



Review of EIA (Final Review Report)

North West Relief Road, Shrewsbury

October 2023

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This document has been prepared and checked in accordance with Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Date	Prepared by	Checked by	Approved by
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03	October 2023	Ellen Smith Principal Consultant & EIA Technical Specialists	Ros Boalch Associate Director	Ros Boalch Associate Director

Comments

01 issue: For SC review and further discussion at meeting on 24.08.23.

02 issue: Final draft for SC, Applicant and WSP review.

03 issue: Final Review Report following receipt of WSP clarifications and meeting with SC 17.10.23.

Disclaimer

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WIE20223-100-R-1.3.2-ES_Rev

1. Introduction

Waterman Infrastructure & Environment Ltd (Waterman) has been commissioned by Shropshire Council (SC), to provide independent Environmental Impact Assessment (EIA) advice in relation to the North West Relief Road (NWRR) proposals (the 'Proposed Scheme'), located in Shrewsbury. The Proposed Scheme would be a single carriageway road with at-grade junctions, linking the A5 Shrewsbury Southern Bypass with the A5124 Battlefield Link Road.

In February 2021, SC as Highways Authority (hereafter referred to as 'the Applicant') submitted a detailed planning application in respect of the Proposed Scheme to SC as Planning Authority (planning application reference: 21/00924/EIA¹).

Under the Town and Country Planning (Environmental Impact Assessment), Regulations, 2017², (the 'EIA Regulations'), the Applicant recognised the need for the Proposed Scheme to follow the full EIA process and commissioned WSP as their EIA Consultant. This led to the preparation of an Environmental Statement (ES) (Ref. no. 70056211-WSP-EGN-AS-RP-LE-00007, dated February 2021) which was submitted with the detailed planning application (the 'Feb 2021 ES').

In August 2021, WSP submitted a Supplementary ES Addendum (the 'Aug 2021 SESA') to report on the environmental assessment of the August 2021 Planning Addendum design changes and, in turn, present any changes to the conclusions reported in the Feb 2021 ES, especially where these may concern likely significant effects. The Aug 2021 SESA also responded to received consultee comments to the planning application, in particular those raised by the Environment Agency. As part of this response, some construction proposals were refined, allowing further assessment of temporary impacts on flood risk and fluvial geomorphological processes operating within the River Severn.

In January 2023, WSP submitted Supplementary Environmental Information ('Jan 2023 SEI') to review the EIA as a result of Proposed Scheme design changes (such as amending the Application Boundary) and in response to further consultee comments relating to nitrogen, geology and soils, water environment, biodiversity, air quality, and noise.

This report presents the findings of the independent review undertaken by Waterman and advises upon the adequacy of the Feb 2021 ES, Aug 2021 SESA, and Jan 2023 SEI submitted as part of planning application 21/00924/EIA. A review of Environment Agency, Better Shrewsbury Transport and Severn Trent Water Limited consultee comments and corresponding WSP's responses has also formed part of the independent EIA review. A detailed review of the EIA topics 'Geology and Soils' and 'Road Drainage and Water Environment' is provided in **Appendix A** given the particular focus on these topics within the consultee comments.

Since the circulation of Issue 02 of this report in September 2023, the Applicant and WSP have provided tabulated responses to each of the potential Regulation 25, clarification or recommendations set out within the report. In addition, Waterman, SC and WSP have held two meetings (on 18th September 2023 and 2nd October 2023) to better understand some of the points raised. **Appendix B** to this report sets out each of the points raised in Issue 02 of this report and WSP's subsequent response. Where Waterman acknowledge WSP's justification or otherwise, it is noted that the 'clarification is accepted', however in a number of instances further clarification was sought and subsequently a second WSP response set out. On review of these second responses, further commentary or request of clarification has been sought by Waterman and provided within this final review report.

1 Shropshire Council (on-line); 'Planning application: 21/00924/EIA' <https://pa.shropshire.gov.uk/online-applications/applicationDetails.do?keyVal=QOXI5QTD06Z00&activeTab=summary>

2 The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations, 2017.

Subsequent to the initial review and to assist in understanding the clarifications provided, Waterman undertook the review of the following confidential information to better understand the approach and information provided by WSP and the Environment Agency:

- WSP (April 2023) Supplementary Environmental Information: Appendix 5.C: Appendix 10.2: Detailed Quantitative Risk Assessment (Revision 4) Ref: 70056211-WSP-EGN-AS-RP-LE-00014
- Annex B of WSP Letter to the SC Ref: 70056211-386 dated 31st July 2023 entitled: “Annex B to the letter to the LPA (31st July 2023), Confidential”
- Annex B of Environment Agency Letter to SC Ref: SV/2021/110934/05-L01, dated 1st Sept 2023 entitled: “Confidential response to ‘Annex B to the letter to the LPA (31st July 2023), Confidential”.

Table 1 summarises the outcomes of the EIA Review as detailed within **Appendix B**.

Table 1: High Level Summary of EIA Review Detailed in Appendix B

Topic	High Level Summary of Review
EIA Process and procedure and overview of EIA Introductory and Concluding ES Chapters	No requirement to provide Regulation 25 further environmental information. It is understood a consolidated Non Technical Summary (NTS) is under preparation by WSP and on the assumption the NTS is satisfactory, all clarifications are accepted.
Air Quality	<p>All clarifications resolved, many on the basis of previously agreed approaches with Shropshire Council Regulatory Services, the exception is C.5.11. With regard to C.5.11 the EIA scopes out the detailed assessment of construction vehicle emissions on the basis the construction programme is less than 2 years as per DMRB LA 105 - Air quality methodology. Confirmation is required from Shropshire Council Regulatory Services to confirm this is also an agreed approach as it deviates from the methodology set out in the EIA scoping report which indicates IAQM guidance should be used.</p> <p>If the approach is not agreed and IAQM should be applied, then further clarification is sought from WSP further detail in respect of construction traffic and potentially an assessment if they exceed the thresholds set out in the IAQM guidance.</p>
Agriculture and Soil Resources	n/a - no clarifications sought.
Biodiversity	Subject to confirmation that certain approaches in respect to surveys have been agreed with the SC ecologist, the clarifications are accepted, noting the requirement for a suitably worded planning condition for pre-construction surveys. The methodology used within the Biodiversity Net Gain Assessment needs further consideration in order to formulate a Section 106 obligation, however this is not material to the EIA.
Climate Change	All clarifications provided by WSP accepted.
Geology and Soils	The majority of clarifications are accepted and it is agreed there is no requirement to provide Regulation 25 further environmental information. In respect of C.9.1 the turbidity protocol and piling risk assessment which would normally be undertaken as part of the detailed design will allow the level of risk to be better defined and that an appropriately worded condition would be suitable to address the current shortfall of specific data. However there remains a difference of view in respect of the initial risk rating, and until additional detailed design is undertaken, the risk level should be increased. Whilst we understand WSP’s argument, we would not expect this to have any material impact on the overall assessment, but it may be sufficient to allow the EA to remove this particular point of objection.
Historic	All clarifications provided by WSP accepted.

Topic	High Level Summary of Review
Environment	
Landscape and Visual Impact	All clarifications provided by WSP accepted, no requirement to provide Regulation 25 further environmental information.
Major Accidents and Disasters	All clarifications provided by WSP accepted.
Material Resources and Waste	Clarifications provided by WSP regarding ‘materials’ are accepted. However, ‘waste’ clarifications cannot be accepted on the basis that uncertainty remains over the baseline data used within the assessment. WSP have not commented on the potential typographical errors within the baseline but have only reiterated that the mitigation proposed is suitable so not an issue.
Noise and Vibration	All clarifications provided by WSP accepted, no requirement to provide Regulation 25 further environmental information. The NIR assessment will be provided post planning, and subject to suitably worded planning conditions.
Population and Health	All clarifications provided by WSP accepted, subject to conclusions of air quality, geology and soils; and road drainage and water environment being concluded.
Road Drainage and Water Environment	A number of the clarifications provided by WSP have been accepted. However there remain clarifications that are not resolved, which require confirmation from Shropshire Council in their capacity as the LLFA. This confirmation should identify their approach, whether it involves securing a planning condition, requesting further clarity from WSP or confirmation of the LLFA’s approach on matters of policy.
Cumulative Effects	All clarifications provided by WSP accepted.

2. Methodology

SC as Planning Authority has sought independent EIA advice from Waterman. Waterman's key roles are to:

- Review the Feb 2021 ES submitted in support of the 2021 Planning Application;
- Review the Aug 2021 SESA submitted in support of the August 2021 Planning Addendum;
- Review the Jan 2023 SEI in support of further Proposed Scheme design changes;
- Review of the Environment Agency consultee comments and corresponding WSP responses;
- Review of the Better Shrewsbury Transport consultee comments;
- Review of the Severn Trent Water Limited consultee comments and corresponding WSP responses; and
- Advise upon the robustness of the Feb 2021 ES, Aug 2021 SESA, Jan 2023 SEI and WSP responses and whether these documents adequately address relevant outstanding issues raised within the EA, Severn Trent Water Limited and Better Shrewsbury Transport comments.

Waterman has undertaken a desk-based review of the above documentation related to the EIA for the Proposed Scheme. The review was undertaken by appropriately qualified Waterman personnel with advice, as required, from technical experts from other specialist consultancies, as outlined in **Table 2**. Waterman is a registrant member of Institute of Environmental Management and Assessment (IEMA)'s EIA Quality Mark Scheme.

Table 2: The ES Review Team

Topic*	Company
EIA Process and procedure and overview of EIA	Waterman
Introductory and Concluding ES Chapters	
Air Quality	
Biodiversity	
Geology and Soils	
Historic Environment	
Landscape and Visual Impact	
Arboriculture	
Material Resources and Waste	
Noise and Vibration	
Road Drainage and Water Environment	
Major Accidents and Disasters	
Agriculture and Soil Resources	Waterman Team supported by Daniel Baird Soil Consultancy Ltd
Climate Change	Waterman Team supported by Air Quality Consultants Ltd
Population and Health	Waterman Team supported by Ekosgen

* All topics include reviews of cumulative effects, effect interactions and Non-Technical Summary.

In undertaking the review of the EIA, consideration was given to the following:

- The EIA Regulations;
- ES review criteria published by IEMA; and
- Topic-specific guidance, as necessary.

The following sections of this report methodically consider all relevant components of the Feb 2021 ES, Aug 2021 SESA, Jan 2023 SEI and WSP responses, including an assessment of the likely effectiveness of proposed mitigation measures, if necessary. In each section, the key findings of the review are presented along with the consolidated opinion of the EIA Review Team in respect of the following:

- Whether any further clarification is required to enable any findings of the EIA to be robustly confirmed;
- Whether the Feb 2021 ES, Aug 2021 SESA, and Jan 2023 SEI contains satisfactory information as defined within Regulation 18 ('Environmental Statements') and Schedule 4 ('Information for Inclusion in Environmental Statements') of the EIA Regulations.
 - Where this is considered not to be the case, recommendations for the request of 'further information' under Regulation 25 of the EIA Regulations are made.
 - Where it is uncertain whether Further Information would be required as it is dependent on the outcome of any requested clarifications then this is also identified.
 - The ultimate decision on Regulation 25 issues may well be influenced by further dialogue between the Applicant and SC and / or their legal advisors; and
- Any other recommendations or advice for SC.

A pragmatic independent review approach has been sought so to provide WSP and the Applicant the opportunity to provide further justification to the clarifications requested (rather than recommending outright these are potential Regulation 25 requests).

As indicated earlier, **Appendix B** sets out each of the points raised in Issue 02 of this report and WSP's subsequent response. Where Waterman acknowledges the justification or otherwise then it is noted that the 'clarification is accepted', however in a number of instances further clarification is sought and subsequently a second WSP response has been set out. On review of these second responses, further commentary or request of clarification has been sought by Waterman and provided within this final review report.

If Regulation 25 further environmental information remains to be provided by the Applicant this would most conveniently be provided within a single Environmental Statement Addendum, which would explain the relationship of all proceeding EIA documentation, for consultation. Where appropriate we also recommend this ES Addendum present details against the clarifications raised, and depending on the nature of the clarification these may also give rise to further environmental information to be consulted upon.

3. Structure of the EIA Documentation

The main structure of the Feb 2021 ES (and subsequent addenda) prepared by WSP is detailed within **Table 3** below. The EIA documentation has been reviewed by each EIA topic reviewer where relevant to the topic discipline.

