been made to comment on the justification of the scheme. Consequently, the Audit Team accept no responsibility for the design or construction of the scheme.

All problems and recommendations are referenced to the detailed design drawings and the locations have been indicated on the plans, in **Appendix B**.

All of the issues raised in this report are considered to be required for action. The comments contained in the report are based on safety related concerns and as such the design engineer will need to consider carefully how to respond to each of the issues. A Road Safety Audit Response Report should be produced collaboratively by the Design Organisation and the Overseeing Organisation and kept on file for future reference.

## Scheme description

The A14 Cambridge to Huntingdon Improvement Scheme is located in the East of England and falls within the Area 8 maintenance area and the East of England Regional Control Centre (RCC). It involves the improvement and upgrading of a 34km length of the strategic highway network between Cambridge and Huntingdon running from the Alconbury Junction on the A1 to the west to Junction 33 of the A14, near Milton, to the east.

The A14 Cambridge to Huntingdon Improvement Scheme is separated into six distinct sections, and the works audited in this report are located within Section 3.

This audit includes all of the permanent works, which are currently under Temporary Traffic Management. There has been a temporary road diversion in place for Conington Road for approximately 6 months, and this has enabled the construction of the new over-bridge for the A14.

This scheme is located on Conington Road, south of Fenstanton, which is a two-lane, two-way road (S2) that connects the village of Conington to the A14. The route runs in a general south-east to north-west alignment.

The new road alignment of Conington Road is now open to traffic however, with a temporary posted speed limit of 40mph. At the time of the site visit, the works were substantially complete with the exception of the following:

- A temporary mandatory speed limit of 40mph was in place;
- Seeding and landscaping of verges had not taken place;
- The proposed emergency / maintenance accesses for the A14 on the western side of the structure were under construction;
- Elements of mesh parapet fencing on the eastern side of the structure were not complete.

## Departures and relaxations from standard

No relevant design departures and relaxations from standard have been identified in the Road Safety Audit Brief for Conington Road.

## Factors affecting road safety

The Road Safety Audit Brief has specified the following with respect to factors which may affect road safety:

*“All factors were identified in the interim Stage 3 Road Safety Audit and discussed within the Designer’s Responses.”*

## 2 Previous Road Safety Audits

It is understood that the following Road Safety Audits have been previously undertaken on this scheme:

### 2.1 Stage 1 Road Safety Audit

The scope of the Stage 1 Road Safety Audit included the area between A14 Ellington to Swavesey and A1/A14 Brampton Interchange to Alconbury (referred to at the time as 'Section 1') and are recorded in the Stage 1 Road Safety Audit report (Document Ref. 264223GU/ITD/ITQ/161 Revision 003).

The extents of Section 1 have changed since the completion of the Stage 1 Road Safety Audit and therefore not all issues raised in the previous audit report are relevant to the current extent of Section 3.

A Designers Response report to the Stage 1 Audit was provided by Jacobs in October 2014 (Document reference: A14-JAC-H0-E1-RP-C-00002).

### 2.2 Stage 2 Road Safety Audit

A Stage 2 Road Safety Audit was conducted in March 2017, by Mott MacDonald Sweco JV (Document reference: 264223LF-TPN-ITD-299-P02). This was undertaken upon completion of the detailed design for Section 3 of the scheme.

In total, 14 problems were identified in the report, of which two are considered to be related to the area of works undertaken at Conington Road. These relate to parapet details adjacent to NMU routes and gating of emergency / maintenance vehicle accesses.

It is understood that a Road Safety Audit Designer's Response to the Stage 2 RSA has been produced by the A14 Integrated Delivery Team (Document reference: HA528983-ACJV-HGN-S3B\_RSA2-RP-C-0002), however, this has not been sighted by the Audit Team.

