

A303 Amesbury to Berwick Down Scheme

PINS Reference: TR010025

Wiltshire Council Relevant Representation

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I. Executive Summary

1. Wiltshire Council is the host authority for the A303 Amesbury to Berwick Down Scheme and statutory consultee within the Development Consent Order (DCO) process.
2. The Council reiterates its support for the Scheme and corridor-wide improvement in principle, subject to the resolution of the issues raised herein. However, as the DCO represents the outline design for the Scheme, additional details will emerge during the Examination and development of detailed design. Therefore, the Council reserves the right to amend its position as further information and clarity becomes available.
3. The Council will seek recovery of costs incurred through a Planning Performance Agreement or the DCO.
4. The issues identified within this response are intended as a summary to assist the Examining Authority in identifying the principle issues to be considered at Examination. Detailed information will be submitted within the Council's Written Representation, Local Impact Report and Statement of Common Ground.

Highways and Transport

5. As Highways Authority, further clarity and consideration is required on the proposed operation of and responsibilities for specific elements of the Scheme. These include:
 - a) Traffic controls at Countess and Longbarrow roundabouts
 - b) Maintenance responsibility for carriageways and signal controls
 - c) De-trunking proposals i.e. at Countess Roundabout and at layby to west of Winterbourne Stoke
 - d) Road (re)classifications
 - e) Precise boundaries to the new highway for which it is the vesting authority along with details for the associated support infrastructure
 - f) Speed limits for the realigned section of Allington Track
 - g) Provision of commuted payments.
6. Identified inconsistencies within the documentation will also need to be addressed i.e. the description of the length of the new and improved A303 trunk road and contradictions between the core working hours stated within the REAC tables and those used within TA assumptions.
7. The REAC tables require further detail to address issues of concern, e.g. a pre and post works condition survey and for regional diversion measures to be provided. The Council also requires enforceable measures to be included to deter haulage sub-contractors using unsuitable routes.

Archaeology and World Heritage

8. As the DCO portrays an indicative design, the lack of design detail restricts the ability to fully assess the impact of the Scheme on cultural heritage, landscape setting and the need for mitigation.

9. The Environmental Statement is incomplete and requires amendment as the archaeological field evaluations were completed after submission. Furthermore, the number of non-designated heritage assets adversely impacted by the Scheme should be conveyed as the *minimum*; many features are likely to be revealed during the mitigation phase and construction.
10. The Outline Archaeological Mitigation Strategy (OAMS) is lacking detail and should include the results from all archaeological evaluations. Better cross referencing is required between the OAMS and the Outline Environmental Management Plan (OEMP). The Detailed Archaeological Mitigation Strategy (DAMS) should be agreed before consent for the Scheme is given.
11. Additional mitigation is required to minimise the adverse impacts of the dual carriageway in cutting on the setting of asset groups in the western part of the World Heritage Site (WHS), especially the Winterbourne Stoke and Diamond Group.
12. Green Bridge No. 4 is insufficient to mitigate the potential visual impacts caused by the cutting on key monument groups with attributes of OUV, primarily the Winterbourne Stoke, Diamond Group and Normanton Down Group. Highways England are encouraged to explore further design options to help minimise the adverse impact or consider extending the tunnel (either bored or cut and cover).
13. Consideration should be given to the design of the Longbarrow junction and dumbbell roundabout at Oatlands Hill to minimise impact on the prehistoric settlement remains. The potential for light spillage and adverse impacts on dark skies within the vicinity of the WHS boundary is of concern.
14. The imposition of restrictive covenants on groundworks on land above the tunnel is concerning as it may restrict archaeological investigations in a core part of the WHS.
15. The inclusion of a detailed archaeological and heritage outreach and education programme within the DAMS should be referenced in Requirement 5.

Flood and Drainage

16. The modelling approaches are generally found to be sound. However, additional information and model runs, including the rectification of inconsistencies and omissions are required during Examination.
17. The 539m long, 5m deep culverting of the watercourse within the pluvial model may not be supported by the Council due to detrimental environmental, health and safety aspects and maintenance impacts.
18. The road drainage strategy is high-level and lacking in detail.
19. The reports would benefit from a more consistent approach when modelling the effects of climate change and better cross-referencing across the various documents to ensure there is greater consideration of the combined effects and shortfalls in each stage of the design.
20. The preliminary and temporary works (as detailed within the OEMP) will take 6 years to complete (2020-2026), therefore the impact on flood risk could be significant. However, the OEMP is light on detail and high-level at this stage. It is essential that the Council are

consulted, and given sufficient time, for the approval of the Construction Environmental Management Plans (CEMPs), and as part of the discharge of requirements, to ensure that flood risk is managed during the construction period.

Public Protection

21. It is queried whether additional measures are proposed at locations identified in the Environmental Statement (ES) as having large adverse cumulative effects. Clarity should be sought on core working hours due to discrepancies and a definition of summer and winter for earthworks working hours is required. Consultation is required with the Council as concrete batching is a Local Authority permitted process, unless exempted. The Council and Environment Agency should receive reports on further ground investigation works, together with any mitigation proposals. Works notices should be notified to the Council. Clarity is sought on power provision to the satellite compounds, use of chainage for locations, and CRM and EM roles. Further details are required of the measures to divert the Esso pipeline.
22. Air quality monitoring should be agreed with the Council. Clarification is also required regarding Quidhampton and the severe adverse effects on Salisbury AQMAs identified in the ES, proposed haul routes and their proximity to receptors and whether any water from the slurry treatment plan will be tankered to the Salisbury Waste Treatment Works. A number of amendments to the REAC tables will also be required i.e. extension to BPM to include *other means as may be required*. Reference should be made to the IAQM Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites. Furthermore, arisings must be spread and managed so as not to cause a statutory dust nuisance.
23. The Council should be notified if agreed vibration levels are exceeded. The Council needs to be consulted on the Noise and Vibration Management Plan. Detailed assessment should be conducted for the property Lindisfarne in Ratfyn Road and consideration given to the potential relocation for Stonehenge Cottages inhabitants over the 2 x 7 day construction periods. Details of the noise receptor north of Winterbourne Stoke is unclear.
24. The Council is commissioning an external review of the air quality, noise and vibration models.
25. Clarity is required on whether the contractor will be required to report any accidental spillages affecting the groundwater or private water supplies and whether human health / consumers of private water supplies have been considered as a receptor. Wiltshire Council should be informed in case of groundwater contamination.