Table 3: Main Structure of the EIA Documentation

EIA Documentation	Content
Feb 2021 ES	Volume I: Main Environmental Statement: <ul style="list-style-type: none"> • ES Chapter 1: Introduction • ES Chapter 2: The Existing Environment • ES Chapter 3: Description of the Proposed Scheme • ES Chapter 4: Consideration of Alternatives • ES Chapter 5: Approach to the Environmental Impact Assessment • ES Chapter 6: Air Quality • ES Chapter 7: Agriculture and Soil Resources • ES Chapter 8: Biodiversity • ES Chapter 9: Climate Change • ES Chapter 10: Geology and Soils • ES Chapter 11: Historic Environment • ES Chapter 12: Landscape and Visual • ES Chapter 13: Major Accidents and Disasters • ES Chapter 14: Materials and Waste • ES Chapter 15: Noise and Vibration • ES Chapter 16: Population and Health • ES Chapter 17: Road Drainage and Water Environment • ES Chapter 18: Cumulative Effects • ES Chapter 19: Summary of Potential Residual Effects Volume II: Technical Appendices Volume III: Figures Volume IV: Non-Technical Summary
Aug 2021 SESA	<ul style="list-style-type: none"> • Supplementary ES Chapter 1: Introduction to Planning Addendum and Appendix A and B • Supplementary ES Chapter 7: Agriculture and Soil Resources Addendum and Appendix A • Supplementary ES Chapter 8: Biodiversity Addendum and Appendix 8.20: Arboricultural Report Addendum • Supplementary ES Chapter 9: Climate Addendum • Supplementary ES Chapter 10: Geology and Soils Addendum and Appendix A and Appendix 10.3: Piling Works Risk Assessment • Supplementary ES Chapter 11: Historic Environment Addendum and Appendix A • Supplementary ES Chapter 12: Landscape and Visual Impact Addendum and Appendix A • Supplementary ES Chapter 14: Materials and Waste Addendum

EIA Documentation	Content
	<ul style="list-style-type: none"> • Supplementary ES Chapter 15: Noise and Vibration Addendum and Appendices A to C • Supplementary ES Chapter 16: Population and Health Addendum • Supplementary ES Chapter 17: Road Drainage and Water Environment Addendum and Appendix A and Supplementary ES Appendices 17.1 (WERA Addendum), 17.2 (FRA Addendum) and 17.6 (Geomorphology Assessment Addendum) • Supplementary ES Chapter 18: Cumulative Effects Addendum and Appendices A and B • Supplementary ES Chapter 19: Residual Effects Addendum Supplementary Environmental Statement Non-Technical Summary Addendum
Jan 2023 SEI	<ul style="list-style-type: none"> • Supplementary Environmental Information Chapter 1: Introduction and Appendices 1.A to 1.W • Supplementary Environmental Information Chapter 2: Air Quality and Appendices 2.A to 2.C • Supplementary Environmental Information Chapter 3: Biodiversity and Appendices 3.A to 3.P • Supplementary Environmental Information Chapter 4: Agriculture and Soils and Appendices 4.A to 4.B • Supplementary Environmental Information Chapter 5: Geology and Soils and Appendices 5.A to 5.F and 10.1, 10.3 to 10.5 • Supplementary Environmental Information Chapter 6: Road Drainage and Water Environment and Appendices 6.A to 6.G • Supplementary Environmental Information Chapter 7: Population and Health • Supplementary Environmental Information Chapter 8: Cumulative Effects and Appendices 8.A to 8.B Supplementary Environmental Information Non-Technical Summary

As part of Waterman’s independent EIA review, a review of the latest Environment Agency, Better Shrewsbury Transport, and Severn Trent Water Limited comments (including any relevant responses by WSP) has also been undertaken where relevant for each EIA topic. A summary of these consultation responses is provided in **Table 4** below.

Table 4: Consultee comments and WSP responses reviewed as part of this Independent EIA Review

Documentation	Content
Environment Agency Consultee Comments	In response to the Jan 2023 SEI: <ul style="list-style-type: none"> • EA letter dated 03 May 2023 (ref: SV/2021/110934/03-L01). In response to the WSP letter dated 21 June 2023 ‘WSP response to EA comments of 3 May 2023’ (ref: 70056211-386): <ul style="list-style-type: none"> • EA letter dated 06 July 2023 (ref: SV/2021/110934/04-L01). In response to Feb 2021 ES (Waterman has reviewed with the most recent comments for context): <ul style="list-style-type: none"> • EA letter dated 26 April 2021 (ref: SV/2021/110934/01-L01). In response to Aug 2021 SESA (Waterman has reviewed with the most

Documentation	Content
	<p>recent comments for context):</p> <ul style="list-style-type: none"> EA letter dated 21 October 2021 (ref: SV/2021/110934/02-L01).
<p>Better Shrewsbury Transport Comments</p>	<p>In response to the Jan 2023 SEI:</p> <ul style="list-style-type: none"> 04/07/23: 'Holding objection – Pending receipt of further information and evidence'. 04/07/23: 'Proposed North West Relief Road, Shrewsbury. Supplementary response from Better Shrewsbury Transport (DRAFT) regarding the risk that the proposed North West Relief Road (NWRR) poses to Shrewsbury's water supply'. 10/03/23: 'Supplementary objection by Better Shrewsbury Transport to Planning Application 21/00924/EIA North West Relief Road'. <p>In response to Feb 2021 ES (Waterman has reviewed with the most recent comments for context):</p> <ul style="list-style-type: none"> 27/04/21: '21/00924/EIA North West Road – Comments from Better Shrewsbury Transport (BeST)'.
<p>Severn Trent Water Limited Comments</p>	<p>In response to the Jan 2023 SEI:</p> <ul style="list-style-type: none"> Severn Trent Water Limited letter dated 03 May 2023. <p>In response to the above Severn Trent Water Limited letter:</p> <ul style="list-style-type: none"> WSP response letter dated 07 June 2023 'Severn Trent comments on SEI'. <p>In response to Feb 2021 ES (Waterman has reviewed with the most recent comments for context):</p> <ul style="list-style-type: none"> Severn Trent Water Limited letter dated 22 April 2021.

4. Introductory Chapters of the Feb 2021 ES and Addenda

Topic	Introductory sections
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES Appendix 1.1: EIA Scoping Report – Chapter 3 Approach to EIA, October 2019 • Feb 2021 ES Appendix 1.2: EIA Scoping Opinion and Consultee Responses • Table 1-1 of Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • Chapter 1: Introduction • Chapter 2: The Existing Environment • Chapter 3: Description of the Proposed Scheme • Chapter 4: Consideration of Alternatives • Chapter 5: Approach to the Environmental Impact Assessment • ES Volume 4: Non-Technical Summary <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 1: Introduction • Supplementary Environmental Statement Non-Technical Summary Addendum <p><u>Jan 2023 SEI:</u></p> <ul style="list-style-type: none"> • Supplementary Environmental Information Chapter 1: Introduction • Supplementary Environmental Information Non-Technical Summary
<p>Key findings of the review:</p>	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p>Yes.</p>
<p>Has the methodology been set up correctly?</p>	<p>Yes.</p> <p>It is understood that following receipt of the EIA Scoping Opinion, it was agreed through pre-application advice to not include a specific chapter on 'Traffic and Transportation' and to refer to the Planning Statement for further details. Evidence (or acknowledgement) of this agreement to demonstrate due process should have been included in the Feb 2021 ES and is not referred to in the Feb 2021 ES Appendix 5.1 (C.4.1).</p> <p>On consideration of the independent review of technical topics contained herein there is acknowledgement that guidance and policy may have been updated since submission. It is recommended that for all topics acknowledgement of, and confirmation if and how this would affect the assessment undertaken is made. It is noted that it is</p>

Topic	Introductory sections
	<p>not always appropriate to update the assessment work on account of new guidance or policy, and where this may arise justification should be provided (C.4.2).</p>
<p>Have baseline conditions been correctly identified?</p>	<p>Yes.</p> <p>Note - reference to bedrock geology should also be included within Table 2.3 of the Feb 2021 ES Chapter 2.</p>
<p>Has the Proposed Scheme been adequately described?</p>	<p>Partly.</p> <p>The completed Proposed Scheme is clearly described in detail; however Page 2 of the Feb 2021 ES Chapter 3 would benefit from reference to the chainage distance when describing the sections of the Proposed Scheme from west to east as the approximate chainage is used throughout the ES when describing sections of the Proposed Scheme (such as within Table 3.3 and Table 4.1 in Feb 2021 ES Chapter 4: Alternatives) (C.4.3).</p> <p>Table 3.4 – ‘Embedded mitigation to the Proposed Scheme’ of Feb 2021 ES Chapter 3 provides a useful summary of the embedded mitigation with evidence of commitment signposted.</p> <p>Section 3.4 ‘Construction Information’ of Feb 2021 ES Chapter 3 provides a description on the required diversions, demolition works, earthworks, and foundation solutions, however it does not provide detail on the construction activities (such as surfacing works) and the material types and quantities required. It is noted that the material types and quantities are presented in Table 14-12 in Feb 2021 ES Chapter 14: Materials and Waste, however it would have been useful if this information was also sign-posted in the Feb 2021 ES Chapter 3.</p> <p>The depth of construction works, including for earthworks and excavation, cuttings and the tree planting and removal is not provided in the Feb 2021 ES Chapter 3. Whilst this information is provided in the Feb 2021 ES Chapter 11 when assessing effects on the historic environment, this information should also be described upfront in the Feb 2021 ES Chapter 3.</p> <p>Feb 2021 ES Chapter 3 should state the extent of arable land lost and extent of woodland, hedgerows and tree removal as well as proposed planting. Whilst this information is presented in the Feb 2021 ES Chapter 8: Biodiversity and ES Chapter 7: Agriculture and Soils, this information should also be described upfront in the Feb 2021 ES Chapter 3.</p> <p>Refer to Appendix A for further comments on ES Chapter 3 regarding design information in relation to</p>

Topic	Introductory sections
	road drainage and the water environment.
Has the reasonable alternatives been adequately described?	Yes.
NTS	<p>Sections 1 and 3 of the Feb 2021 ES NTS is considered mostly satisfactory, however the NTS would have benefitted from further images to support the text. An illustration showing the completed Proposed Scheme would be useful to include.</p> <p>Further detail on the sequence of construction activities and working hours should be included in the ES NTS.</p> <p>Whilst it is noted the NTS Addendums for the Aug 2021 SESA and Jan 2023 SEI should be read alongside the Feb 2023 ES NTS, a consolidated updated NTS that presents the likely effects of the Proposed Scheme as amended also is needed to be of benefit to a lay reader. (R.4.1)</p>
Summary of Recommendations	
Are there any recommendations for clarifications to be sought?	<p>Yes.</p> <ul style="list-style-type: none"> • Provide evidence of the subsequent agreement following issue of the EIA Scoping Opinion to not include a separate ES chapter on Traffic and Transportation (C.4.1). • For all topics acknowledgement of, and confirmation if and how updated policy and guidance would affect the assessment undertaken. Where appropriate provide justification where updating the assessment is not considered necessary (C.4.2). • Provide the approximate chainage when introducing the different sections of the Proposed Scheme in ES Chapter 3 for context (C.4.3).
Are there any recommendations for the request of 'further information' under Regulation 25 of the EIA Regulations?	<p>Yes.</p> <p>Provision of a consolidated and updated NTS of the Proposed Scheme as amended (C.4.3) with further images to support the text, and details of construction activities and working hours is required.</p>

Topic	Introductory sections
Other Recommendations?	<p>Yes.</p> <ul style="list-style-type: none"> • Presentation – Each chapter has several front cover pages which hinders navigational access to the first page of the chapter and adds unnecessary pages and length to the ES. If a front cover is necessary, it is recommended that only one front cover is included with the title of the project and chapter name (as well as on the footers throughout the document), so it is clear which chapter is being accessed. • Contents and Structure – An overarching detailed contents page would aid navigation of the ES and Addenda. In particular, it is unclear why there are ecology appendices within SEI Chapter 1 as well as SEI Chapter 3. • As set out above, the Feb 2021 ES Chapter 3 should provide more description (or at least sign-post to other ES chapters) on the construction activities, including construction materials to be used, groundwork depths, and extent of arable land and trees to be removed. • NTS – Include further images in the ES NTS to support the text. Further detail on the construction activities and working hours should be included.
Conclusions	<p>The introductory sections of the Feb 2021 ES, Aug 2021 SESA and Jan 2023 SEI are generally satisfactory, however three clarifications are sought and general recommendations provided on presentational improvements and structure of the ES and NTS content.</p>

5. Air Quality

Topic	Air Quality
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES EIA Scoping Report – Chapter 5 Air Quality, October 2019 • Feb 2021 ES Appendix 1.2: EIA Scoping Opinion and Consultee Responses • Table 1-1 of Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • Chapter 4. Consideration Of Alternatives • Chapter 6. Air Quality • Chapter 18: Cumulative Effects • Appendix: 3.1 Construction Environment Management Plan (CEMP) • Appendix 6.1 Monitoring and Trend Analysis • Appendix 6.2 Institute of Air Quality Management Construction Dust Assessment Methodology • Appendix 6.3.1 Verification • Appendix 6.3.2 Wind Rose • Appendix 6.4.1 Baseline Traffic Data • Appendix 6.4.2 'Do Minimum' Traffic Data • Appendix 6.4.3 'Do Something' Traffic Data • Appendix 6.5 Human Receptors • Appendix 6.6 Ecological Receptors • Appendix 6.7 Human Results • Appendix 6.8 Ecological Results • Appendix 6.9 Compliance Risk Assessment • Figure 6.1 Receptors within 350m of the Application Boundary • Figure 6.2 NO₂ Concentrations along 2017 PCM links and at Monitoring Sites • Figure 6.3 Do-Something – Do-Minimum AADT Traffic Change • Figure 6.4.1 Affected Road Network and Modelled Receptor Locations • Figure 6.4.2 Modelled Ecological Transects • Figure 6.5 Total NO₂ at Human Receptors 'Baseline' Scenario • Figure 6.6 Total NO₂ at Human Receptors 'Do Minimum' Scenario • Figure 6.7 Total NO₂ at Human Receptors 'Do Something' Scenario • Figure 6.8 Model Results at Human Receptors 'Do Minimum' – 'Do Something' Change in Total NO₂. • ES Volume 4: Non-Technical Summary