### 2.3 Interim Stage 3 Road Safety Audit

This interim Stage 3 Road Safety Audit was undertaken by Mott MacDonald Sweco JV in April 2019 (Document reference: 406395AQ-TPN-ITD-017-A\_Rev 001) and included a review of all of the permanent works, which were under Temporary Traffic Management. There was a temporary road diversion in place for Conington Road, which enabled the construction of the new over-bridge for the A14.

The new road alignment of Conington Road was open to traffic however, with a temporary posted speed limit of 40mph. No street lighting is provided on Conington Road.



**Project Support Framework (Consultancy) 2011 – 2015**  
**A14 Cambridge to Huntingdon Improvement Scheme:**  
**Conington Road Overbridge**  
**Stage 3 Road Safety Audit**

At the time of audit, the works were substantially complete with the following elements of the scheme being outstanding:

- A temporary mandatory speed limit of 40mph was in place;
- Seeding and landscaping of verges had not taken place;
- The proposed emergency/maintenance accesses for the A14 on the western side of the structure were under construction;
- Elements of mesh parapet fencing on the eastern side of the structure were not complete.

Seven problems were identified by the Audit Team, and a Designers Response report to the audit was completed by the A14 Integrated Delivery Team in September 2019 (Document reference: HA528983-ACJV-HGN-S3A\_RSA3-RP-C-0004 Revision P01).

A summary of the identified issues and the response comments / actions following the audit is provided in **Table 1**, overleaf.

Table 1: Items raised at the Stage 1 Road Safety Audit

Ref:	Location and Identified Issue	Response Comment / Action
001	<p><b>Northbound approach to Conington Road overbridge, from Conington Village.</b></p> <p><b>Use of deflection arrow markings to reinforce no overtaking markings.</b></p> <p><i>On the northbound approach to Conington Road, there are currently only two deflection arrow markings provided prior to the commencement of the double white lines in place (to prohibit overtaking).</i></p> <p><i>The Audit Team is of the opinion that due to the alignment of the carriageway in advance of the double white line system and propensity for vehicle speeds to increase as the cross-section improves that inappropriate overtaking manoeuvres may result, increasing the risk of head-on collisions.</i></p> <p><b>Recommendation</b></p> <p><i>It is recommended that a third deflection arrow (to TSR&amp;GD Dia.1014) is provided on this approach.</i></p>	<p><b>Designers Response - Accepted</b></p> <p><i>Agree -the drawings are to be reviewed and amended as needed.</i></p> <p><b>Follow-up Action</b></p> <p>-</p> <p><b>Audit Team Comment at RSA3</b></p> <p>The Audit Team considers this matter to be outstanding.</p>
002	<p><b>Conington Road – southbound (at approximate Chainage 0+650).</b></p> <p><b>Warning of change in carriageway cross-section.</b></p> <p><i>On the southern section of Conington Road, as the cross-section reverts to a narrower and more rural environment, the Audit Team is of the opinion that drivers southbound may be prone to conflicts with oncoming vehicles, which in turn may result in heavy braking, vehicles mounting the verge or colliding with approaching vehicles.</i></p> <p><b>Recommendation</b></p> <p><i>It is recommended that a new ‘Road narrows on both sides ahead’ warning sign (to TSR&amp;GD Dia.516) is provided, in conjunction with a new ‘SLOW’ carriageway marking on the approach to the change in cross-section (southbound).</i></p> <p><i>For further guidance regarding the siting and sizing of this sign, refer the Traffic Signs Manual, Chapter 4 Warning Signs.</i></p>	<p><b>Designers Response - Accepted</b></p> <p><i>Agree -the drawings are to be reviewed and amended as needed.</i></p> <p><b>Follow-up Action</b></p> <p>-</p> <p><b>Audit Team Comment at RSA3</b></p> <p>The Audit Team considers this matter to be outstanding.</p>