Ecology and Landscape

26. It is imperative that sufficient good working practices and forward mitigation are in place for all preliminary works. There are potential issues around contamination, utilities diversion and minor highways works that should be specifically covered within the OEMP to prevent ecological impacts.
27. Further consideration is required to better understand the temporary adverse impacts (construction phase) and the residual effects upon visual amenity at either end of the tunnel, especially the Till Viaduct and Countess flyover.

Public Rights of Way

28. Detailed proposals for the rights of way and access changes are required including surfacing, width, signage and waymaking, structures to provide access to non-motorised users and motorised vehicles, private means of access, boundary fencing / hedging, fencing of Green Bridges against drops, and verge treatment. Further information on junction layouts, three proposed routes and stopping-up proposals is also required.
29. The severed link between AMES11 and AMES12 for motorised users creates a breach of Wiltshire Council's statutory duty under s.130 Highways Act 1980. The Council considers the need for a prohibition of driving order for motor vehicles to be Associated Development due to Highways England's decision not to provide an alternative link between the two byways. It should be included within the DCO.
30. The Council must approve the design, construction details and specifications for all diverted and new sections of PROW maintainable by the Highway Authority prior to commencement of works (along with any commuted sums).
31. Where temporary diversions or closures of PROW become necessary, construction details of alternative routes must be agreed in advance with the Council.

II. Introduction

32. Wiltshire Council is the host authority for the A303 Amesbury to Berwick Down (Stonehenge) Scheme and statutory consultee within the Development Consent Order (DCO) process.
33. As a Unitary Authority, Wiltshire Council provides a single tier of local government functions. It is the Highways Authority for all roads and public rights of way which are not trunk roads. It also is the responsible authority for the implementation of a broad range of Government Regulation related to public protection and is the Local Planning Authority for the area. The Council has regulatory responsibility for managing impacts on Wiltshire's natural environment, heritage assets and landscape. As the Lead Local Flood Authority (LLFA), Wiltshire Council has a number of duties and powers to control and minimise flood risk. Furthermore, the Wiltshire Council Archaeology Service (WCAS) has a statutory duty to advise the Local Planning Authority on the impact of development proposals on archaeological remains in the County, both within and outside of the Stonehenge, Avebury and Associated Sites World Heritage Site (WHS).
34. The Council wishes to reiterate its support for the Scheme and corridor-wide improvement in principle, subject to the resolution of issues raised herein. However, it is important to note that the DCO represents the preliminary / outline design for the Scheme and further detail will emerge during the Examination process and once the detailed design is developed. Significant information was only made available to the Council immediately prior to or at application submission, therefore the Council's detailed assessment of the Scheme is still on-going.
35. The Council has committed significant resource to date to engage in the development of the Scheme. Considerable input is still required during the Examination process, development of detailed design and if approved implementation through monitoring and the discharging of conditions. The Council is in the process of negotiating a Planning Performance Agreement (PPA) with Highways England. However, if this proves unsuccessful, the Council will seek recovery of costs incurred through the DCO.
36. The issues identified within this response are intended as a summary to assist the Examining Authority in the identification of the principle issues for examination. This response is without prejudice to any further representations the Council will make throughout the examination process including detail submitted to the Examining Authority within the Council's Written Representation, Local Impact Report and through its Statement of Common Ground with Highways England.

III. Highways and Transport Considerations

37. The following issues and concerns arise from the DCO submission and will be required to be addressed (either by way of clarification of intentions or amendments to the proposals) to satisfy the Council.
 - a) There is a requirement for clarification in relation to the provision and operation of traffic signals controls at both the Longbarrow and Countess Roundabouts, especially in relation to the integration of the signals with the tunnel management systems in the event of the closure of access via the eastbound merge slip-road at Longbarrow Northern Roundabout and the westbound merge slip-road at Countess Roundabout.