Topic	Air Quality
	<p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 1: Introduction to Planning Addendum • Non-Technical Summary Addendum, August 2021 – Air Quality input <p><u>Jan 2023 SEI:</u></p> <ul style="list-style-type: none"> • Supplementary Environmental Information Chapter 1: Introduction • Supplementary Environmental Information Chapter 2: Air Quality Addendum • Supplementary Environmental Information Appendix 3.B: Air Quality Impact Assessment on Designated Habitats • Appendix 2.A: Ammonia Model Verification • Appendix 2.B: Model Results • Appendix 2.C: Mitigation <p><u>Better Shrewsbury Transport Comments:</u></p> <ul style="list-style-type: none"> • Better Shrewsbury Transport Holding Objection – Pending Receipt of Further Information And Evidence 4th July 2023 • Supplementary objection by Better Shrewsbury Transport to Planning Application 21/00924/EIA North West Relief Road (10th March 2023)
Key findings of the review:	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p><u>Feb 2021 ES Chapter 6: National Planning Practice Guidance – Air Quality 2016.</u> Reference should instead be made to Planning Practice Guidance – Air Quality 2019.</p> <p>Reference is made throughout to Local Air Quality Management Review and Assessment Technical Guidance 2016 (LAQM.TG16) rather than the latest guidance at the time of writing (LAQM.TG19). Clarification is sought whether this guidance affects the findings and conclusions of the assessment.</p> <p>(C.5.1)</p>
<p>Has the methodology been set up correctly?</p>	<p><u>EIA Scoping Report:</u> The effect of ‘Increased exposure to pollutants from construction traffic’ should not have been scoped out without providing information on predicted number of construction vehicles. (C.5.2)</p> <p><u>Feb 2021 ES:</u></p> <p>Clarification as to why 2017 was used as the scheme baseline year rather than 2018 or 2019. Particularly as 2018 concentrations are generally higher than 2017 (Table 6-4 – Summary of the NO₂ monitoring undertaken by SC).</p> <p>Using 2018 data would result in different predicted concentrations than shown for 2023 in Appendix 6.1 Monitoring and Trend Analysis. (C.5.3)</p>

Topic	Air Quality
	<p><u>Construction Phase</u> Paragraph 6.8.1 states ‘<i>the methodology below follows guidance set out in IAQM Assessment of Dust as it offers a more detailed characterisation of impacts in comparison to the DMRB LA105 Air Quality guidance</i>’.</p> <p>However, emissions arising from HDV associated with the construction phase were scoped out of the assessment using the ‘DMRB LA105 Air Quality guidance’. Clarification is required as to why IAQM’s ‘<i>Guidance on the assessment of dust from demolition and construction</i>’ was not used to assess construction vehicle emissions? (C.5.2)</p> <p>No reference is made to construction plant emissions. (C.5.4)</p> <p><u>Operational Phase</u> Version 9.0 of the Emission Factor Toolkit (EFT) (published in May 2019) was used rather than EFT Version 10 (released in August 2020). (C.5.5)</p> <p>DEFRA 2017-based background maps for years 2017 to 2030 (published in May 2019) were used rather than DEFRA 2018-based background maps for years 2018 to 2030 (released in August 2020). (C.5.6)</p> <p>No information is provided on the surface roughness used at the met measurement site and the diurnal profile used within the model. (C.5.7)</p> <p>Confirmation required that traffic data used in the assessment was from the annual average daily traffic (AADT) columns in Appendix 6.4.1 Baseline Traffic Data. (C.5.8)</p>
<p>Have baseline conditions been correctly identified?</p>	<p><u>Feb 2021 ES Chapter 6:</u> Chapter 5 Air Quality of the EIA Scoping Report, October 2019 presents 2019 Defra background map concentrations. However, 2019 monitoring data was not presented. 2019 monitoring data was publicly available in December 2020. (C.5.9)</p> <p>Baseline year was not consistent throughout baseline section. The year 2017 was mainly used but 2018 was used for Defra Modelling – Pollution Climate Mapping. (C.5.6)</p>
<p>Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?</p>	<p><u>Feb 2021 ES Chapter 6:</u> <u>Construction Phase</u> Clarification is sought on why sensitivity to human health was considered low risk in Table 6-11 – Sensitivity of Receptors. (C.5.10)</p> <p><u>Operational Phase</u> Clarification as to why 2017 was used as the scheme baseline year rather than 2018 or 2019? (C.5.3)</p> <p>Chapter 5 Air Quality of the EIA Scoping Report,</p>

Topic	Air Quality
	<p>October 2019 states the approach for the operational phase would be undertaken in accordance with the EPUK/IAQM guidance.</p> <p>The EIA Scoping Opinion, February 2021 dated agrees stating '<i>For the assessment of the air quality impacts of traffic-related emissions, the relevant planning authorities would expect the proponent to follow the methodology set out in the Environmental Protection UK (EPUK)/ Institute of Air Quality Management (IAQM) guidance 'Land-Use Planning & Development Control: Planning for Air Quality' (2017, v.1.2).</i>'</p>
<p>Are the findings of the assessment reasonable and defensible?</p>	<p><u>Feb 2021 ES:</u></p> <p><u>Construction Phase</u> As per earlier comment, the effect of construction vehicle emissions should be assessed in accordance with IAQM's '<i>Guidance on the assessment of dust from demolition and construction</i>'. (C.5.2)</p> <p><u>Operational Phase</u> The assessment of the air quality impacts of traffic-related emissions should have been undertaken using the Environmental Protection UK (EPUK)/ Institute of Air Quality Management (IAQM) guidance '<i>Land-Use Planning & Development Control: Planning for Air Quality</i>'. (C.5.11)</p>
<p>Are the proposed mitigation measures appropriate and residual effects correctly assessed?</p>	<p>Yes.</p>
<p>Are cumulative effects correctly assessed and in line with the ES methodology chapter?</p>	<p><u>Feb 2021 ES:</u> No cumulative effects assessment was undertaken for the construction phase. Refer to earlier comment seeking clarification (C.6.2) on why construction vehicle emissions were scoped out.</p>
<p>NTS</p>	<p><u>Feb 2021 ES NTS:</u> Section 2 Air Quality of the NTS makes no reference to construction vehicle or construction plant emissions. Refer to earlier comments seeking clarification (C.6.2, C.6.4) on why construction vehicle and plant emissions are not included. No reference is made to the effect of the operational development on ecological sites in the air quality section, although it is noted to be included in the biodiversity section.</p>
<p>Summary of Recommendations</p>	
<p>Are there any recommendations for clarifications to be sought?</p>	<p>Yes –</p> <ul style="list-style-type: none"> Why reference has been made to LAQM.TG16 rather than LAQM TG.19 and clarification is sought whether this guidance affects the findings and conclusions of the assessment (C.5.1)

Topic	Air Quality
	<ul style="list-style-type: none"> • Why the effect of ‘Increased exposure to pollutants from construction traffic’ was scoped out and not assessed in accordance with the IAQM’s ‘Guidance on the assessment of dust from demolition and construction’? (C.5.2) • Why 2019 was not used as the baseline year for the assessment? (C.5.3) • Why no reference or assessment for construction plant emissions has been undertaken? (C.5.4) • Clarification as to why version 9.0 of the Emission Factor Toolkit (EFT) version 9.0 (published in May 2019) was used rather than EFT Version 10 (released in August 2020)? (C.5.5) • Clarification as to why DEFRA 2017-based background maps for years 2017 to 2030 (published in May 2019) were used rather than DEFRA 2018-based background maps for years 2018 to 2030 (released in August 2020)? (C.5.6) • Clarification on surface roughness at the met measurement site and the diurnal profile used within the model. (C.5.7) • Confirmation traffic data used in the assessment was from the annual average daily traffic (AADT) columns in Appendix 6.4.1 Baseline Traffic Data. (C.5.8) • Why 2019 monitoring data not presented in the baseline conditions within ES Chapter 6 Air Quality? (C.5.9) • Why sensitivity to human health was considered low risk in Table 6-11 – Sensitivity of Receptors? (C.5.10) • Why the Environmental Protection UK (EPUK)/ Institute of Air Quality Management (IAQM) guidance ‘Land-Use Planning & Development Control: Planning for Air Quality’ (2017, v.1.2) guidance was not used for the operational phase despite stating it should be used in the EIA Scoping Report and EIA Scoping Opinion? (C.5.11)
<p>Are there any recommendations for the request of ‘further information’ under Regulation 25 of the EIA Regulations?</p>	<p>No.</p>
<p>Other Recommendations?</p>	<p>Yes –</p> <ul style="list-style-type: none"> • Feb 2021 ES - National Planning Practice Guidance – Air Quality 2016 was referenced and should instead be made to Planning Practice Guidance – Air Quality 2019. • Feb 2021 ES NTS - No reference is made to the effect of the operational development on ecological sites in the air quality section, although

Topic	Air Quality
	it is noted to be included in the biodiversity section.
Conclusions	In general, the Chapter 6 of the Feb 2021 ES and Supplementary Environmental Information Chapter 2 of the Jan 2023 SEI is robust and fit for purpose, albeit there are 12 clarifications requested to fully satisfy the requirements, as set out above.
Environment Agency Comments Is the ES robust on the concerns raised or are there any outstanding issues?	Not applicable.
Better Shrewsbury Transport Comments Is the ES robust on any of the concerns raised or are there any outstanding issues?	<p><u>Better Shrewsbury Transport Holding Objection</u></p> <p><i>‘Without appropriate mitigation air pollution from the application is likely to adversely affect the integrity of the Hencott pool SSSI component of the Midland Meres & Mosses Phase 2 Ramsar Site’.</i></p> <p>Addressed within ‘Supplementary Environmental Information Chapter 2: Air Quality, January 2023’ and associated Technical Appendices.</p> <p><u>Supplementary Objection from Better Shrewsbury Transport (BeST)</u></p> <p><i>‘The air quality mitigation strategy selected for Hencott Pool (taking a buffer strip out of agricultural production) ignores other possible measures (such as reducing vehicle speed) that would reduce impacts on other sites and potentially allow changes to the route to be made that might reduce/avoid loss or deterioration to veteran trees. It seems clear that there are better, more holistic mitigation strategies that the Applicant could adopt and has chosen not to without clear justification.’</i></p> <p>The justification for vehicle speeds were presented in the Feb 2021 ES Chapter 4: Consideration of Alternatives, stating:</p> <p><i>‘Following the incorporation of the OLR Legacy Scheme (proposed posted speed limit of 50mph) into the NWR Legacy Scheme (proposed posted speed limit of 60mph), the posted speed limit of 60mph has been adopted for the full length of the Proposed Scheme. This was in order to ensure consistency along the whole route and improve journey times for traffic using this route.’</i></p>
Other relevant Consultee Comments	
Natural England Comments “Your assessment should consider how emissions from the scheme may interact with other pollutants in the vicinity of the site such as ammonia and what impacts this may have”.	Addressed within Jan 2023 SEI Chapter 2: Air Quality and associated Technical Appendices.
Woodland Trust Comments “We are of the opinion that the development	Addressed within Jan 2023 SEI Chapter 2: Air Quality and associated Technical Appendices.

Topic	Air Quality
<p><i>must be able to demonstrate that any resulting increase in the levels of ammonia and nitrogen deposition will be insignificant (<1% of the critical level and load) at all ancient woodland sites, and therefore this scheme may need to be amended to include further control measures or other proposals in order to attempt to reduce the process contribution to <1%.</i></p>	
<p>Dr Mark Broomfield Comments</p> <p><i>“The ES Feb 21 has under-estimated the air quality impact of the NWRR at the Hencott Pool SSSI for the following reasons: (a) failure to include the contribution of ammonia from road traffic; (b) failure to include wet deposition with the impacts of dry deposition; (c) failure to account for the in-combination impacts due to other proposed developments; (d) failure to account for uncertainty in the model forecasts; and (e) failure to include consideration of the impacts of airborne NOx, airborne ammonia, and acid deposition.”</i></p>	<p>Addressed within Jan 2023 SEI Chapter 2: Air Quality and associated Technical Appendices.</p>

6. Agriculture and Soil Resources

Topic	Agriculture and Soil Resources
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> Feb 2021 ES EIA Scoping Report, October 2019 Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> Chapter 7: Agriculture and Soil Resources ES Volume 4: Non-Technical Summary <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> Supplementary ES Chapter 7: Agriculture and Soils Addendum <p><u>Jan 2023 SEI:</u></p> <ul style="list-style-type: none"> Supplementary Environmental Information Chapter 4: Agriculture and Soils <p><u>Better Shrewsbury Transport Comments:</u></p> <ul style="list-style-type: none"> Supplementary objection by Better Shrewsbury Transport to Planning Application 21/00924/EIA North West Relief Road (10th March 2023)
<p>Key findings of the review:</p>	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p>Yes.</p>
<p>Has the methodology been set up correctly?</p>	<p>Yes - Assessment methodology, including criteria for significance and magnitude, follow the approach of the Design Manual for Roads and Bridges (DMRB) which is appropriate for this EIA.</p>
<p>Have baseline conditions been correctly identified?</p>	<p>Yes - Baseline information for the assessment comprises Agricultural Land Classification (ALC) field survey for both the agricultural land resource and soil associated with it, and the farming circumstances for the eight individual farm units occupying land along the route of the Proposed Scheme.</p> <p><u>Agricultural Land Resource</u></p> <p>ALC survey work is a combination of preexisting work by the former ADAS Statutory survey team on behalf of MAFF, and additional survey work by Reading Agricultural Consultants for the Shrewsbury Relief Road EIA.</p> <p>Assessment work identifies predominantly best and most versatile agricultural land, land in ALC Grades 1, 2 and 3a. Grade 1 land has no limitations on ALC Grade. The remainder of the land is limited to grade by a combination of soil droughtiness, soil wetness, flood risk, gradient and microtopography (surface irregularities sufficient to impede agricultural operations such as cultivation).</p> <p>RAC sample points are omitted for two areas of the site, as noted in section 7.8 of the ES, Assessment Assumptions and Limitations. The omission was due to access restriction. These are land to the west of sample points 31 and 32, and land to the</p>

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north of sample point 6. The mapping of ALC grades across these areas is not supported by field assessment. However, these areas are graded as predominantly best and most versatile land, with the area north of sample point 6 being mapped as ALC Grade 1, a reasonable worst-case approach. Therefore, any reappraisal of these areas based upon field survey will not alter the overall impact assessment. Rather than map ALC grades for un-surveyed land, it would be preferable to map the fields as land not surveyed, but still make the impact assessment on the basis of the reasonable worst-case approach.