Ref:	Location and Identified Issue	Response Comment / Action
003	<p><b>Conington Road – western side, northbound approach to overbridge.</b>  Length of VRS protecting embankment.</p> <p>The Audit Team is concerned as to the length of vehicle restraint system (VRS) on the western side of the structure, for northbound vehicles. The alignment comprises a right-hand bend for northbound vehicles and there is a significant batter slope which, in the opinion of the Audit Team, is considered to be an increased risk of injury severity to the occupants of errant vehicles descending.</p> <p><b>Recommendation</b>  It is recommended that the VRS on the western side of the structure be extended towards the proposed maintenance access.</p> <p>This should be cognisant of the visibility requirements for the access, covered by TD 41/95 'Vehicular Access to All Purpose Trunk Roads'.</p>	<p><b>Designers Response - Accepted</b>  Agree – A review of the RRRAP will be undertaken to determine the need. The drawings are to be reviewed and amended as needed.</p> <p><b>Follow-up Action</b>  -</p> <p><b>Audit Team Comment at RSA3</b>  The Audit Team considers this matter to be outstanding.</p>
004	<p><b>Huntingdon Road – approach to junction with Conington Road.</b>  <b>Absence of advanced signing of weight restriction.</b></p> <p>There is no advanced signing of the weight prohibition on Huntingdon Road, for westbound drivers approaching the junction with Conington Road.</p> <p>The Audit Team considers that in the absence of advance signing of the prohibition, road users of vehicles &gt;7.5 tones (HGVs), may be required to make turns at the junction, which in turn may conflict with other road users and increase the risk of collisions.</p> <p><b>Recommendation</b>  It is recommended that the weight restriction for Conington Road is appropriately signed in advance of the junction, on Huntingdon Road. Furthermore, alternative routes for HGVs should also be signed.</p>	<p><b>Designers Response - Accepted</b>  Agree – The existing sign will be replaced. Wider HGV signing is for the Local Highway Authority [CCC] to consider.</p> <p><b>Follow-up Action</b>  -</p> <p><b>Audit Team Comment at RSA3</b>  The Audit Team considers this matter to be outstanding.</p>

Ref:	Location and Identified Issue	Response Comment / Action
005	<p><b>Conington Road, southbound (approximate Chainage 575m). Delineation of centre line.</b></p> <p><i>The warning line between approximate Chainage 460m and 550m comprises a 1004.1 marking. Beyond this, it reverts to a standard lane line.</i></p> <p><i>The Audit Team is of the opinion that road users may not fully appreciate both the presence of the bend and the proximity of side road accesses throughout this section. This has the potential to result in drivers negotiating this section at inappropriate speeds, which in turn could lead to loss of control collisions or conflicts with turning vehicles.</i></p> <p><b>Recommendation</b></p> <p><i>It is recommended that a longer warning line between approximate Chainage 550 and 600m is provided, such that it extends beyond the access on the western side of Conington Road.</i></p>	<p><b>Designers Response - Accepted</b>  <i>Agree - the drawings to be amended as necessary.</i></p> <p><b>Audit Team Comment at RSA3</b>  The Audit Team has no further comments regarding this issue.</p>
006	<p><b>Conington Road – northbound approach to Huntingdon Road, connecting to A14. Presence of junction ahead.</b></p> <p><i>At the time of the site visit, there were no flag direction signs opposite the junction to direct road users towards either the A14 or Hilton.</i></p> <p><i>The Audit Team is concerned that road users may fail to appreciate the presence of the junction ahead, particularly at night or in reduced visibility. This could result in overshooting of the junction and / or side impact collisions with other vehicles.</i></p> <p><b>Recommendation</b></p> <p><i>In order to improve the conspicuousness of the junction, it is recommended that:</i></p> <ul style="list-style-type: none"> <li><i>• New directional flag signs are provided at the junction (all directions);</i></li> <li><i>• The size of the recently installed ‘Give way’ sign is increased.</i></li> <li><i>• An advanced ‘Give way’ sign (to TSR&amp;GD Dia.602), is provided on the northbound approach to the junction, with a supplementary distance plate;</i></li> <li><i>• The advanced ‘Give way’ sign is accompanied by a ‘SLOW’ carriageway marking.</i></li> </ul>	<p><b>Designers Response - Accepted</b>  <i>Agree – Existing signage to be re-located [amend drgs as needed]</i></p> <p><b>Audit Team Comment at RSA3</b>  The Audit Team considers this matter to be outstanding.</p>