- b) As a consequence of a) above, there is a need to clarify which of the highway authorities (Highways England or Wiltshire Council) will be the vesting authority, responsible for the on-going maintenance of the carriageways and traffic signals controls at each of the junctions.
- c) The existing Countess Roundabout is vested in Highways England. The TR010025 2.12 De-trunking Plans do not show Countess Roundabout as proposed to be de-trunked. Depending on the outcome of the clarification sought in a) above, there might be a need to amend the de-trunking plans.
- d) The Draft DCO includes within Schedule 9 Part 2 information in relation to the Northern and Southern Roundabouts forming the 'dumbbell' junction. Whilst the Classifications Plan clearly shows the roundabouts as being classified as the A360, Wiltshire Council will need to be clear as to the future assets for which it will be responsible. Whilst the working assumption has been that Wiltshire Council would be the default vesting authority for off-line junctions, this needs to be clarified, especially in the context of a), b) and c) above. It would be logical that the vesting of the Longbarrow roundabouts is treated in the same way as the Countess Roundabout.
- e) The Council will require clarification, following detailed design, about the precise boundaries to the new highway for which it will become the vesting authority. It will also require details for the associated support infrastructure including drainage arrangements (including any easements or maintenance access, lighting and power supply other cabling).
- f) The TR010025 2.13 Classification of Roads Plan does not show any information about the Countess Roundabout. It is currently classified as the A303. As a grade separated trunk road junction, the roundabout should be classified as the A345, consistent with the classification to the principal roads to the north and south. Consideration should be given to this issue in the context of those raised above.
- g) The TR010025 2.10 Traffic Regulation Measures Plans (Speed Limits) show a proposed speed limit of 30 mph for the realigned section of the Allington Track (also in the Draft DCO Schedule 10 Part 1); Wiltshire Council is concerned as to the compatibility of the speed limit with the Department for Transport Circular 01/2013, and with the speed limit on the existing Allington Track; it appears to be set unnecessarily low. The Council believes the police should be consulted on the matter, but it is unclear whether this has been done. The DCO proposed speed limit appears to be driven by the isolated bend between new and existing parts of the Allington Track.
- h) There appears to be some inconsistencies within the Draft DCO at Schedule 9 Part 1 in relation to the description of the length of the new and improved A303 trunk road. The length is described as 11.7km and 11.6km, and the cumulative length of the descriptive parts appears to be 11.51km.
- i) Schedule 9 Part 7 of the Draft DCO sets out proposed classification classes for the existing A303 around Winterbourne Stoke. The Council questions the Class 3 proposed classification for the 595m length of road west of the western B3083 junction to the south side of the existing A303. This road will be a little used cul-de-sac and more appropriately unclassified.

- j) The works proposals do not provide for any works at the layby to the western end of the above section of existing A303. The Council is concerned as to the potential abuse of this area of highway, especially bearing in mind proximity to Stonehenge. Potential alternative uses will need to be considered. It is also questioned as to why this layby is excluded from the De-trunking Plans.
 - k) There is some concern as to the adequacy of the coverage of the 6.3 Environmental Statement Appendices Appendix 2.2 Outline Environmental Management Plan in relation to some areas of Record of Environmental Actions and Commitments (REAC) tables at 3.2a and 3.2b. For example, the Core Working hours are set at 07:30 – 18:00 Monday to Friday and 07:30 – 13:00 Saturday, which appear to be inconsistent with TR010025 7.4 Transport Assessment assumptions in relation to normal working hours for establishing hourly construction traffic impacts, which states at 9.3.3, *it is assumed that deliveries will be scheduled during a 12 hour period (7am to 7pm) 6 days a week*. Clarification will be sought as to proposed restrictions to be governed by the DCO.
 - l) The REAC Tables also detail items to be covered by e.g. the Traffic Management Plan (TMP); the Council will make representations about issues of concern in relation to coverage and items it believes should be included in more detail. For example, the construction phases of the development are forecast to be when most impact will be felt on the local road network. The TMP will be a key document in this regard and it will be necessary to ensure that local routes are protected as far as is practicable by the A303 diverted traffic (both environmentally and structurally). The REAC Tables should include, for example, a requirement for pre and post works condition surveys and for the regional diversion measures to be provided to advise at a distance of Stonehenge area delays.
 - m) There will be an incentive for haulage sub-contractors seeking to maximise loads per day shifted from east to west of the site to use alternative routes, such as The Packway, because of the potential delays on the A303 (especially westbound) route; enforceable measures will be sought to take action against offenders in an appropriate manner.
 - n) Highways England have provided no detail on the potential impact of the Solstice events during the construction and operation of the Scheme.
 - o) Wiltshire Council will seek to agree commuted payments to support those additional assets for which it could become responsible, and ensure absolute clarity of the extent / boundaries of such assets.
38. The Council reserves its position in relation to any changes which might come forward for consideration at the Examination, and appreciates that there will be a considerable degree of additional output on which it will need to comment further as detailed design eventually moves forward.

IV. Archaeology and World Heritage Considerations

39. The Council has now had a chance to review the DCO submission, mainly focussed on the Environmental Impact Assessment (EIA) chapter on Cultural Heritage and associated documents such as the Heritage Impact Assessment (HIA), Outline Environmental Management Plan (OEMP) and the Outline Archaeological Mitigation Strategy (OAMS).

40. Overall, the Council welcomes the benefits and opportunities offered by the proposed Scheme to permanently remove the existing A303 through the central part of the World Heritage Site (WHS) landscape, thereby benefitting the setting of Stonehenge and many groups of monuments which contribute to its Outstanding Universal Value (OUV).
41. However, the Council do have some concerns, the largest of which is the potential adverse impact of the Scheme on the setting of the western part of the WHS. These are outlined in the paragraphs below.

Lack of Design Details

42. It is understood that the DCO is presented as an indicative design Scheme (7.2 Design and Access Statement 1.2.1) and that further design details will follow post consent. However, the lack of design details at this stage makes it difficult to fully assess the impact of the Scheme on cultural heritage, landscape setting and the need for mitigation. For example, the extent and location of utility trenches or the engineering details for the Till Valley, green bridges and tunnel portal or the exact requirements for road signage and fencing are unknown.

Requirements

43. It is noted that Schedule 2 of the draft DCO sets out the requirements and Requirement 5 refers to the need for all works to be done according to a Detailed Archaeological Mitigation Strategy (DAMS). The Council is concerned that this requirement does not refer to the need to include a detailed archaeological and heritage outreach and education programme as part of the DAMS.