No stone content is recorded and it is unlikely that across the range of soil types there is no stone present. The volume of stones greater than 2mm in the soil is important for assessing the drought limitation. However, in omitting stone content the assessment has reduced any limitation on ALC grade from drought. Including stone content in the assessment of ALC Grade will not result in any upgrading of agricultural land.

The MAFF ALC survey report and data is publicly available at <https://publications.naturalengland.org.uk/publication/4967996068986880>. Rather than have to search online for this information it would be preferable to include it with the ES baseline report. The plan of ALC grade distribution could also mark the dividing line between MAFF and RAC assessment to assist the reader.

Soil Resource

ALC survey data provides information on the depth and texture of the soil horizons observed. This information will enable a soil management plan to identify the extent and depth of soil units to be stripped, stored and beneficially reused without mixing. Mixing differing soil units can result in the degradation of soil functional capacity for one or both units, for instance diluting topsoil with subsoil.

As noted above the MAFF ALC survey data is freely available. Including this within the baseline document would assist the reader and the development of the Soil Management Plan.

Farming Circumstances

Eight farm businesses occupy land of the Proposed Scheme. Baseline information, gathered from the farmers, is given on the farm size, tenure and enterprises to enable an assessment of the likely effects of land take (permanent and temporary) and severance on the farm business. A plan showing the extent of each farm business in relation to the Proposed Scheme corridor would assist the reader.

Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?

Yes.

The Feb 2021 ES finds a significant adverse effect on the agricultural land resource, a slight and not significant effect on the soil resource associated with that agricultural land, and significant adverse effects on five of the eight farm businesses occupying land along the route.

This assessment of effects is in line with the DMRB guidance cited, and the baseline data presented.

Topic	Agriculture and Soil Resources
	There is a minor area of concern on the Agricultural Land Classification (ALC) assessment that could be rectified by presenting the MAFF survey cover that is partially relied upon and not mapping ALC grades for land not surveyed.
Are the findings of the assessment reasonable and defensible?	Yes. However, as noted above, there are minor omissions in the baseline data presented such as soil stone volume and extent of farm occupancy. In addition, it would be preferable to not map ALC grade distribution in areas without survey to base the mapping on. Despite this, addressing these comments is highly unlikely to alter the resulting impact assessment.
Are the proposed mitigation measures appropriate and residual effects correctly assessed?	Yes.
Are cumulative effects correctly assessed and in line with the ES methodology chapter?	N/A – no cumulative assessment on agricultural soils has been undertaken, which is considered reasonable.
NTS	Section 2: Agriculture and Soil Resources of the ES NTS is considered to be satisfactory.
Summary of Recommendations	
Are there any recommendations for clarifications to be sought?	No.
Are there any recommendations for the request of ‘further information’ under Regulation 25 of the EIA Regulations?	No.
Other Recommendations?	Yes. <ul style="list-style-type: none"> • Rather than map ALC grades for un-surveyed land, it would be preferable to map the fields as land not surveyed, but still make the impact assessment on the basis of the reasonable worst case approach. • The MAFF ALC survey report and data is publicly available online. Rather than have to search online for this information it would be preferable to include it with the ES baseline report. The plan of ALC grade distribution could also mark the dividing line between MAFF and RAC assessment to assist the reader. • A plan showing the extent of each farm business in relation to the development corridor would assist the reader.
Conclusions	In general, the Chapter 7 of the Feb 2021 ES, Chapter 4 of the Aug 2021 SESA and SEI Chapter 4 of the Jan 2023 SEI is robust and fit for purpose. There should be no need for clarification or additional information on this topic.
Environment Agency Comments Is the ES robust on the concerns raised or are there any outstanding issues?	N/A. No concerns have yet been raised by Natural England regarding the Agriculture and Soil Resource baseline data or impact assessment.

Topic	Agriculture and Soil Resources
<p>Better Shrewsbury Transport Comments</p> <p>Is the ES robust on any of the concerns raised or are there any outstanding issues?</p>	<p>In their responses, Better Shrewsbury Transport have raised the issue of the Hencott Pool additional area, which has been addressed in the Jan 2023 SEI Chapter 4: Agriculture and Soils Addendum.</p>

7. Biodiversity

Topic	Biodiversity
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES EIA Scoping Report, October 2019 • Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • Chapter 4: Consideration of Alternatives • Chapter 8: Biodiversity and associated Appendices 8.1-24 • Appendix 8.20: Arboricultural Assessment • Chapter 18: Cumulative Effects • ES Volume 4: Non-Technical Summary <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary Environmental Statement Chapter 8: Biodiversity Addendum • Arboricultural Assessment Addendum <p><u>Jan 2023 SEI:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 1: Introduction and associated biodiversity appendices • Appendix K: Arboriculture Further Information • Supplementary ES Chapter 3: Biodiversity, Supplementary Environmental Information and associated biodiversity Appendices 3.A-3.P <p><u>Environment Agency Comments:</u></p> <ul style="list-style-type: none"> • EA letter dated 3 May 2023 • EA letter dated 6 July 2023 <p><u>Better Shrewsbury Transport Comments:</u></p> <ul style="list-style-type: none"> • Better Shrewsbury Transport Holding Objection – Pending Receipt of Further Information And Evidence 4th July 2023 • Supplementary objection by Better Shrewsbury Transport to Planning Application 21/00924/EIA North West Relief Road (10th March 2023)
<p>Key findings of the review:</p>	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p>Yes. At the time of writing, the Feb 2021 ES summarises the relevant guidelines appropriately.</p>
<p>Has the methodology been set up correctly?</p>	<p>Yes. The assessment methodology is appropriate and in accordance with the guidelines. There have been no changes to the methodology applied since the Feb 2021 ES.</p>
<p>Have baseline conditions been correctly identified?</p>	<p>Uncertain, evidence and/or justification the approach was agreed with SC ecologist is requested (C.7.1): Summary of surveys out of date according to</p>

Topic	Biodiversity
	CIEEMs age of data guidelines: <ul style="list-style-type: none"> • Wintering birds: (Last surveys December 2019 to March 2020 (wintering)) • Reptiles: (Last surveys 2019) • Hedgerow (Last surveys 2019)
Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?	Yes, these are identified for the construction phase and the operational phase. The Jan 2023 SEI has adequately established there would be no significant effects beyond those considered and reported in the Feb 2021 ES and Aug 23 SESA.
Are the findings of the assessment reasonable and defensible?	Yes. Furthermore the results of the ecology and biodiversity assessments demonstrate that the findings do not materially differ from those of the Feb 2021 ES.
Are the proposed mitigation measures appropriate and residual effects correctly assessed?	Yes, there are no changes to residual effects and required mitigation for biodiversity from the Feb 2021 ES. Only two residual effects still remain post mitigation at the construction phase: <ul style="list-style-type: none"> • Noise, vibration and lighting on badgers and bats (minor scale); and • Loss of bat foraging and commuting habitats (minor scale). There are five significant residual effects remaining post mitigation at the operational phase: <ul style="list-style-type: none"> • increased nitrogen deposition on three sites and 27 veteran trees • decreased nitrogen deposition on five designated sites and 1 ancient/veteran tree • loss of eight trees (moderate scale) • loss of section of Akmund Park Stream and associated woodland (minor scale) • mortality risk for amphibians which could be trapped on the carriageway (minor scale)
Are cumulative effects correctly assessed and in line with the ES methodology chapter?	Yes, no changes to the significance of the Effect Interactions already reported in Feb ES 2021 Chapter 18: Cumulative Effects or Aug 2021 SESA Chapter 18: Cumulative Effects are considered likely.
NTS	Section 2.3 of the ES NTS is considered to be satisfactory.
Summary of Recommendations	
Are there any recommendations for clarifications to be sought?	Yes. <ul style="list-style-type: none"> • Further justification as to the suitability of ecology data that is over two years old is sought and confirmation required as to whether this approach

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	<p>was agreed with the SC ecologist. (C.7.1)</p> <ul style="list-style-type: none"> • Provide specific length measurements on River Severn bank mitigation (C.7.2) • On consideration of the Road Drainage and Water Environment review (refer to Section 16 of this report), the potential impacts of possible crossings to the three culverts noted in Section 3.2.9 to 3.2.11 of Chapter 3: Description of the Proposed Scheme, to mammals should be considered. (C.7.3)
<p>Are there any recommendations for the request of 'further information' under Regulation 25 of the EIA Regulations?</p>	<p>No.</p>
<p>Other Recommendations?</p>	<ul style="list-style-type: none"> • The biodiversity net gain report concluded that net gain could not be achieved for river habitat. MoRPh survey including a River Condition Assessment should be used to determine suitable offsite areas to address Watercourse Unit shortfalls. Additionally, a later version of the Natural England's Biodiversity metric should be used (or at least 3.0 onwards) as this will also help determine an accurate level of biodiversity at baseline and post intervention due to the addition of 'Culvert' as a habitat type. • As any type of works within the RPAs of Veteran Trees would be outside of good practice, it is recommended that a further report should be provided to clearly demonstrate why these works would not be detrimental to the trees. Otherwise, a risk exists that the number of veteran trees being removed is being underestimated. This could form a planning condition. • Where compensation works are proposed on land outside of the Applicant's control, agreements with the relevant landowner should be in place prior to granting planning approval.
<p>Conclusions</p>	<p>In general, Chapter 8 of the Feb 2021 ES and Aug 2021 SESA and Chapter 3 of the Jan 2023 SEI is robust and fit for purpose, albeit there are two clarifications requested to fully satisfy the requirements, as set out above.</p>
<p>Environment Agency Comments</p> <p>Is the ES robust on the concerns raised or are there any outstanding issues?</p>	<p><u>EA: No proposed mitigation plan for the loss of wet woodland priority habitat, or a plan for enhancements. Advised that it be recalculated using Defra metric v3. If BNG cannot be achieved within the footprint of the development, then off site provision could be used to deliver it:</u></p> <p>The Jan 23 SEI Chapter 3: Biodiversity, Appendix 3.E: Draft Compensation Strategy for Ancient</p>

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	<p>Woodland, and Ancient or Veteran Trees and Local Wildlife Sites has been produced in response to consultee comments. It identifies suitable compensation opportunities for the additional ecological sites/features, Oxon Pool LWS, Shelton Rough LWS, Alkmund Park Wood, Woodcote Coppice, Horton lane Coppice and ancient/veteran trees. Additionally, updated aquatic ecology surveys were undertaken in 2021 including aquatic macroinvertebrates, diatoms, fish (including juvenile lamprey), and macrophytes. The survey effort focused on the stretch of the River Severn affected by the Proposed Scheme. However, a BNG report has not been resubmitted.</p> <p><u>EA: River Severn bank mitigation: additional bankside habitat enhancement as well as the mitigated length should be provided for in the plans.</u></p> <p>This is included in the Jan 2023 SEI addendum Appendix 1.A Figure Ref J: Design changes to the River Severn Western Bank Protection. The design will comprise of rock bags placed for a length of up to 86m along the River Severn between the river bed and the mean annual water level. 'Green bank protection' measures would be installed on the right (west) bank of the River Severn above the mean annual water level and up to the 1 in 200+90% climate change (cc) year water level. The green bank protection between the mean annual water level and the 1 in 2 year water level will comprise coir product and suitable riparian plant species. Between the 1 in 2 year water level and the 1 in 200+cc year water level, the green bank protection will consist of grass seeding. The existing vegetation of the left (east) bank of the River Severn where possible would not be disturbed, however, in areas where disturbance occurs, grass seeding would be incorporated. However, specific length measurements have not been provided. (C.7.2)</p>
<p>Better Shrewsbury Transport Comments</p> <p>Is the ES robust on any of the concerns raised or are there any outstanding issues?</p>	<p><u>No HRA undertaken:</u> A HRA was submitted as part of the Feb 2021 ES and then updated and resubmitted as part of the Jan 2023 SEI. Habitats Regulation Assessment Feb 21 (Document Reference: 70056211-WSP-EBD-AS-RP-LE-00001). Habitats Regulation Assessment Jan 23 (Document Reference: 70056211-WSP-EBD-S4-RP-LE-00003).</p> <p><u>Habitats and ecology Hencott Pool SSSI/Ramsar site would be adversely affected, species surveys inadequate:</u> The assessment of Hencott Pool Special Site of Scientific Interest (SSSI), component of Midland Meres and Mosses Phase 2 Ramsar site, is detailed within SEI Jan 2023 Chapter 8: Cumulative</p>

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Effects, Botanical and invertebrate surveys undertaken of the Hencott Pool SSSI (which is part of Midland Meres and Mosses Phase 2 Ramsar) between April and August 2022. 2021 Update aquatic ecology surveys including aquatic macroinvertebrates, diatoms, fish (including juvenile lamprey), and macrophytes. Survey effort focused on the stretch of the River Severn affected by the Proposed Scheme.

Failure to achieve Biodiversity Net Gain (BNG). No update of BNG and biodiversity loss despite increase in area: Agreed, not achieved.

Loss of / impact on veteran trees and ancient woodland:

The main point of contention in the Better Shrewsbury Transport supplementary objection document, is that the Applicant has not sufficiently demonstrated the 'wholly exceptional reasons' which justify the impacts on these 'irreplaceable habitats', and that the impacts have not been fully considered (particularly the impact of atmospheric pollution).

The documents specifically refers to the hierarchical approach which should be followed when considering environmental impacts, these being:

- 1) Avoid
- 2) Mitigate
- 3) Compensation

The Jan 2023 Supplementary Environmental Information Appendix 1.K: Arboricultural Further Information sets out where design changes have been implemented to avoid impacts on veteran trees and ancient woodland.

The Feb 2021 ES Chapter 4: Consideration of Alternatives sets out where veteran trees are to be removed, and the reasons why design changes could not be implemented to avoid these impacts.