Ref:	Location and Identified Issue	Response Comment / Action
007	<p><b>Field Access crossings – protection of culverts.</b>  <b>Protection for headwalls.</b>  <i>At the eastern drain at the field access crossings there are headwalls which have no protection to prevent pedestrian falls into them. This can result in an increased risk of fall injuries to pedestrians.</i></p> <p><b>Recommendation</b>  <i>It is recommended that appropriate protection for culvert headwalls on the eastern drain at field access crossings ('kee-klamp' or similar) is provided.</i></p>	<p><b>Designers Response - Accepted</b>  <i>Agree – From the photo it is clear that some details are yet to be constructed. The IFC drgs will be reviewed and amended as necessary to ensure appropriate protection for culvert headwalls is made.</i></p> <p><b>Audit Team Comment at RSA3</b>  The Audit Team considers this matter to be outstanding.</p>

Source: Road Safety Audit Designers Response report to the Interim Stage 3 RSA, Document reference: HA528983-ACJV-HGN-S3A\_RSA3-RP-C-0004 Revision P01

## 3 Items raised at this Stage 3 Audit

This section describes road safety related issues identified by the Audit Team that are associated with the constructed works. Reference Key Plans are shown at **Appendix B**.

### 3.1 Problem 001

*Location:* Conington Road, northern end, junction with Hilton Road.

*Summary:* Potential for overshoot collisions at junction with major road.

There remains a potential for northbound overshoot collisions at the northern end of scheme. During the site visit, there was evidence that a least one collision of this type had already occurred.

This is considered attributable to the lack of advanced warning signing before the give-way junction and the prominence / size of the direction flag signs opposite the junction.

Photo 1: Northbound approach to the junction with Hilton Road



Source: MMSJV



## Recommendation

It is recommended that the following measures are provided to raise the level of conspicuity of the junction to road users proceeding northbound on Conington Road:

- An advanced 'Give way' sign (to TSR&GD Dia.602) is provided on the northbound approach to the junction, with a supplementary distance plate;
- The advanced 'Give way' sign is accompanied by a 'SLOW' carriageway marking;
- The directional flag signs, situated opposite the junction, are increased in size (the x-height of text may be increased) and provided on a backing board.

### 3.2 Problem 002

*Location:* Conington Road, southern end tie-in with existing highway.

*Summary:* Carriageway transitions to a narrower cross-section without warning.

At the southern end of the scheme there may be the potential for head-on and / or nose to tail shunt-type collisions as drivers exiting the scheme at speed enter the narrowed alignment.

Photo 2: Southern tie-in - the new alignment transitions to a narrower cross-section



Source: MMSJV



## Recommendation

It is recommended that a 'Road narrows ahead / risk of oncoming vehicles in the middle of the road' warning sign (to TSR&GD Dia.517) is provided for southbound motorists approaching the tie-in.

### 3.3 Problem 003

*Location:* Conington Road, southern end.

*Summary:* Continuity of routes for non-motorised users (NMUs).

There is a lack of clear and consistent NMu route signing to connecting public rights of way. The existing signing does not currently define / direct users to a connected route (**Photo 3**). Furthermore, there appears to be no tie-in between the new facilities and the existing footpath.

The absence of route continuity and signing has the potential for NMUs to continue their journeys via the carriageway, increasing the risk of collisions with motorised traffic.

**Photo 3: Absence of NMu route connectivity and effective signing.**



Source: MMSJV

## Recommendation

It is recommended that the route continuity and appropriate signing for NMUs is provided.