Assessment of Impact on Archaeological Remains

44. The Council has welcomed the chance to review the EIA chapter on Cultural Heritage (Chapter 6) and associated appendices.
45. The main concern is that the current version of the EIA is not as complete and robust as it could be as the archaeological field evaluation was only completed after this document was submitted and the various reports from that have not all been finalised. Highways England have committed to producing an Addendum to the EIA chapter on cultural heritage once this information is available. Consequently, some of this chapter and the associated figures and plans will need to be amended (e.g. 6.6 which does not include findings from the latest phases of evaluation of the western bypass). This situation is not adequately reflected in the relevant paragraph on assumptions and limitations (6.4.1 f).
46. Another concern is that the key headline from the Cultural Heritage chapter is that only a limited number of archaeological features will be impacted by the Scheme. Section 6.9.24 states only 11 non-designated heritage assets will be adversely impacted. It should have been stated that this is the *minimum* number of groups of features that will be directly impacted. The Council believes that using this figure is unhelpful and imprecise. Many more than this will be impacted as this figure is derived from the evaluation phase of the Scheme which has employed a sampling approach to evaluation trenches. It is understood that the Scheme has been carefully designed to where possible avoid areas of known archaeological features, but many features are likely to be revealed during the mitigation phase, the stripping of the road either side of the tunnel portals will undoubtedly reveal further non-designated assets that

will be adversely impacted. Moreover, archaeological features are also likely to be revealed and excavated during preliminary works such as utility installation, the details for which have not been seen. This should be made clearer in the EIA chapter.

Archaeological Mitigation

47. The Outline Archaeological Mitigation Strategy (OAMS) (Appendix 6.11) has been considered in detail. However, as this was not available for review prior to submission with the DCO, the Council has some concerns.
48. It is stated that this document is a draft which will be consulted on by the heritage stakeholders from which a detailed strategy (DAMS) will be developed. Section 1.2.1 says this will happen prior to the preliminary works starting. The timing of this is questioned, as the Council considers it essential that the DAMS is agreed before consent for the Scheme is given.
49. In places the OAMS is not detailed enough (e.g. lacking in detail about outreach and education provision) and the document will need updating with the results of the recently completed archaeological evaluations. Additionally, there needs to be more cross referencing and links between this document and the OEMP (Appendix 2.2).

Assessment on Impact on the WHS

50. A detailed and comprehensive Heritage Impact Assessment (HIA) has been prepared in accordance with the agreed scoping report that specifically assesses the impact of the Scheme on the OUV of the WHS. The assessment clearly shows the large benefits of the removal of the A303 from the central part of the WHS.
51. Overall the Scheme is assessed as having a *slight beneficial* effect on the setting of the OUV of the WHS. Whilst, this overall conclusion is not necessarily disagreed with, the Council thinks more could be done to mitigate the adverse impacts of the dual carriageway in cutting on the setting of asset groups in the western part of the WHS, especially on the Winterbourne Stoke and Diamond Group (see paragraphs 53 to 54 below).
52. Adverse impacts to setting of some of the asset groups are indicated, particularly the Western edge of the WHS where the Western Portal and deep cutting are. From the summary of anticipated impacts in Table 1, the Council is especially concerned with the *potential slight adverse impact* on Asset Group (AG) 13, the Diamond Group. WCAS are also concerned about the adverse impact on AG 12, the Winterbourne Stoke Group, and AG 19, Normanton Down. These groups have highly significant Neolithic long barrows, all of which display attributes of OUV. The impact of the Scheme on the Winterbourne Stoke Group is shown as being *moderate beneficial*. Our view is that this should be assessed as *slight adverse* as in the Diamond Group. This is supported by our interpretation of the relevant photo montages and figures in the Landscape Chapter.

Longbarrow Roundabout and Green Bridge No. 4

53. Whilst the proposed green bridge (150m in width) east of the current Longbarrow junction and its proposed location does afford some mitigation, the Council has concerns that it is not sufficient to mitigate potential adverse visual impacts caused by the cutting on key monument groups with attributes of OUV, most notably the Winterbourne Stoke, Diamond Group and

Normanton Down Group. We would encourage Highways England to explore further design options to help minimise the adverse impact or extend the tunnel.

54. The Council believes that extending the tunnel (either bored or cut and cover) within the WHS boundary could further minimise impact on the OUV. Section 3.3.61 of the EIA outlines alternative options that were explored and dismissed, including extending the tunnel which is stated as being dismissed on cost grounds but does not give any figures. WCAS do not find this section detailed enough to satisfy concerns, given the adverse impact to the western part of the WHS identified in the HIA and EIA.

Western Bypass – Oatlands Hill

55. Oatlands Hill, on the west part of the Scheme just outside the WHS, is a sensitive part of the Scheme in terms of buried archaeology and potential landscape impacts. The EIA acknowledges the Scheme is likely to have a *moderate adverse impact* on the landscape here. This is the location of the proposed new junction and dumbbell roundabout. The archaeological evaluation identified evidence of Bronze Age and Iron Age settlement including a C-shaped enclosure. Currently the double roundabout infrastructure is proposed to be located on top of this. Although the archaeological remains here are likely not to be of national significance, if possible, consideration should be given to designing the layout of the new infrastructure here to minimise impact on these remains, preserving as much of them as possible.
56. It is welcomed that no street lighting has been proposed for the area of the new junction, but the Council is still concerned about the possibilities of light spillage and adverse impacts on dark skies within the vicinity of the WHS boundary.