It is felt that these two documents, alongside the Feb 2021 ES, the ES Feb 21 Planning Statement and the ES Feb 21 Transport Assessment, set out the 'wholly exceptional reasons' for the need for the development, alongside demonstrating the efforts that were made to avoid the impacts.

As such, Waterman are of the view that no further arboricultural assessment is required on this issue.

In Appendix 8.20: Arboricultural Impact Assessment (AIA) of the Feb 2021 ES, a further 7No. veteran trees are identified as being retained, but with works proposed within their RPAs. Natural England and the Forestry Commission's Standing Guidance on Ancient Woodlands and Veteran Trees states that a

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minimum Root Protection Area of 15x the stem diameter of the tree should be retained undisturbed. This is bigger than the RPAs prescribed under BS5837 and which are used in the AIA.

As any type of works within the RPAs of Veteran Trees would be outside of good practice, it is recommended that a further report should be provided to clearly demonstrate why these works would not be detrimental to the trees. Otherwise, a risk exists that the number of veteran trees being removed is being underestimated.

Risk of air pollution on areas of ancient woodland:

The risk posed by atmospheric pollution to three areas of ancient woodland is raised in the BeST supplementary objection document, however this risk is addressed within the Jan 2-2023 SEI Chapter 2: Air Quality and associated Technical Appendices. As such, no further arboricultural assessment is required on this issue.

The BeST supplementary objection document states that “throughout the February 2023 submission, mitigation and compensation possibilities are given as little more than suggestions” dependent of

landowner consent: This is addressed in sections 1.2.10 and 1.2.11 of the Jan 2023 SEI Appendix 3.E: Draft Compensation Strategy for Ancient Woodland, Veteran Trees and Local Wildlife Sites. This appendix identifies works which could be undertaken to improve existing retained ancient woodlands and veteran trees, but these strategies are heavily dependent on obtaining landowner consent. As such, there is no guarantee that the permissions necessary for the works would be obtained.

Where compensation works are proposed on land outside of the Applicant’s control, agreements with the relevant landowner should be in place prior to granting planning approval.

8. Climate Change

Topic	Climate Change
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> Feb 2021 ES EIA Scoping Report, October 2019 Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> Chapter 9: Climate Change Appendix 9.1 Climate Legislative Framework, Policy and Guidance <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> Supplementary ES Chapter 9: Climate Change Addendum <p><u>Better Shrewsbury Transport Comments:</u></p> <ul style="list-style-type: none"> Supplementary objection by Better Shrewsbury Transport to Planning Application 21/00924/EIA North West Relief Road (10th March 2023)
<p>Key findings of the review:</p>	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p>Yes.</p> <p>The key guidance document relied upon by the GHG assessment has been updated since the Feb 2021 ES was completed. It should be clarified whether the updates to the following guidance document affects the findings and conclusions of the GHG assessment: <i>IEMA (2022) Assessing Greenhouse Gas Emissions and Evaluating their Significance – 2nd Edition. (C.8.1)</i></p>
<p>Has the methodology been set up correctly?</p>	<p>PAS2080 has been applied, however please see the below recommended clarifications including on how the methodology has been applied.</p>
<p>Have baseline conditions been correctly identified?</p>	<p>Baseline conditions are set out in paragraphs 9.5.1-9.5.7 of the Feb 2021 ES Chapter 9. There are a number of potential recommendations to be made which may impact the results of the assessment, specifically: Section 9.5 of the Feb 2021 ES Chapter 9: Climate Change is light on detail to explain how the baseline GHG emissions have been calculated. The chapter states that baseline end-user GHG emissions have been modelled using the Proposed Scheme traffic data. The differences in approach/assumption to modelling baseline vs with development end-user emissions should be clarified so the differences are clear. (C.8.2)</p> <p>It is noted from the data in Table 9-9 that the differences between the Do Minimum and Do Something Scenarios are small.</p> <p>It is recommended that there should be greater</p>

Topic	Climate Change
	<p>synergy between the Feb 2021 ES Chapter 9: Climate Change and Chapter 14: Materials and Waste.</p> <p>Paragraph 9.5.4 details the small emissions associated with minor material works with a small associated embodied carbon. This is in direct contradiction with the Feb 2021 ES Chapter 14: Materials and Waste, evaluated to be approximately 547,000 tonnes. (C.8.3)</p> <p>Chapter 14 also concludes that over 230,000 tonnes of estimated “unacceptable earthworks” (219,000 tonnes) and “general demolition waste” (11,000 tonnes) will be sent to landfill (Table 14-14). The justification in Table 9-1 suggests that this will have zero associated emissions, however, this is not expected to be correct. It is therefore recommended that Construction Waste A5 is included within the assessment. (C.8.4)</p>
<p>Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?</p>	<p>Yes.</p> <p>Paragraph 9.22.1 states that “A ‘high’ emissions scenario (RCP 8.5) using the 2080s time slice (2070 – 2099 - the longest temporal scale available through UKCP18) has been used to develop the baseline against which resilience has been assessed”. It is unclear if this is applied to the operational assessment only, or also to the construction phase assessment as set out in Table 9.28. The assumptions around future climate conditions that informs the construction-phase resilience assessment should be clarified. (C.8.7)</p>
<p>Are the findings of the assessment reasonable and defensible?</p>	<p>Yes.</p> <p>Paragraphs 9.9.15 and 9.9.16 of the Feb 2021 ES Chapter 9 and Paragraphs 1.2.14 and 1.2.15 of the Aug 2021 SESA ES Chapter 9 Addendum provide an assessment / judgement of the significance of GHG effects for the construction and operational phase separately. No judgement on significance is provided for the total lifecycle GHG emissions. The significance of GHG effects when considering the total lifecycle emissions should be clarified. (C.8.5)</p>
<p>Are the proposed mitigation measures appropriate and residual effects correctly assessed?</p>	<p>Feb 2021 ES Chapter 9 Part 1 – Greenhouse Gases: No.</p> <p>The residual effects are appropriately assessed, however the mitigation measures referenced in the Paragraph 9.10.1 are very limited and there is no reference to the suite of potential design measures listed in Section 7.4 of the EIA Scoping Report. The measures and strategies that will be implemented at detailed design and construction to avoid, reduce and offset GHG emissions should be clarified.(C.8.6)</p>

Topic	Climate Change
	<p>Feb 2021 ES Chapter 9 Part 2: Climate Resilience: Yes.</p> <p>The assessment of climate resilience during construction works finds no residual significant effects subject to mitigation (set out in Table 9.30) to be delivered within a CEMP, which is recommended to be secured by planning condition.</p>
<p>Are cumulative effects correctly assessed and in line with the ES methodology chapter?</p>	<p>Yes.</p>
<p>NTS</p>	<p>Section 2.5 of the Feb 2021 ES NTS is considered to be satisfactory.</p>
<p>Summary of Recommendations</p>	
<p>Are there any recommendations for clarifications to be sought?</p>	<p>Yes.</p> <p>Feb 2021 ES Chapter 9 Part 1 – Greenhouse Gases:</p> <ul style="list-style-type: none"> • It should be clarified whether the updates to the following guidance document affects the findings and conclusions of the GHG assessment: <i>IEMA (2022) Assessing Greenhouse Gas Emissions and Evaluating their Significance – 2nd Edition</i>. (C.8.1) • The differences in approach/assumption to modelling baseline vs with development end-user GHG emissions should be clarified so the differences are clear. (C.8.2) • Paragraph 9.5.4 details the small emissions associated with minor material works with a small associated embodied carbon. This contradicts with the Feb 2021 ES Chapter 14: Materials and Waste, evaluated to be approximately 547,000 tonnes. (C.8.3) • Chapter 14 also concludes that over 230,000 tonnes of estimated “unacceptable earthworks” (219,000 tonnes) and “general demolition waste” (11,000 tonnes) will be sent to landfill (Table 14-14). The justification in Table 9-1 suggests that this will have zero associated emissions, however, this is not expected to be correct. It is therefore recommended that Construction Waste A5 is included within the assessment. (C.8.4) • The significance of GHG effects when considering the total lifecycle emissions should be clarified. (C.8.5) • The measures and strategies that will be implemented at design and construction to avoid, reduce and offset GHG emissions should be clarified. (C.8.6) <p>Feb 2021 ES Chapter 9 Part 2 – Climate Resilience:</p> <ul style="list-style-type: none"> • The assumptions around future climate conditions

Topic	Climate Change
	that informs the construction-phase resilience assessment should be clarified. (C.8.7)
Are there any recommendations for the request of 'further information' under Regulation 25 of the EIA Regulations?	No.
Other Recommendations?	Yes. <ul style="list-style-type: none"> • Planning condition to secure the pre-commencement preparation of a Construction Environmental Management Plan (CEMP) to include the measures described in the Feb 2021 ES Chapter 9 Table 9.30 to mitigate potential significant adverse climate effects during construction works. • It is encouraged that consideration is given to the reduction in user utilisation carbon (Module B9), associated to the perceived reduction in journey distance and times experienced by end users. • It is recommended that there should be greater synergy between the Feb 2021 ES Chapter 9: Climate Change and Chapter 14: Materials and Waste.
Conclusions	In general, the Feb 2021 ES Chapter 9 and Section 9 of the Aug 2021 SESA Chapter 9 is robust and fit for purpose, albeit there are 7 clarifications requested to fully satisfy the requirements, as set out above.
Environment Agency Comments	N/A
Is the ES robust on the concerns raised or are there any outstanding issues?	
Better Shrewsbury Transport Comments	<p>Climate Change Emergency – Better Shrewsbury Transport (Supplementary objection) highlight the contribution the Proposed Scheme could make to Shropshire region transport emissions and claim the Feb 2021 ES is correct to have determined these to be significant. The Feb 2021 ES determines the construction emissions to be significant and the operational emissions to be not significant. A clarification request to consider the significance of GHG emissions over the whole lifecycle is provided above (C.8.5), and in addition the Applicant should consider providing a response to these comments from Better Shrewsbury Transport.</p> <p>Climate Change Position Statement – Better Transport (Holding objection) request a climate change position statement is produced to provide an assessment of cumulative GHG emissions and the impact of the contribution of the Proposed Scheme on climate change. It is considered that the GHG assessment in Part 1 of Feb 2021 ES Chapter 9 and the Aug 2021 SESA Chapter 9 provides such an</p>

Topic	Climate Change
	assessment following an approach aligned with guidance. As such, no further comments should be required.

9. Geology and Soils

Topic	Geology and Soils
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES EIA Scoping Report – Chapter 8 Geology and Soils • Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses • Table 1-1 of Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • Chapter 10: Geology and Soils • Figure 10.1: Published Superficial Geology • Figure 10.2: Published Bedrock Geology • Figure 10.3: Sensitive Receptors • Appendix 10.1: Interim Baseline Contamination Study Report • Appendix 10.3: Interim Piling Works Risk Assessment • Appendix 10.4: Interim Borehole Decommissioning Plan • Appendix 10.5: Interim Baseline Water Quality Construction Monitoring Strategy <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 10: Geology and Soils Addendum <p><u>Jan 2023 SEI:</u></p> <ul style="list-style-type: none"> • Supplementary Environmental Information Chapter 1: Introduction • Supplementary Environmental Information Chapter 5: Geology and Soils <p><u>Environment Agency Comments:</u></p> <ul style="list-style-type: none"> • EA letter dated 3 May 2023 • EA letter dated 6 July 2023 <p><u>Better Shrewsbury Transport Comments:</u></p> <ul style="list-style-type: none"> • Better Shrewsbury Transport Holding Objection – Pending Receipt of Further Information And Evidence 4th July 2023 • Supplementary objection by Better Shrewsbury Transport to Planning Application 21/00924/EIA North West Relief Road (10th March 2023) <p><u>Severn Trent Comments:</u></p> <ul style="list-style-type: none"> • STW Comments Feb 2021 • STW Comments May 2023 • WSP response June 2023

Topic	Geology and Soils
Key findings of the review:	
Have the correct guidance, policies and legislation been referred to?	Yes. Investigations and analyses have been undertaken in line with the appropriate legislation and guidance with appropriate citations.
Has the methodology been set up correctly?	Yes.
Have baseline conditions been correctly identified?	Yes, however the Detailed Quantitative Risk Assessment (DQRA) has not been considered in this high-level review.
Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?	Yes.
Are the findings of the assessment reasonable and defensible?	Generally, yes. The Environment Agency has questioned the robustness of the DQRA completed by WSP, which was not available at the time of this review. This document will be updated upon review of the DQRA. Furthermore, risk ratings assigned to pollution scenarios within the Piling Works Risk Assessment are not considered to be appropriate – these should be revised in line with the EA’s comments. (C.9.1)
Are the proposed mitigation measures appropriate and residual effects correctly assessed?	No, the assessments perceive a lower than expected risk level and therefore mitigation requirements. The resultant lower than Environment Agency agreed Residual Significance of Effect risk prevents expected mitigation measures such as groundwater monitoring and Turbidity Protocols from being proposed for the proposal such as at the B4380 Holyhead Roundabout, Pier 1, and the Western Abutment Piling. (C.9.2) Furthermore, the DQRA was not included in the initial set of documents for review and has not been considered in this review.
Are cumulative effects correctly assessed and in line with the ES methodology chapter?	No, the lower than agreed scoring noted in Section 16 may impact cumulative findings for groundwater. (C.9.3)
NTS	Section 2 of the NTS is considered to be satisfactory. Note, the NTS may require updating following a further review of the effects and mitigation measures described above. (C.9.3)
Summary of Recommendations	
Are there any recommendations for clarifications to be sought?	<ul style="list-style-type: none"> • Clarification of the Piling Works Risk Assessment ratings and terminology should be sought in line with comments made by the EA. (C.9.1) • Following a review of Piling Works Risk Assessments ratings and resultant significance of effects, mitigation measures require further review. (C.9.2)