### 3.4 Problem 004

*Location:* Conington Road, throughout scheme, various locations.

*Summary:* Protection from falls for pedestrians into watercourses (at accesses).

There is a risk of injury resulting from entry into unprotected water courses, adjacent to Conington Road. These have been identified at a number of side access locations (for vehicles and NMUs) due to a lack of fencing on the channel headwalls.

[Photo 4: An example of a side accesses without fencing adjacent to the water course](#)



Source: MMSJV

#### Recommendation

It is recommended that timber post and rail fencing (or similar) is provided at all side access, adjacent to the water course.

### 3.5 Problem 005

*Location:* Conington Road, northern end.

*Summary:* Absence of advanced warning of weight prohibition.

The Audit Team is of the opinion that there is a lack of advanced signing relating to the weight prohibition on Huntingdon Road, particularly for westbound drivers approaching the junction with Conington Road.

The absence of information to road users (particularly those driving vehicles >7.5 tonnes) may result in inappropriate turning manoeuvres at the junction, which in turn, can increase the risk of conflicts and collisions with other road users and infrastructure.

#### Recommendation

It is recommended that the requirement for advanced warning of weight prohibitions is reviewed and provided accordingly.

In particular, the weight restriction for Conington Road should be appropriately signed in advance of the junction, on Huntingdon Road

## 4 Audit Team Statement

We certify that this audit has been carried out in accordance with Departmental Standard GG 119.

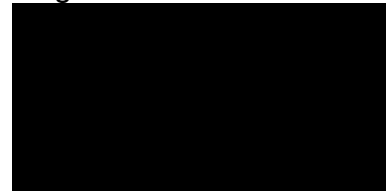
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Date: 13<sup>th</sup> November 2019

**Others Involved** (Such as an observer, Police/Network Management representative or specialist advisor)

**Peter Taylor** Road Safety Audit Team Observer, Cambridgeshire County Council

## Appendix A Documents and Drawings

The following drawings and documentation have been examined as part of this audit:

**Table A1: Drawings**

Drawing Ref	Drawing Title	Rev
<b>LOCATION PLAN</b>		
<a href="#">HA528983-ACJV-SBR-S3B BN15-DR-C-0070 C02 20171020</a>	BN15 General Arrangement	C02
<a href="#">HA528983-ACJV-SBR-S3B BN15-DR-C-0101 C01 20161116</a>	Parapet details	C01
<a href="#">HA528983-ACJV-HGN-S3B PLAN-DR-C-0009 C02.pdf</a>	Plan - Section 3B - Sheet 9	C02
<a href="#">HA528983-ACJV-HGN-S3B PLAN-DR-C-0011 C02.pdf</a>	Plan - Section 3B - Sheet 11	C02
<b>FENCING</b>		
<a href="#">HA528983-ACJV-HFE-SG XX-DR-C-1001 Z01.pdf</a>	Fencing Scheme Wide Key	C07
<a href="#">HA528983-ACJV-HFE-S3B SR358-DR-C-1001 C06.pdf</a>	Permanent Fencing - Section 3B - Conington Road - Sheet 1 of 4	C06
<a href="#">HA528983-ACJV-HFE-S3B SR358-DR-C-1002 C06.pdf</a>	Permanent Fencing - Section 3B - Conington Road - Sheet 2 of 4	C06
<a href="#">HA528983-ACJV-HFE-S3B SR358-DR-C-1003 C06.pdf</a>	Permanent Fencing - Section 3B - Conington Road - Sheet 3 of 4	C06
<b>KERBING, FOOTWAYS &amp; PAVEMENTS</b>		
<a href="#">HA528983-ACJV-HKF-SG XX-DR-C-0002 C03.pdf</a>	Kerbs, Footways and Paved Areas Scheme Wide Key Drawing	C03
<a href="#">HA528983-ACJV-HKF-S3B SR358-DR-C-0001-C04.pdf</a>	Conington Road Kerbing, Footways & Pavements - Section 3B - Sheet 1 of 4	C04
<a href="#">HA528983-ACJV-HKF-S3B SR358-DR-C-0002 C07</a>	Conington Road Kerbing, Footways & Pavements - Section 3B - Sheet 2 of 4	C07