Restrictions of Activities Above the Line of the Tunnel

57. The imposition of restrictive covenants on ground works on land above the tunnel is referred to in the draft DCO, 4.3 the Book of Reference and the Land Plans (2.2). The Council has concerns over this and need to have a detailed agreement drawn up as it may restrict the ability to undertake archaeological investigations in a core part of the WHS.

V. Flood and Drainage Considerations

Permanent Works

58. As the Lead Local Flood Authority (LLFA) for the Scheme, Wiltshire Council commissioned Atkins to review Highways England's approach to the three different aspects of flood risk, being surface water (pluvial), groundwater and the road drainage strategy. This review focused on the impact of the permanent works.
59. The general and study specific comments and recommendations are detailed within the following sections.

General

60. Whilst the various reports contain some cross referencing, it is the perception that these have been undertaken as standalone studies. There is little explanation as to how similar approaches / data sets are utilised across the studies or highlighting where there may be

inconsistencies. Greater consideration is required of the combined effects and shortfalls in each stage of the design to ensure risks are highlighted and designed out. Each of the reports would benefit from a section outlining the overall scheme and key constraints, or issues, with respect to other detailed studies being reported so that each specific study can be contextualised.

61. Furthermore, the drainage infiltration systems are to be designed for 100yrs + 30% climate change increase in rainfall. However, the pluvial modelling of general surface water runoff allows for some 40% increase in rainfall (as per Environment Agency guidance) because of climate change, whilst the groundwater study allows for increased recharge by 20%. Given the interdependency between the three constituents in terms of flood risk and design, the approaches are inconsistent and there is no mention in the reporting that one approach may under or overestimate inputs to one or more of the other studies. These inconsistencies are required to be addressed or as a minimum discussed further to provide evidence that under / over estimating in one study will not influence other parts of the study.
62. The road drainage strategy discusses typical maintenance of SuDS and drainage features, however there is no discussion in the pluvial study report as to how the 539m culvert would be maintained.
63. The current proposed design may lead to increased runoff from some catchments e.g. from the Parsonage Down culvert, to receiving watercourses. Additional information is required to address how this increased runoff will be managed / mitigated.

Surface Water (Pluvial)

64. The modelling approach was found to be generally sound, however there are some items / queries that require further information or additional model runs.
65. The model includes a 539m long, 5m deep culvert as part of the design which is contrary to Council policy on culverting. There are several perceived issues with the design of the culvert. However, there is no supporting evidence as to how this design is the best / most appropriate option or why other options are not viable.
66. The current model results for the Scheme show that the modelled water levels are still rising at the end of the model run. The model results therefore do not capture flood risk accurately.
67. There is an increase in flood risk due to the proposed Scheme.
68. In order to generate confidence in the approach and outputs, the following points should be addressed:
 - a) Sensibility / verification check of Depth-Duration-Frequency (DDF) modelling from Flood Estimation Handbook (FEH) with local rainfall data 15-minute data should be available) which could affect design inputs to the model.
 - b) Further discussion and sensitivity testing of the initial soil moisture content (C_{ini}) value to be utilised in the project is required as the value is based on baseline catchment descriptors only.

69. Furthermore, there are several queries and items that are required to be answered or addressed from the hydraulics study:
- a) The Triangular Irregular Networks (TINS) utilised to define the option topography should be better integrated with the underlying Light Detection and Ranging (LIDAR). There appears to be a 1m difference / step at the interface of the baseline Digital Terrain Model (DTM) and the proposed scheme.
 - b) There is conflicting information as to the design of the proposed culvert dimension which requires clarification / changes. There is no justification as to the dimension of the pipe required and no sensitivity testing of results of different sizes of culvert.
 - c) The model should be run for a longer simulation time as water levels are still rising at the current end-time of 10 hours. It will be important to test other storm durations, culvert sizes, (and model simulation length) to optimise the scheme.
 - d) The study does not consider the risk of blockage of the proposed culvert. Culverting of watercourse is often opposed by councils and the Environment Agency as it is against many of the legal requirements set out in the Water Framework Directive (2003) that the quality of the watercourse should not be reduced. At 539m long and buried to up to 5m deep, the maintenance of such an asset would be extremely difficult and expensive should a repair be required.
 - e) The proposals need to confirm who will own the culvert, who will be responsible for maintenance, and what the maintenance regime will be.
 - f) The proposals need to evaluate the resulting depth of flooding and flood hazard adjacent / across / downstream of the B3083 post scheme.

Groundwater

70. Overall the groundwater study approach is sound and appropriate methods have been adopted where possible. However, a number of inconsistencies and omissions have been identified which require further detail / modelling to be reported / undertaken.
71. The groundwater modelling study has shown that the scheme is unlikely to have any significant impacts on groundwater. However, there is no discussion of the combined effect of several minor or insignificant changes on the system.
72. There is little in the way of cross referencing to the surface water (pluvial) study or road drainage strategy within the documentation, the findings of the groundwater study will have a direct impact on the other two studies.
73. In order to focus the approach and outputs, the following points should be addressed:
- a) The model would preferably be run for the full 1965-2016 run time for each of the revised baseline runs (the baseline run with the revised calibration, the wet climate change run and the dry climate change run) and thorough comparisons made with the original Wessex basin model output and with observation / gauge data. The short period runs would be checked against these and output from the full runs used as starting heads for the short runs.

- b) Provide clarification of how the climate change approach is consistent with that used in other flood risk assessments (and ensure they are consistent).
- c) Use monitoring data comparisons to inform caveats to be applied to the use of absolute levels for flood levels or in scheme design. The model is likely to be more reliable to predicting changes in heads (and flows) rather than absolute levels. Modelling absolute levels in extreme events would particularly hold uncertainty. The predicted position of the water table in terms of depth below ground should be used with a degree of caution.