Topic	Geology and Soils
	<ul style="list-style-type: none"> • Following a review of impact ratings and resultant significance of effects, cumulative effects and NTS may require further review. (C.9.3) • The impact of the Proposed Scheme on small volume groundwater sources should be assessed. (C.9.4) • Review of shallow groundwater regime, particularly at approximate chainage 1600m to 1700m where groundwater appears to be more continuous, suggesting a more permanent groundwater table may be present, rather than perched water as suggested by WSP. (C.9.5) • Clarification on the constraints on the GI for deeper boreholes being completed around the Holyhead Road roundabout should be sought. (C.9.6) • It is recommended that clarification is sought from STWL to confirm they are satisfied with WSP's response relating to the relationship between groundwater and surface water. (C.9.7)
<p>Are there any recommendations for the request of 'further information' under Regulation 25 of the EIA Regulations?</p>	<ul style="list-style-type: none"> • DQRA should be updated in line with latest consultation responses with EA and STWL, including integrating further modelling of a hydrocarbon spill at the Holyhead Road Roundabout, clearly presenting the GI data, and providing details on the outcome of the chlorinated solvent scenarios (R.9.1)
<p>Other Recommendations?</p>	<ul style="list-style-type: none"> • Comments made by the EA and Severn Trent Water Limited must be addressed. Waterman agrees with including a proposed planning condition for re-visiting the Turbidity Protocol. • The PWRA should be revised following completion of the final pile design.
<p>Conclusions</p>	<p>In general, the Chapter 10 of the Feb 2021 ES and Addenda is robust and fit for purpose, albeit there are a number of clarifications requested to fully satisfy the requirements, as set out above.</p>
<p>Environment Agency Comments</p> <p>Is the ES robust on the concerns raised or are there any outstanding issues?</p>	<p>The Environment Agency have made a number of comments:</p> <ul style="list-style-type: none"> • <u>The location and presence of non-licensed small volume private groundwater sources do not appear to have been commented upon/assessed:</u> Waterman Agree – the impact of the Proposed Scheme on small volume groundwater sources should be assessed. (C.9.4) • <u>Groundwater and Water Supply – Comment on WSP response that the risks to strategic water suppliers are 'Extensively covered'.</u> WSP have considered all scenarios described in current EA

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Geology and Soils

guidance (“Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention” – 2001). A further seventh scenario was considered regarding enhanced turbidity. Waterman agree with the EA that the uncertainty around the final pile design does not support a “very low” risk for PS6, however the pile designers risk assessment and subsequent selection of pile type, when considered alongside other site operations, should then reduce the risk to this level. Hence the PWRA should be revised following completion of the final pile design. A redacted version of the DQRA has been provided to Waterman for review. It appears that key information (such as exploratory hole location plans) has been redacted; as such our review is limited to the information released by WSP. The EA comment that “extensively covered” does not equate to having sufficiently addressed their concerns raised in their response dated 3 May 2023:

- “Further consideration of the surface water-groundwater interaction is required and whether additional potential pollutant pathways (PPL) need to be included in the DQRA/dispersivity modelling”: Waterman are in agreement with the EA that surface water – groundwater interaction has not been sufficiently modelled.
- “DQRA parameter input ranges and outputs require further detail, justification and/or sensitivity analysis before the model output can be accepted”: It is understood that WSP have responded separately to the EA regarding this matter; if further detail and justification was included in that response, it should be integrated into the DQRA and EIA **(C.9.8)**.
- “The overall risk categories result in moderation of the sensitivity of the ultimate receptors. The DQRA and drainage strategy allude to several key mitigation measures for which we require further clarification/detail at this stage. These are primarily the road drainage design (requirement for sealed drainage in source protection zone 1 and 2), a proactive preventative maintenance/road operational manual including securing funding requirements and an emergency response plan including details of emergency funding contingencies”: Waterman are in agreement

Topic	Geology and Soils
	<p><u>with the EA's statement that the DQRA ultimately guides the mitigation measures required; the EA's concern is rooted in that the additional works required may not be completed in a timely manner and that the planning committee will not have sufficient information to guide their decision.</u></p> <ul style="list-style-type: none"> • <u>Detailed Quantitative Risk Assessment (DQRA) comment on lack of site investigation, hence the request for further modelling, details on the outcome of the chlorinated solvent scenarios, and remediation options and feasibility/repercussions/costs:</u> The majority of the exploratory hole location plans have been redacted by WSP; as such Waterman cannot comment on the perceived lack of site investigation. However, it is noted that the GI data has not been presented in a coherent manner (for example, groundwater level data has been sorted by strata, with no consideration given to the spatial distribution of the groundwater levels). Waterman are in agreement with the EA that the chlorinated solvents scenario has not been assessed. Waterman also agree that further detailed justification and sensitivity analysis should form part of the EIA. Further modelling of a hydrocarbon spill at the Holyhead Road Roundabout has been requested by Severn Trent Water Limited, and is being conducted outside of the planning process – the results should be integrated into the DQRA. (C.9.8) • <u>Comment on Pollution Scenario 6 (PS6) a degree of uncertainty that would not support the adoption of 'very low' for Pier 1:</u> Agreed – this should perhaps be raised to Low/Moderate subject to detailed pile design. However, WSP state that the piles will not penetrate the principal aquifer, thereby not introducing a potential pathway, however until formal design is undertaken, this cannot be confirmed.
<p>Better Shrewsbury Transport Comments</p> <p>Is the ES robust on any of the concerns raised or are there any outstanding issues?</p>	<ul style="list-style-type: none"> • <u>Objection 7.1 – Impact on Severn Trent Water's Shelton Public Water Supply Source Protection Zone (SPZ):</u> Waterman agree that the impact of the SPZ has not been fully assessed – see comments made in Section 16 of this EIA Review. • <u>Objection 7.2 – Inadequacy of the Geological Assessment:</u> Waterman agrees that there are some inadequacies in WSP's assessment of the complex geology along the proposed alignment of the road. However, Waterman notes that WSP's GI is primarily an engineering exercise carried out in accordance with current legislation and

Topic	Geology and Soils
	<p>guidance and therefore additional GI techniques (e.g. geophysics) would not have been considered appropriate or necessary.</p> <ul style="list-style-type: none"> • <u>Objection 7.3 – Inadequate assessment of the potential impact on Hencott Pool:</u> This objection has been addressed and acknowledged by BeST, yet is still present in their document. • <u>Objection 7.4 - Inadequate treatment of shallow groundwater:</u> Waterman agrees that the shallow groundwater regime has not been sufficiently modelled, particularly at approximate chainage 1600m to 1700m where groundwater appears to be more continuous, suggesting a more permanent groundwater table may be present, rather than perched water as suggested by WSP. (C.9.5)
<p>Severn Trent Water Limited Comments</p> <p>Is the ES robust on any of the concerns raised or are there any outstanding issues?</p>	<p>Waterman are in general agreement with the concerns raised by Severn Trent Water Limited, and are generally in line with those already raised by the EA and discussed above.</p> <p>WSP’s response (dated June 2023) indicates the following:</p> <ul style="list-style-type: none"> • <u>Piling and need for a turbidity protocol – WSP does not fully understand their demand to fully resolve and develop Turbidity Protocol given monitoring and work is not yet complete and will delay the application:</u> Waterman understands that WSP has advocated for this issue to be dealt with via a Planning Condition and therefore would not be required to be fully covered by the EIA. Waterman is in agreement that a separate planning condition would be appropriate in order to avoid unnecessary delays in the planning process. • <u>WSP does not accept there is no site-specific investigation at/proximal to Holyhead Road Roundabout but does accept there are no such ground investigation (GI) data which fully penetrates the drift cover or enters into the bedrock:</u> Waterman agree that additional deeper GI is required. • <u>WSP accept there are no such ground investigation (GI) data which fully penetrates the drift cover or enters into the bedrock but are prevented from siting deep boreholes in proximity with Holyhead Road Roundabout:</u> WSP does not state any specific constraints to the GI which would prevent deeper boreholes being completed. Clarification on the constraints around the Holyhead Road roundabout should be sought. (C.9.6)

Topic	Geology and Soils
	<ul style="list-style-type: none"><li>• <u>WSP feel that the variable characteristics of the drift are reasonably and appropriately represented in SEI baseline descriptions and related assessments:</u> Waterman agrees.<li>• <u>WSP have provided evidence of correspondence relating to the relationship between groundwater and surface water:</u> Email correspondence between WSP and STWL have not been reviewed; it is recommended that clarification is sought from STWL to confirm they are satisfied with WSP's response. (C.9.7)

10. Historic Environment

Topic	Historic Environment
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES EIA Scoping Report, October 2019 • Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses • Table 1-1 of Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • Chapter 11: Historic Environment • Appendix 11.1: Historic Environment Desk Based Assessment • Appendix 11.2: Oxon Link Road, Shrewsbury Shropshire: Detailed Gradiometer Survey report February 2018 (Wessex Archaeology) • Appendix 11.3: Oxon Link Road, Bicton Heath, Shrewsbury: Archaeological Evaluation April 2019 (Wessex Archaeology) • Appendix 11.4: Archaeological geophysical survey along the route of the Shrewsbury North West Relief Road, Shropshire November 2019 to March 2020 (MOLA) • ES Volume 4: Non-Technical Summary <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 11: Historic Environment Addendum
<p>Key findings of the review:</p>	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p>No - The National Planning Policy Framework (NPPF) was updated in July 2021 and supersedes the NPPF 2019 referred to in the assessment. This update will have no effect on the assessment other than the reference to paragraph numbers. Paragraph 184 should now read 189, paragraphs 189 - 197 should now read 194 – 202.</p> <p>CiFA HEDBA guidance (reference is 2014) should be updated to refer to the updates in 2017 and 2020.</p>
<p>Has the methodology been set up correctly?</p>	<p>Yes.</p>
<p>Have baseline conditions been correctly identified?</p>	<p>No – Only a 500m study area provided for buried assets, no justification for this or agreement of search area with SC. (C.10.1)</p> <p>The Feb 2021 ES is dated 2021 but Historic Environment Record (HER) data is from 2019. A new HER data search should have been provided.</p>
<p>Has the impact assessment been undertaken in line with the agreed methodology, such as set</p>	<p>Yes.</p> <p>The archaeological assessment and evaluations</p>

Topic	Historic Environment
out at scoping stage?	presented in the Feb 2021 ES Chapter 11 and appendices have informed the archaeological baseline adequately and presented no methodological issues. The Aug 21 SESA Chapter 11 has assessed the significance of effect of the scheme changes adequately.
Are the findings of the assessment reasonable and defensible?	Yes.
Are the proposed mitigation measures appropriate and residual effects correctly assessed?	Yes.
Are cumulative effects correctly assessed and in line with the ES methodology chapter?	Yes.
NTS	Section 2 of the NTS is considered to be satisfactory.
Summary of Recommendations	
Are there any recommendations for clarifications to be sought?	<ul style="list-style-type: none"> • Provide justification on the 500m study area (C.10.1)
Are there any recommendations for the request of 'further information' under Regulation 25 of the EIA Regulations?	No.
Other Recommendations?	<ul style="list-style-type: none"> • Provide a new HER data search to confirm if any changes since the 2019 HER data.
Conclusions	In general, the Chapter 11 of the Feb 2021 ES and the Aug 2021 SESA is robust and fit for purpose, albeit there is one clarification requested to fully satisfy the requirements, as set out above.
Environment Agency Comments Is the ES robust on the concerns raised or are there any outstanding issues?	N/A
Better Shrewsbury Transport Comments Is the ES robust on any of the concerns raised or are there any outstanding issues?	N/A

11. Landscape and Visual

Topic	Landscape and Visual
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES EIA Scoping Report, October 2019 • Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • ES Chapter 12: Landscape and Visual • Figure 12.1: Landscape Constraints • Figure 12.2: Local Landscape Character Areas • Figure 12.3: Zone of Theoretical Visibility ZTV • Figure 12.4: Viewpoint Plan and Zone of Visual Influence • Figure 12.5: Baseline Photography • Figure 12.6: Photomontages • Appendix 12.1: Photomontage Methodology • Chapter 18: Cumulative Effects • ES Volume 4: Non-Technical Summary <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 12: Landscape & Visual Impact Addendum <p><u>Better Shrewsbury Transport Comments:</u></p> <ul style="list-style-type: none"> • Better Shrewsbury Transport Holding Objection – Pending Receipt of Further Information And Evidence 4th July 2023 • Supplementary objection by Better Shrewsbury Transport to Planning Application 21/00924/EIA North West Relief Road (10th March 2023) • 21/00924/EIA North West Road – Comments from Better Shrewsbury Transport (BeST) (Final 27th April 2021)
<p>Key findings of the review:</p>	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p>Yes.</p>
<p>Has the methodology been set up correctly?</p>	<p>Yes.</p>
<p>Have baseline conditions been correctly identified?</p>	<p>No.</p> <p>A review on baseline sensitivity assessment of landscape and visual receptors is required (C.11.1), for example:</p> <ul style="list-style-type: none"> • LLCA1 is low sensitivity, this should be medium. • Viewpoint 19 is given a high-medium sensitivity whereas viewpoints 5 and 15 are given a medium sensitivity. This does not seem consistent.
<p>Has the impact assessment been undertaken in</p>	<p>Yes.</p>