Drawing Ref	Drawing Title	Rev
<a href="#">HA528983-ACJV-HKF-S3B SR358-DR-C-0003 C07</a>	Conington Road Kerbing, Footways & Pavements - Section 3B - Sheet 3 of 4	C07

**Table A2: Documents**

Document Ref	Document Title	Rev
<a href="#">HA528983-ACJV-HGN-S3 RSA3-RP-C-0002</a>	Stage 3 Road Safety Audit Brief for Section 3 Side Roads	P01
<a href="#">406395AQ-TPN-ITD-017-A Conington Road</a>	Interim Stage 3 Road Safety Audit	A
<a href="#">HA528983-ACJV-HGN-S3A RSA3-RP-C-0004 P01.pdf</a>	Conington Road Interim RSA3 Designer's Response	P01

## Appendix B Reference Key Plans

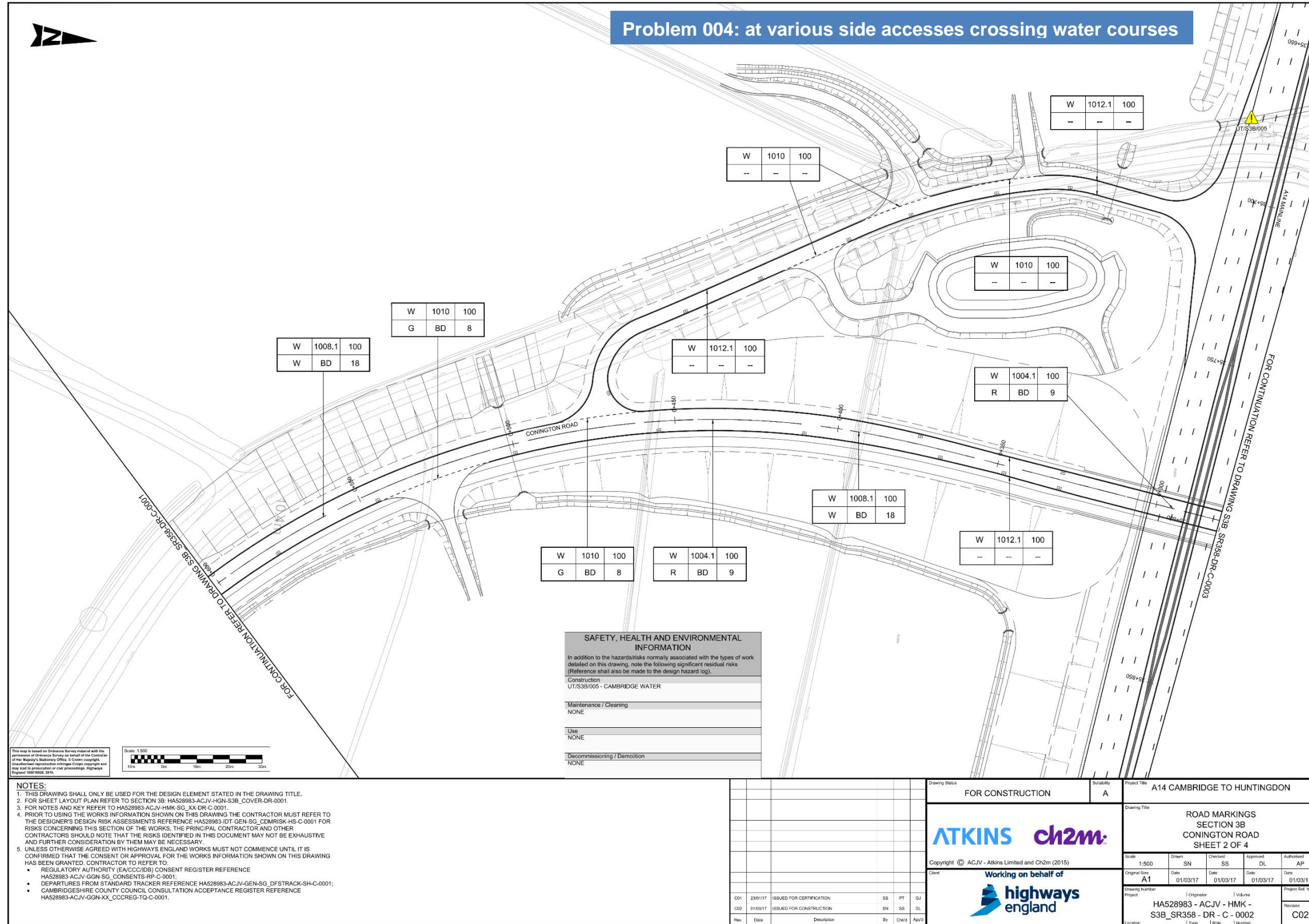
B-1: Key Plan: Conington Road Overbridge - Sheet 1 of 3	20
B-2: Key Plan: Conington Road Overbridge - Sheet 2 of 3	22
B-3: Key Plan: Conington Road Overbridge - Sheet 3 of 3	24