Road Drainage Strategy

- 74. The strategy is still at a high-level concept stage, further explanation of the design in several areas is required. However, the study reach has been broken down into three main constituents (west / tunnel / east) which helps to differentiate the different concepts being proposed. It is also cross-referenced to the other two studies.
- 75. The predominant drainage discharge strategy for the tunnel is by edge collection, carrier drain leading to a sump, then to be pumped to the surface and outfall to the surface water drainage network. The tunnel drainage system is independent from the other drainage networks (on the highway approaches to the tunnel).
- 76. Drainage treatment areas are proposed to attenuate the flow and act as pollution control. The report provides little information on their design or maintenance regime in order to be able to comment on their suitability or effectiveness. Several of these are located at distance from the carriageway. However, there are no details of how the water will reach these isolated areas.
- 77. A number of crate storage systems are proposed as part of the design. However, such SuDS features are actively discouraged by Wiltshire Council due to maintenance liabilities and difficulties in accessing inside them. Alternatives for these need to be considered and discussed with Wiltshire Council.
- 78. The following points should be addressed to give confidence in the approach and outputs:
 - a) The infiltration systems are to be designed for 100yrs + 30% climate change. It is not explained whether the surface water runoff can be suitably conveyed to the discharge points i.e. to what return period the sizing of carrier pipes will be made.
 - b) There is no confirmation to flood risk posed to the proposed drainage treatment areas (DTAs). This should be checked for both impact on the scheme and impact on surrounding land etc. It is likely that detailed design will impact on existing overland flow routes.
 - c) The ponds are intended to use a proprietary treatment system for treatment of water quality; it is unclear what systems might be employed here, where the full discharge is to ground. The details on how particulates (solids), hydrocarbons, and other chemical contaminants will be treated are not given. The proprietary treatment should attenuate all typical contaminants, giving sufficient residence time to achieve this.

- d) It is unclear what happens when the pond base blinds with sediment and infiltration is restricted, or where the design event is exceeded.
- e) The capacity of the network storage for pollution spills is not described.
- f) It is recommended that the DTAs are designed with a receiving forebay to be capable of holding such contaminated discharges before entering the infiltration zone.
- g) The use of a buried crate system for infiltration is not favoured by Wiltshire Council because of the maintenance liabilities and difficulties in accessing inside them. Highways England should provide details of how such systems will be maintained and make due consideration of risk to drainage when they are not performing as per the design.
- h) No resilience measures are described for the pumped system in the tunnel. Consideration should be made to the event of power or mechanical failure, as may be more so expected during extreme rainfall.
- i) It is not clear why the DTAs in the western approaches are remote from the road.

Preliminary and Temporary Works

79. The preliminary and temporary works, as detailed within the Outline Environmental Management Plan (OEMP), will take 6 years to complete (2020-2026), therefore the impact on flood risk could be significant. However, the OEMP is light on detail and only high-level at this stage. Once the DCO is approved, Construction Environmental Management Plans (CEMPs) will be prepared by the preliminary works contractors and the main contractor. It is essential that the Council are consulted, and given sufficient time, for the approval of these CEMPs, and as part of the discharge of requirements, to ensure that flood risk is managed during the construction period.

VI. Public Protection Considerations

80. Following review of the DCO documentation, primarily focused on the Environmental Statement and specifically the Outline Environmental Management Plan (OEMP), the Council is in the process of commissioning an external review of the air quality, noise and vibration reports and models for both the construction and operational phases. This may raise additional issues which will need to be addressed during the Examination phase.
81. The following general and aspect specific comments are offered in the interim pending completion of these reviews.

General

82. Further details are required of the measures to divert the Esso pipeline and environmental protection during this process referenced in Chapter 2 of the Environmental Statement (paragraph 2.4.40).

83. With regard to the 2010 and 2009 geology and soil reports referred to in paragraphs 10.6.63 and 10.6.66 of Chapter 10 of the Environmental Statement, the Council requires copies of these to further understand the comments and conclusions drawn.
84. It is queried whether additional measures to the OEMP are proposed at locations with large adverse cumulative effects (table 15.3 of Chapter 15 of the Environmental Statement).
85. Considering the responsibilities of the Environmental Manager role detailed within the OEMP, it is queried whether any overlap is foreseen between the CEMPs for different contractors. Furthermore, the Council would like to see a proactive requirement on this role to report all or any transgressions.
86. Clarity is required on whether the Community Relations Manager (CRM) as detailed within the OEMP is intended to be the single point of contact for this Scheme.
87. With respect to the core working hours referenced in the OEMP, it is requested that any exceptions are agreed *in writing* by Wiltshire Council. (Also see comment in paragraph 85 above).
88. In MW-G12 of table 3.2b in the OEMP, there is a contradiction with the core hours specified in PW-G4. Furthermore, there is no definition of summer and winter in earthworks working hours.
89. The use of chainage for locations is unclear in MW-G13 of table 3.2b in the OEMP.
90. The Council foresees a potential problem with the additional working hours at Countess Roundabout flyover (MW-G14 of table 3.2b of OEMP) and queries whether there is a conflict with MW-G13.
91. It is suggested that "*c) works notices to be notified to Wiltshire Council*" should be added to MW-G31 of table 3.2b of the OEMP. This is also referenced in paragraph 10.2.1 of Appendix 5.4 to the Environmental Statement.
92. In MW-WAT7 of table 3.2b of the OEMP, consultation should be with Wiltshire Council as concrete batching is a Local Authority permitted process unless exempted. This is also relevant to section 3.2.1 of Appendix 5.4 of the Environmental Statement.
93. It is queried whether the satellite compounds will have mains power or generators. Paragraphs 3.4.1 and 10.3.2 of Appendix 5.4 to the Environmental Statement refer.
94. With regard to table 10.1 of Appendix 10.5 of the Environmental Statement, Wiltshire Council and the Environment Agency should receive reports on further ground investigation works, together with any mitigation proposals (in writing prior to mitigation being undertaken).