Topic	Landscape and Visual
line with the agreed methodology, such as set out at scoping stage?	
Are the findings of the assessment reasonable and defensible?	<p>No.</p> <p>Owing to sensitivities being incorrect during the baseline, this follows through to the assessment findings (C.11.2).</p> <p>Some landscape and visual magnitudes of changes are questionable (C.11.3), for example;</p> <ul style="list-style-type: none"> • LLCA1 is given a minor adverse magnitude of change which contradicts Table 12-7 where it is should be moderate, <i>“Partial loss or noticeable damage to existing landscape character or distinctive features or elements; and/or addition of new uncharacteristic, noticeable features or elements (i.e. road infrastructure).”</i> • Viewpoint 3 is given a moderate magnitude of change during construction when it should be major based on the methodology in Table 12-10.
Are the proposed mitigation measures appropriate and residual effects correctly assessed?	Residual effects and mitigation measures may need reviewing following a review of the baseline sensitivities (C.11.2) .
Are cumulative effects correctly assessed and in line with the ES methodology chapter?	<p>No.</p> <p>This will need reviewing following a review of the baseline sensitivities (C.11.1).</p>
NTS	Section 2 of the NTS is not considered to be satisfactory. Incorrect number of viewpoints has been referred to. LLCA 1 would have significant effects where none have been stated. This will need to be reviewed based on the review of the assessment (C.11.2) .
Summary of Recommendations	
Are there any recommendations for clarifications to be sought?	<p>Yes.</p> <ul style="list-style-type: none"> • Review of baseline sensitivity (C.11.1) and therefore assessments (C.11.2). • Review of magnitude of changes. (C.11.3) • Viewpoint & photomontage showing the proposed Shelton Rough River Severn Viaduct – this is a significant structure that is not shown in any viewpoints or photomontages. (C.11.4)
Are there any recommendations for the request of ‘further information’ under Regulation 25 of the EIA Regulations?	<p>Yes.</p> <ul style="list-style-type: none"> • Provide an assessment on the impacts on the tranquillity of Shrewsbury’s Green Wedge (R.11.1) • Provide an assessment on night-time views to address impacts of light pollution. No night-time photomontages have been submitted to support

Topic	Landscape and Visual
	the assessment commentary on artificial lighting. (R.11.2)
Other Recommendations?	Yes. <ul style="list-style-type: none"> • Provide direction arrows on viewpoint location plan to show orientation of view. • Waterman would expect photomontages to be produced for all viewpoints for a scheme of this nature.
Conclusions	<p>The correct methodology and guidance has been followed in the production of the Feb 2021 ES Chapter and Aug 2021 SESA Chapter Addendum. However, the findings need reviewing and amending to provide a robust assessment which is defensible. These clarifications and further information requests would also assist with addressing the Better Shrewsbury Transport comments.</p> <p>In general, the Chapter 12 of the Feb 2021 ES and Chapter 12 of the Aug 2021 SESA are not robust and fit for purpose, based on the comments and clarifications and further information requested to fully satisfy the requirements, as set out above.</p>
Environment Agency Comments Is the ES robust on the concerns raised or are there any outstanding issues?	N/A
Better Shrewsbury Transport Comments Is the ES robust on any of the concerns raised or are there any outstanding issues?	<p>The following comments have been raised by Better Shrewsbury Transport and remain outstanding issues:</p> <ul style="list-style-type: none"> • Page 7 of the 4th July 2023 holding objection - Visual assessment of proposed viaduct from Severn Way footpath. (C.11.4) • Page 41 of comments dated 27th April 2021 – Objection 5.1 - Landscape impacts of the scheme have been significantly understated. (C.11.2) • Page 44 of comments dated 27th April 2021 – Objection 5.2 - Visual impacts of the scheme have been significantly understated. (C.11.2) • Page 46 of comments dated 27th April 2021 – Objection 5.3 - Impacts on the tranquillity of Shrewsbury’s Green Wedge have not been properly assessed and are significant. (R.11.1) • Page 47 of comments dated 27th April 2021 – Objection 5.4 – Impacts on light pollution have not been properly assessed. (R.11.2)

12. Major Accidents and Disasters

Topic	Major Accidents and Disasters
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES EIA Scoping Report, October 2019 • Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses • Table 1-1 of Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • Chapter 13: Major Accidents and Disasters • Appendix 13.3 Risk Record • ES Volume 4: Non-Technical Summary
<p>Key findings of the review:</p>	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p>Yes.</p>
<p>Has the methodology been set up correctly?</p>	<p>Yes.</p> <p>Although there is reference to IEMA guidance, and the methodology is set up correctly, the most recent IEMA September 2020 Major Accidents and Disasters in EIA: A Primer, is not specifically referred to. Clarification is sought on whether this guidance has been considered in the EIA (C.12.1)</p>
<p>Have baseline conditions been correctly identified?</p>	<p>Yes.</p> <p>For completeness improved signposting to elsewhere in the Feb 2021 ES would be beneficial, as would cross references to specific sources of information.</p>
<p>Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?</p>	<p>No.</p> <p>The extent of the Study Area for the Feb 2021 ES Chapter is smaller than that proposed in the Scoping Report. The justification for rationalising the Study Area is not provided, just a statement to say “subsequent work found that the key influencing external factors lay within 250m of the proposed route/Site”. Identification of this subsequent work is required to clarify the approach. (C.12.2)</p>
<p>Are the findings of the assessment reasonable and defensible?</p>	<p>Yes.</p> <p>For the majority of the issues scoped out, although specific references are not made in some instances to published information, the rationale is sound and there is sufficient justification provided to scope out these issues. However, for those issues scoped out of the assessment, but where a CEMP, construction H&S Plan or other mitigation is relied upon it is recommended that they are collated into a summary</p>

Topic	Major Accidents and Disasters
	document to ensure they are captured through planning conditions or otherwise. For instance, in the case of wildfires during construction, the construction H&S Plan is relied upon to manage the risk of fire. As has been set out in the 'Primary Mitigation' column of Appendix 13.3.
Are the proposed mitigation measures appropriate and residual effects correctly assessed?	<p>Uncertain, depending on any updates following clarifications to other technical topics that inform this section it may be necessary to revisit and update accordingly.</p> <p>It would assist the reader if the mitigation were also summarised within Table 13.4 and 13.5 to demonstrate they are managed As Low A Risk As Possible (ALARP).</p>
Are cumulative effects correctly assessed and in line with the ES methodology chapter?	Yes.
NTS	<p>The Major Accidents and Disasters section of the of the NTS is not considered to be satisfactory.</p> <p>The potential impacts are identified, but not all the effects or consequences or an indication of the mitigation proposed. A summary here would assist the reader in a non technical manner. (C.12.3)</p>
Summary of Recommendations	
Are there any recommendations for clarifications to be sought?	<ul style="list-style-type: none"> • Clarification that the most recent IEMA September 2020 Major Accidents and Disasters in EIA: A Primer has been considered in the EIA (C.12.1) • Identification of the subsequent work undertaken following EIA Scoping to rationalise the Study Area is required to clarify the approach. (C.12.2) • The NTS is updated to set out further explanation of baseline, the consequences of the potential effects and the types of mitigation being proposed. (C.12.3)
Are there any recommendations for the request of 'further information' under Regulation 25 of the EIA Regulations?	No.
Other Recommendations?	<ul style="list-style-type: none"> • For completeness improved signposting to elsewhere in the ES would be beneficial, as would cross references to specific sources of information. • For those issues scoped out of the assessment and for the baseline, it is recommended cross reference to specific documents is made. For example, the source used to identify historic landslides or references made to UKCP18 information. • For those issues scoped out, but rely on mitigation

Topic	Major Accidents and Disasters
	<p>being brought forward, it is recommended they are collated into a summary document (if they are beyond the CEMP) to ensure they are captured through planning conditions or otherwise.</p>
<p>Conclusions</p>	<p>In general, the Chapter 13 of the ES is robust and fit for purpose, albeit there are 4 clarifications requested to fully satisfy the requirements, as set out above.</p>
<p>Environment Agency Comments Is the ES robust on the concerns raised or are there any outstanding issues?</p>	<p>No direct concerns have been raised in relation to the Major Accidents and Disasters topic within the EA Comments. However, a number of concerns have been raised in relation to the Road Drainage and Water Environment topic, which the Major Accidents and Disasters topic relies upon to inform the assessment of impact on risk of major accidents and disasters. Depending on any updates following clarifications to other technical topics that inform this section it may be necessary to revisit and update accordingly.</p>
<p>Better Shrewsbury Transport Comments Is the ES robust on any of the concerns raised or are there any outstanding issues?</p>	<p>No direct concerns have been raised in relation to the Major Accidents and Disasters topic within the Better Shrewsbury Transport Comments. However, a number of concerns have been raised in relation to piling and groundwater contamination and spillages, which the Major Accidents and Disasters topic relies upon to inform the assessment of impact on risk of major accidents and disasters. Depending on any updates following clarifications to other technical topics that inform this section it may be necessary to revisit and update accordingly.</p>

13. Materials and Waste

Topic	Materials and Waste
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES EIA Scoping Report, October 2019 • Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses • Table 1-1 of Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • Chapter 3: Description of the Proposed Scheme (Table 3.4 – Embedded mitigation to the Proposed Scheme) • Chapter 5: Approach to the Environmental Impact Assessment • Chapter 14: Materials and Waste • Chapter 18: Cumulative Effects • ES Volume 4: Non-Technical Summary <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 14: Materials and Waste Addendum • ES Non-Technical Summary Addendum
<p>Key findings of the review:</p>	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p>Yes.</p>
<p>Has the methodology been set up correctly?</p>	<p>DMRB LA 110 has been applied, however please see the below recommended clarifications including on how the methodology has been applied.</p>
<p>Have baseline conditions been correctly identified?</p>	<p>Baseline conditions are set out in paragraphs 14.6.1 – 14.6.32 of the Feb 2021 ES Chapter 14. There are a number of potential errors which may be typographical only but do create doubt in the relevance of the data presented and the interpretation of the data (C.13.1). Specifically:</p> <ul style="list-style-type: none"> • Figure 14-2 (page 13) – the heading refers to the East Midlands. Should it read “Transfer, material recovery and metal recycling in the <u>West Midlands Region</u> (all waste)? Is this a typographical error in the title only or is the data presented for a different region? • Figure 14-3 (page 14) – the heading refers to the South East of England. Should it read “Waste by management route, 2019, <u>West Midlands</u> (log scale)? Is this a typographical error only or is the data presented for the wrong region?

Topic	Materials and Waste
	<ul style="list-style-type: none"> • Paragraph 14.6.19 (page 14) refers to waste managed in the South East of England and further refers to table 14-7 (page 14) for which the title appears correct, but is the data in the table for West Midlands region? • Figure 14-4 (page 16) – the heading refers to the East Midlands. Should it read “Landfill capacity in the <u>West Midlands</u> region”? Is this a typographical error in the title only or is the data presented for a different region? We suspect the data either in Table 14-8 or Figure 14-4 are incorrect (e.g. table states 39,483,699m³ non-hazardous landfill void capacity remained at the end of 2019 in the West Midlands, whilst the figure indicates combined total of non-hazardous and hazardous waste to be less than 30,000,000m³ in 2019). • Table 14-6 (page 13) – total is incorrect, sum of number of sites = 1,092.
<p>Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?</p>	<p>DMRB LA 110 was the methodology agreed at scoping stage. Paragraph 3.21 of DMRB LA 110 states that “[t]he environmental assessment for material assets and waste shall report on the construction phase and first year of operational activities (opening year).” However, the conclusion of the “assessment of likely significant effects” for waste (paragraph 14.10.11) is based on the stated regional non-hazardous landfill void capacity at the end of 2019 (39,483,699m³; Table 14.8). (C.13.2)</p> <p>As DMRB LA 110 was the agreed methodology, clarification is recommended regarding the assumed assessment year of 2019 and why the impact assessment does not appear to have been carried out fully in line with the guidance. (C.13.3)</p> <p>Clarification is required on why an assessment of the embodied carbon of materials is reported to be scoped out of the assessment in Table 14-2 of the Feb 2021 ES Chapter 14 where an assessment is considered disproportionate to the benefit it would offer the assessment when Table 9-2 of the Feb 2021 ES Chapter 9: Climate Change indicates that the raw materials required for the Proposed Scheme are likely to be large and have therefore been scoped into the assessment. Paragraph 9.9.5 of the Feb 2021 ES Chapter 14: Climate Change estimates that approximately 70% of the construction phase GHG emissions are associated with materials. It is recommended that the materials chapter is reviewed in light of the findings of the Feb 2021 ES Chapter 14: Climate Change to confirm that the outlined mitigation measures are proportionate based on the findings of the analysis in Chapter 9. (C.13.4)</p>

Topic	Materials and Waste
Are the findings of the assessment reasonable and defensible?	Not at this time.
Are the proposed mitigation measures appropriate and residual effects correctly assessed?	<p>No waste mitigation measures are proposed in the chapter (SWMP offered as good practice measure) presumably because the assessment concluded the effects from the construction phase waste disposal are not significant. However, the outcome of the assessment presented is dependent on the construction contractor commitment to recover 90% of site clearance (demolition) materials (Table 14-13). How is this commitment to be secured? (C.13.5)</p> <p>Mitigation measures to reduce material waste generation will also require review following the findings of the recommended clarifications on baseline conditions and impact assessment. (C.13.6)</p>
Are cumulative effects correctly assessed and in line with the ES methodology chapter?	<p>Waste is not included in the cumulative effects assessment. This approach should be reviewed following the clarifications recommended (i.e. if the effects from construction phase waste are found to be significant). (C.13.7)</p> <p>Is the embodied carbon arising from materials included in the cumulative effects assessment and to what scope? The scope and approach of the embodied carbon emissions assessment needs to be clarified for the purposes of clearly establishing the GHG emissions related to materials during the construction phase. (C.13.8)</p>
NTS	The materials and waste section of the NTS should be reviewed following the clarifications recommended. (C.13.6)
Summary of Recommendations	
Are there any recommendations for clarifications to be sought?	<ul style="list-style-type: none"> • There are a number of potential errors in the baseline conditions set out in paragraphs 14.6.1 – 14.6.32 of the Feb 2021 ES which may be typographical only, but do create doubt in the relevance of the data presented. (C.13.1) • Clarification is required on why the quantity of waste predicted to be despatched for landfill disposal was expressed as a percentage of the predicted landfill void capacity available in 2019 rather than, for example, 2022. (C.13.2) • The Feb 2021 ES Chapter 14 does not explicitly state the construction period. Chapter 5 of the Feb 2021 ES confirms it to be spring 2022 to autumn 2023 (period unchanged in the Aug 2021 SESA). The approach of extrapolating remaining landfill void capacity into the future (approach shown on Figure 14-4) is considered reasonable,