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**B-2 Key Plan: Conington Road Overbridge - Sheet 2 of 3**



A14 Integrated Delivery Team, based on HA528983-ACJV-HMK-S3B\_SR358-DR-C-0002\_C02 (Not to scale)

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## Appendix C – Highways Work Packages – Departures from Standards 2

# Minutes

<b>Meeting name</b>	<b>Subject</b>	<b>Attendees</b>	<b>Circulation list</b>
Highways Work Packages - Departures from Standards 2	Meeting to discuss actions for meeting held on the 01.10.2020 and to discuss CCC's perspective on the adoption of side roads	Jake Montgomery (AECOM) Ted Doherty (AECOM) Paul Swannell (AECOM) Kevin Mitchell (AECOM) James Wilson (AECOM) Anne Marie Rogers (Highways England) Elaine King (Highways England) Andrew Gosling (highways England) Chris Poultney (Cambridgeshire County Council) Mark Larder (Cambridgeshire County Council) Peter Taylor (Cambridgeshire County Council) Kristian Mobbs (Cambridgeshire County Council) Mike Atkins (Cambridgeshire County Council)	Jake Montgomery (AECOM) Ted Doherty (AECOM) Paul Swannell (AECOM) Kevin Mitchell (AECOM) James Wilson (AECOM) Anne Marie Rogers (Highways England) Elaine King (Highways England) Andrew Gosling (highways England) Chris Poultney (Cambridgeshire County Council) Mark Larder (Cambridgeshire County Council) Peter Taylor (Cambridgeshire County Council) Kristian Mobbs (Cambridgeshire County Council) Mike Atkins (Cambridgeshire County Council)
<b>Meeting date</b>	<b>Time</b>		
12/10/2020	14:00		
<b>Project name</b>	<b>Prepared by</b>		
A428 Black Cat to Caxton Gibbet	Jake Montgomery		

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## Recap of Last Meeting

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**AECOM to share Departures from Standard Checklist (including relaxations) for side roads and clarification correspondence regarding RSA comments with CCC.** - Actioned

**HE to investigate whether an addendum to work needs to be produced with regards the cycle facilities and LTN 1/20.** - Ongoing

**CCC to get Road Safety Officers comments on the clarifications from the Road Safety Auditor** - PT reported that CCC safety officers are compiling responses regarding the Road Safety Auditors comments but that the stance from the Local authority is that they cannot currently justify the design decisions taken.