Air Quality

95. It is unclear from the information contained within paragraph 2.4.53 of Chapter 2 of the Environmental Statement whether any water from the Slurry treatment plan will be transported by tanker to the Salisbury Waste Treatment Works. Clarity is also required on whether this option has been included within the HGV movement calculation, noise and air quality modelling.

96. The arising referenced in 2.4.54 of Chapter 2 of the Environmental Statement must be spread and managed so as not to cause a statutory dust nuisance.
97. BPM referenced in Section 3.2a (PW-AIR1) of the OEMP should be extended to include “f) Other means as may be required”.
98. With regard to the final paragraph in MW-AIR24 in table 3.2b of the OEMP, it is suggested that “*and agreed*” is added to the reporting of Air Quality monitoring with the Council.
99. The Council would appreciate further information on the proposed haul routes (table 5.4.5 of Appendix 5.4 of the Environmental Statement). Furthermore, the Council queries the Berwick St. James locations and proximity to haul routes (i.e. Pelican Inn location).
100. Information within table 5.4.6 of Appendix 5.4 to the Environmental Statement appears to contradict information in table 5.4.5 of the same document regarding location adjacent to haul routes.
101. In section 11.1.1 of Appendix 5.4 of the Environmental Statement, reference should be made to IAQM Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites (October 2018, Version 1.1).
102. With regard to Appendix C of Appendix 12.1 of the Environmental Statement, clarification is required regarding the reference to Quidhampton and Severe Adverse effects on Salisbury AQMAs. Urgent clarification is required if there is predicted to be severe adverse effects at the listed AQMAs receptors.

Noise and Vibration

103. Whilst vibration levels of 1.0 mms^{-1} are identified as causing complaint in sections 9.4 and 9.15 of Chapter 9 of the Environmental Statement, no suggestion is made as to setting a level trigger alert which is recommended by the Council (see comments made in paragraphs 84 and 88 above).
104. The property Lindisfarne in Ratfyn Road is identified in section 9.18 and paragraph 9.9.49 of Chapter 9 of the Environmental Statement as exceeding the noise insulation regulations assessment. The Council requires confirmation of the timescale for a more detailed assessment to be conducted.
105. The Council recommends that vibration levels of 1.0 mms^{-1} should be set as a level trigger alert to Wiltshire Council and affected residents (PW-NO14 of table 3.2a and MW-NO13 of table 3.2b of OEMP). (See paragraph 103 above).
106. In MW-NO15 of table 3.2b in the OEMP, it is requested that a requirement to notify Wiltshire Council if predicated vibration exceeds 1.0 mms^{-1} is added.
107. The Council should be consulted on the Noise and Vibration Management Plan referenced in NO13 and Section 9.8 of the OEMP.
108. It is noted that SOAEL exceeded at locations C4, C5, C6, C7, C8, C9, C10, C11, C16 and C18 of the Section 2 tables contained within Appendix 9.2 of the Environmental Statement.

109. The Council suggests potential relocation for Stonehenge Cottages inhabitants over the 2 x 7 days construction periods (table 1.1 of Appendix 9.5 of the Environmental Statement).
110. From table 1.2 of Appendix 9.5 of the Environmental Statement, the details of the receptor north of Winterbourne Stoke are unclear. It is queried whether this receptor is located at Cherry Lodge or Foredown House.

Lighting

111. The Council considers the lighting proposal detailed within MW-G29 of table 3.2b of the OEMP to be satisfactory.

Private Water Supplies

112. It is not clear whether human health / consumers of private water supplies have been considered as a receptor from table 10.8 in Chapter 10 of the Environmental Statement.
113. The Council requires clarity on whether the contractor will be required to report any accidental spillages affecting the groundwater or private water supplies (PW-WAT1 of 3.2a of OEMP).
114. In MW-GE02 of table 3.2b of the OEMP, it is requested that a requirement to “*inform Wiltshire Council in case of groundwater contamination*” is added.

Land Contamination

115. The Council and Environment Agency should be notified of discovery of unforeseen land contamination and to agree in writing any remediation / mitigation plan (PW-GEO2 of OEMP).

VII. Ecology and Landscape Considerations

116. As a result of the detailed discussions held to date and following review of the DCO application, the Council is broadly content with the ecological and landscape aspects of the Scheme. The scope, methodology and assessment criteria for the Landscape and Visual Impact Assessment (LVIA) is accepted.
117. However, the Council has concerns surrounding the Preliminary Works and what they might include. It is imperative that sufficient good working practices and forward mitigation are in place for all preliminary works. The Outline Environmental Management Plan (OEMP) must be robust enough to enable the preliminary works, e.g. habitat works and site clearance, to be carried out sensitively. There are potential issues around contamination, utilities diversion and minor highways works that should be specifically covered to ensure the prevention of ecological impacts. The Council is concerned that all of the preliminary works included do have the potential to cause ecological impact but they appear to be covered very broadly or not at all by the OEMP.
118. Furthermore, whilst on balance the LVIA judges there will be an overall enhancement for landscape and visual effects, further consideration is required to better understand the temporary adverse impacts (construction phase) and the residual effects upon visual amenity at either end of the tunnel, in particular the Till Viaduct and Countess flyover.

VIII. Public Rights of Way Considerations

119. Following review of the DCO application document, the Council wishes to make the following general and aspect specific comments on the public rights of way proposals. The rights of way and access changes have been noted in order from west to east.

General

120. The legislative process by which the creation, diversion and extinguishment (stopping-up) of the affected public rights of way needs to be agreed with the Council as the Surveying Authority; with particular regard to whether the confirmation of the legal orders enables of itself the Council to amend the Definitive Map and Statement, or whether further orders will need to be made by the Council to enable those amendments.
121. Furthermore, where the diversion and creation of new sections of public rights of way will lead to the new routes becoming maintainable at public expense by the Council as Highway Authority, design and construction details and specifications must be agreed by the authority prior to the commencement of works, and to be certified by the authority on completion as having been provided to the required standard before the authority accepts responsibility. Any requirements for the payment to the Council of commuted sums to cover / assist with the costs of maintenance of the new routes must also be agreed before the Council accepts responsibility.
122. Where temporary diversions or closures of public rights of way are necessary during the construction phase, the construction details of alternative routes to be provided must be agreed in advance with the Council as Highway Authority.
123. Another unresolved matter is the severed link between BOAT AMES11 and AMES12 for motorised users. This creates a breach of Wiltshire Council's statutory duty under s.130 Highways Act 1980 to prevent, as far as possible, the stopping-up of highway rights, with the lack of any mitigation measures. Wiltshire Council has agreed not to oppose an order for the prohibition of driving of motor vehicles on the byways and considers that the need for such an order has been brought about by Highways England's decision not to provide an alternative link between the two byways. As such, the Council considers this to be Associated Development and believes that the prohibition of driving order should be included within the DCO.

New Restricted Byway and Byway Open to All Traffic between Steeple Langford BOAT3 and Green Bridge No. 1

124. Further detail is required of the surface to be provided, width, signage and waymarking, structures to provide access for non-motorised users and private means of access whilst excluding motorised users, boundary fencing / hedging, and fencing of Green Bridge against drops.

Stopping-up of BOAT Berwick St. James 3A and Creation of BOAT over Existing Bridleway Berwick St. James 3A

125. Detailed proposals for physical closure of BOAT3A and proposals for signage, surface improvements and boundary fencing / hedging alongside upgraded BOAT3 are required.

Realignment of Northern End of Winterbourne Stoke BOAT3 onto B3093

126. Detailed proposals for the new junction, signage, surfacing, and boundary fencing / hedging are required.

Diversion of Winterbourne Stoke BOAT6 over Green Bridge No. 2

127. Detailed proposals for surfacing, width, signage, boundary fencing / hedging, and fencing of Green Bridge against drops required.

Bridleway Link Between Winterbourne Stoke and New Longbarrow Roundabout

128. It is unclear from the plans, which side of the road this is intended to be situated (north or south). Detailed proposals for surfacing, width, signage, and boundary fencing / hedging are also required.

New Restricted Byway North from Existing Longbarrow Roundabout / Old A303 to Stonehenge Visitor Centre, Old A344 and A360

129. Detailed proposals for surfacing, width, signage, and boundary fencing / hedging required. Finalisation and agreement of the route at the Visitor Centre car park is also required.

New Restricted Byway South from Longbarrow Roundabout to Berwick St. James Restricted Byway 9 then New Bridleway Link to Woodford BOAT16 North of Druids Lodge

130. Detailed proposals for surfacing, width, signage, and boundary fencing / hedging required.

Restricted Byway Link over Green Bridge No. 3

131. Detailed proposals for surfacing, width, signage, boundary fencing / hedging, and fencing against drop required.

New Restricted Byway Replacing Existing Surface Route of A303 Between Longbarrow Roundabout and Stonehenge Road

132. Details of overall width and surfaced width, surfacing materials, verge treatment, signage, and boundary fencing / hedging require finalisation.

Crossing of Old A303 New Restricted Byway with Amesbury BOAT12

133. Detailed proposals for surfacing, width, signage, structures to control motorised and non-motorised users, and private means of access required.

Junction of Old A303 New Restricted Byway Junction with Amesbury BOAT11

134. Detailed proposals for surfacing, turning area, signage, structures to control motorised and non-motorised users, and management of motorised user traffic on BOAT11 at junction with new Restricted Byway required.

135. As noted in paragraph 123 above, the Council considers the effects of the severance of the link between Amesbury BOATs 11 and 12 for motorised vehicles to require the making of a traffic regulation order to prohibit driving of motorised vehicles. The Council considers this to be Associated Development, and therefore requires the prohibition of driving order to be included within the DCO.

Connection of Amesbury Footpath 13 into Stonehenge Road

136. Due to proposals currently being considered / developed by Highways England as to whether Stonehenge Road becomes a Restricted Byway at this location, further information is required relating to any proposed changes at this junction.

Stopping-up of Amesbury BOAT1 and Connection to A303

137. Detail of physical works to effect stopping-up required.

Stopping-up of Amesbury BOAT2 and Connection to A303

138. Detail of physical works to effect stopping-up required.

IX. Conclusions

139. The Council hopes that the information contained above is helpful to the Examining Authority when undertaking their initial assessment of the principle issues to be considered at examination.
140. Further detailed information will be provided within the Council's Written Representation, Local Impact Report and Statement of Common Ground following detailed review of the application and follow-up documentation.