1. TD questioned what standards CCC have for highways design as certain side roads for A14 have cross sections appropriate for lower design speeds. ML answered that in certain locations where design speeds were lower, a reduced cross section was considered. CCC adhere to the DMRB for highway design.
2. PT asked if the final Road Safety Audit was available, in which the Road Safety Auditors confirms the recommendation that he originally made in the Pre-Stage 1 Road Safety Audit regarding the emulation of the existing side road widths. JM to send it to CCC when it has had the final sign off from Highways England.

### **B1046/Potton Road Location**

3. ML went through the traffic figures within B1046/Potton Road technical note. The forecast flow of traffic from B1046 North to Potton Road within the DMRB would suggest a ghost island major minor priority road junction. **AECOM** to investigate this
4. TD questioned whether the existing side road cross-section has any bearing on the design. ML answered that it does not.
5. CCC's view is that the forecast flows indicate that these side roads should normally have a DMRB compliant width which includes a 7.3m carriageway with 1m hard strips.
6. However, CCC then went on to explain that they only require a hard strip where there is over-the-edge drainage such as ditches or swales, and advised that the hard strips could be omitted and replaced by an additional 1m of verge width, if kerb and gully drainage were to be provided. CCC's have supported this approach for the sections



of their local roads which have been recently built across the A14, and this approach also appears to have been taken where CCC's local roads cross the existing A428 dual carriageway.

7. CCC explained that one of the reasons why they did not want to reduce the road width below 7.3m, was that it would prevent them from improving the adjacent sections of the road to a similar standard in the future.
8. TD pointed out the sharp bend in the existing B1046 to the east, which could become less safe in the future if the new wider section of road resulted in higher downstream traffic speeds and encourage overtaking.
9. KM asked if CCC would accept liability, and provide mitigation if future safety audits were to identify this as being an operational problem once the road was opened, since at that stage, the option to narrow the road to help calm the traffic in accordance with the safety auditor's original recommendation would no longer be practicable.
10. Following these discussions, CCC retained the view that the local roads must be designed in accordance with items 5 and 6 above.

### **Cambridge Road**

11. JW and TD explained that the link between dumbbells has DMRB compliant cross section. CCC noted that merge/diverge from proposed A428 mainline is DMRB compliant so why depart from that once you join the local roads.
12. TD asked whether the existing side road should taper in line with DMRB (TD27) and whether CCC would accept the schemes Stage 1 Road Safety Audit. ML responded that CCC would expect tapers in line with DMRB and PT added that the general position for the council is to have an audit conducted and that on the A14 this was carried out by Motts but that CCC had a member in attendance. KMo concurred stating that this was similar to the approach on the A47.
13. ML stated that CCC preference is for positive drainage with kerbs, gullies, pipes etc. 7.3m carriageway with kerb and gullies is acceptable for CCC. Drainage items are not on the provided general arrangements.
14. Signal controlled crossings would be required for NMU interactions with slip roads. Discussion had around ownership of NMU routes. It is likely that Highways England would maintain signals and CCC would maintain the path.

### **Bridleway 1/18 Accommodation Access**

15. Accommodation Bridge and PRoW bridleway. TD explained that this bridge is proposed to pass over the new A428 and to carry both a private access and a bridleway. MA has confirmed that CCC would normally maintain the surface of the bridleway only, confined to the width of the right of way. The structure would be owned and maintained by HE. MA to confirm.

### **Toseland Road**

16. ML questioned why superelevation on Toseland Road changes direction. **AECOM** to investigate.

### **Eltisley**

17. There is a missing link between Eltisley and Caxton which will require NMU provision.

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## **A.O.B.**

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AECOM to formalise position on designs

CCC to share departures form with AECOM – **KMo** to action

CCC want to ensure that any departures do not go from approved in principle straight to WebDas as any approval in principle will still require further consultation during detailed design.