Topic	Materials and Waste
	<p>however it is not clear the extrapolated data for remaining landfill void capacity for the construction period has been used in establishing the future baseline (paragraph 14.6.32). Clarification is required on which year the impact assessment was carried out on. (C.13.3)</p> <ul style="list-style-type: none"> • Clarification is required on why an assessment of the embodied carbon of materials is reported to be scoped out of the assessment in Table 14-2 of the Feb 2021 ES Chapter 14 whereas Chapter 9: Climate Change it has been scoped into the assessment. Paragraph 9.9.5 of the Feb 2021 ES Chapter 14: Climate Change estimates that approximately 70% of the construction phase GHG emissions are associated with materials. It is recommended that the materials chapter is reviewed in light of the findings of the Feb 2021 ES Chapter 14: Climate Change to confirm that the outlined mitigation measures are proportionate based on the findings of the analysis in Chapter 9. (C.13.4) • The assessment section states a contractor commitment to 90% diversion from landfill. Clarification is required on how this commitment will be secured. (C.13.5) • Mitigation measures and the NTS should be reviewed after baseline conditions and impact assessment recommended clarifications have been completed. (C.13.6) • It is recommended the cumulative effects chapter is reviewed after the impact assessment has been reviewed in order to confirm if it remains justifiable not to include waste. (C.13.7) • The scope and approach of the embodied carbon emissions assessment needs to be clarified for the purposes of clearly establishing the GHG emissions related to materials during the construction phase and any associated cumulative effects. (C.13.8)
<p>Are there any recommendations for the request of 'further information' under Regulation 25 of the EIA Regulations?</p>	<p>No.</p>
<p>Other Recommendations?</p>	<ul style="list-style-type: none"> • Given the number of recommended clarifications throughout the waste sections of the chapter, it is recommended the waste elements of the chapter are reviewed in detail and combined with the further information provided in the addendum to Chapter 14, in order to provide a single assessment of impact from waste. • A number of minor typographical errors noted on

Topic	Materials and Waste
	<p>review could also be addressed by that process.</p> <ul style="list-style-type: none"> The justification as to the exclusion of the life cycle assessment of materials, site arisings and waste should be reworded to make reference to the Feb 2021 ES Chapter 9 to provide clarity. It is recommended that the materials, site arisings and waste quantified within the Feb 2021 ES Chapter 14 are fully captured within the Life Cycle Assessment to evaluate the associated Embodied Carbon impact.
<p>Conclusions</p>	<p>Whether the Feb 2021 ES Chapter 14 and the Aug 2021 SESA Chapter 14 Addendum are robust and fit for purpose, will be confirmed following responses to the above six clarification requests and any revised assessment.</p>
<p>Environment Agency Comments</p> <p>Is the ES robust on the concerns raised or are there any outstanding issues?</p>	<p>N/A</p>
<p>Better Shrewsbury Transport Comments</p> <p>Is the ES robust on any of the concerns raised or are there any outstanding issues?</p>	<p>N/A</p>

14. Noise and Vibration

Topic	Noise and Vibration
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES EIA Scoping Report – Chapter 13 Noise and Vibration, October 2019 • Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses • Table 1-1 of Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • ES Chapter 15: Noise and Vibration • Figure 15.1: Construction Noise & Vibration Receptor Locations • Figure 15.2: Operational Noise Study Area • Figure 15.3: Noise Survey Monitoring Location • Figure 15.4: Non Dwelling Noise Sensitive Receptors • Figure 15.5: Opening Year Baseline Noise Levels • Figure 15.6: Opening Year Scheme Noise Levels • Figure 15.7: Future Year Scheme Noise Levels • Figure 15.8: Short Term Noise Level Changes • Figure 15.9: Long Term Noise Level Changes • Figure 15.10: Short Term Noise Level Changes Secondary Mitigation • Appendix 15.2: Noise – Guidance Documents • Appendix 15.3: Noise Monitoring Surveys • Appendix 15.4: Construction Plant Machinery • Appendix 15.5: Non Dwelling Noise Sensitive Receptors • ES Chapter 18: Cumulative Effects • ES Volume 4: Non-Technical Summary <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 15: Noise and Vibration Addendum • Supplementary Environmental Statement Non-Technical Summary Addendum <p><u>Jan 2023 SEI:</u></p> <ul style="list-style-type: none"> • Supplementary Environmental Information Appendix 1.M: Additional Noise Information • Supplementary Environmental Information Non-Technical Summary <p><u>Better Shrewsbury Transport Comments:</u></p> <ul style="list-style-type: none"> • Supplementary objection by Better Shrewsbury Transport to Planning Application 21/00924/EIA

Topic	Noise and Vibration
	<p>North West Relief Road (10th March 2023)</p> <ul style="list-style-type: none"> 21/00924/EIA North West Road – Comments from Better Shrewsbury Transport (BeST) on Response to Statutory Consultation (WSP, 9th July 2021) 21/00924/EIA North West Road – Comments from Better Shrewsbury Transport (BeST) (Final 27th April 2021)
Key findings of the review:	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p>Yes – based on Feb 2021 ES Chapter 15. Post submission of the Feb 2021 ES, National Planning Policy Framework 2019 has been replaced by NPPF July 2021. No material change to noise, only change in paragraph numbering. Planning Policy Guidance has been updated 24 June 2021, although no change to noise guidance.</p> <p>Transport Analysis Guidance Unit A3, last published 31 May 2019, was last updated 31 May 2023. Does not affect reference re conversion of $L_{A10,18h}$ to $L_{Aeq,16h}$ (paragraph 15.2.7) which remains unchanged.</p> <p>Noise Insulation Regulations (NIR) are referred to, but a NIR assessment has not been undertaken. This is required to identify if houses exposed to road traffic noise level of $\geq 68dB L_{A10,18h}$ would qualify for an NIR grant. (Refer to E/2 of DMRB LA111) (R.14.1)</p>
<p>Has the methodology been set up correctly?</p>	<p>Yes.</p> <p>Provide reference of PPV level and damage presented in 'Table 15-12: Magnitude of impact for vibration damage' in Chapter 15 of the Feb 2021 ES. (C.14.1)</p>
<p>Have baseline conditions been correctly identified?</p>	<p>Yes – it is considered adequate given the large area and that it informs the construction phase rather than assessment of operational road traffic noise. Assessment of road traffic noise is based on predicted noise level with and without the Proposed Scheme.</p>
<p>Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?</p>	<p>Yes – However, since submission of the EIA Scoping Report (dated 25/10/19), DMRB HD 213/11, IAN 185/15 was replaced by DMRB LA111. This is stated in the ES and the most recent document used for assessment of operational road traffic noise. Clarification is sought on whether operational noise calculations adhered to Appendix A of DMRB LA111. (C.14.2)</p> <p>The DMRB LOAEL and SOAEL for vibration has also been adopted which differs slightly to that presented</p>

Topic	Noise and Vibration
	<p>in the EIA Scoping Report.</p> <p>Assessment of Operational Airborne Vibration Assessment, as detailed in the EIA Scoping Report was not undertaken within the Feb 2021 ES, however this is not included within DMRB LA111 and therefore considered acceptable.</p>
<p>Are the findings of the assessment reasonable and defensible?</p>	<p><u>Construction</u> – Yes, although shortest distance from works to each receptor is not reported. Plant on which calculations are based together with on-times is clear (Feb 2021 ES Appendix 15.4). Residual effects (with mitigation) are not presented for each receptor. Calculation details within Feb 2021 ES Appendix 15.4, detailing distance of works from receptor on which calculations are based should be provided (C.14.3)</p> <p><u>Operational Road Traffic Noise</u> – Yes in terms of the numerous results tables and text accompanying the tables.</p> <p>Residual text is hard to follow as it is not clear which result are being discussed, short-term or long-term. Also confusing as it states ‘not withstanding secondary mitigation’, which is taken as results without secondary mitigation, yet the text seems to refer to the short-term results with secondary mitigation (Table 15.27 of the Feb 2021 ES Chapter 15). Descriptive text is inconsistent in terminology describing the ‘direct permanent adverse effects as ‘high’ significance yet ‘high’ is not mentioned in Table 15.16.</p> <p>Also it states a noise effect level reduction of ‘low to medium’ significance’, which again is not a descriptor presented in the methodology section (Refer to Table 15.16 for significance of effect) and it is not clear if this refers to short-term or long-term.</p> <p>Aug 2021 SESA Supplementary Environmental Statement 15: Noise and Vibration Addendum – Updates RTN assessment owing to design changes to the Proposed Scheme. The assessment of likely significant effects in Section 1.3 and associated Appendices is clear as is its comparison with the Feb 2021 ES results.</p> <p>Jan 2023 SEI Appendix 1.M: Additional Noise Information – does not look at the effect of increasing the height of embedded mitigation above 2m only increasing the height of secondary mitigation. No reason is provided for this approach, such as engineering restrictions with regard to embedded mitigation. (C.14.4.)</p> <p>Jan 2023 SEI Appendix 1.M: Additional Noise Information presents results for night-time predicted</p>

Topic	Noise and Vibration
	<p>road traffic noise levels, which are derived from Method 3 TRL which is reasonable. However, given the night-time noise level is derived from the predicted $L_{A10,18h}$ noise level, similar results to daytime road traffic noise assessment in terms of change in noise levels at dwellings is expected and reported.</p> <p>Jan 2023 SEI Appendix 1.M: Additional Noise Information – Section 5 results tables for a selection of specific locations are clear.</p>
<p>Are the proposed mitigation measures appropriate and residual effects correctly assessed?</p>	<p>Yes - proposed mitigation measures for both construction and operational road traffic noise are appropriate, although not clear what the embedded mitigation for operational road traffic noise comprises of or where the secondary mitigation in terms of 2m barriers are. It is not clear if embedded mitigation of 2m barriers would benefit from being higher acoustically or if this is restricted due to engineering constraints or if higher barriers of embedded mitigation would have negligible acoustic benefit. (C.14.4)</p> <p>Construction residual effects (with mitigation) are not presented for each receptor. (C.14.5)</p> <p>The construction residual effects in the Feb 2021 ES Chapter states 'not significant' despite it stating that for some receptors noise and vibration above SOAEL occurs when works are occurring at the shortest distance. It just assumes that with CEMP levels will be adequately reduced to 'not significant' which is an unsupported statement. (C.14.6)</p> <p>As above, for operational road traffic noise, residual text is hard to follow as it is not clear which result are being discussed, short-term or long-term. Also difficult to understand as it states 'not withstanding secondary mitigation', which is taken as results without secondary mitigation, yet the text seems to refer to the short-term results with secondary mitigation (Table 15.27).</p> <p>Descriptive text is inconsistent in terminology describing the 'direct permanent adverse effects' as 'high' significance yet 'high' is not mentioned in Table 15.16.</p> <p>Aug 2021 SESA Addendum – residual effects are clear – short-term effects of large adverse significance reduce from 23 to 21.</p>
<p>Are cumulative effects correctly assessed and in line with the ES methodology chapter?</p>	<p>Feb 2021 ES Chapter 18:</p> <p>No - Cumulative effects from construction noise and vibration not assessed. Refer to earlier comment seeking clarification (C.14.6) on how effects become 'not significant' following implementation of the</p>

Topic	Noise and Vibration
	<p>CEMP.</p> <p>Yes - Operational RTN – includes traffic from cumulative schemes.</p>
NTS	<p>Feb 2021 ES NTS – As per earlier comment (C.14.6), Paragraph 2.1.124 states that with the CEMP effects will not be significant, whereas residual effects in the Feb 2021 ES Chapter 15 states ‘not significant’ despite it stating that some noise and vibration receptors are above SOAEL occurs when works are occurring at the shortest distance. It just assumes that with the CEMP, levels will be adequately reduced to ‘not significant’ which is an unsupported statement.</p> <p>Feb 2021 ES NTS - Summary of operational road traffic noise in paragraph 2.1.125 does not accord with the ES residual effects. Again, it is not clear if this is short-term or long-term assessment and inconsistency of terminology used - ‘low to medium benefit’ – to be consistent with ES terminology in Table 15.6 of ES, it should be either neutral, slight, moderate, large or very large.</p> <p>Aug 2021 SESA NTS – statement is considered true, however the Feb 2021 ES NTS is conflicting with information within the ES residual effects.</p> <p>Jan 2023 SEI NTS – States “The overall effects are unchanged from those reported in the SESA Aug 21”. This is a true statement, although it would benefit from a summary of the results for completeness and transparency given the Feb 2021 ES NTS is conflicting with information within the Feb 2021 ES residual effects.</p>
Summary of Recommendations	
<p>Are there any recommendations for clarifications to be sought?</p>	<p>Yes.</p> <p>Shropshire Council’s Environmental Health Officer requested further information on the noise assessment submitted in the Feb 21 ES and Aug 21 SESA, which has been presented in the Jan 2023 SEI Appendix 1.M: Additional Noise Information:</p> <ol style="list-style-type: none"> 1. A night-time noise assessment; 2. Detailed noise level predictions at individual noise sensitive receptors in specific locations; and 3. Further investigation of the recommended noise mitigation, specifically the height of proposed additional noise barriers. <p>Waterman consider the above requests have been adequately addressed in the Jan 2021 SEI Appendix 1.M which provides the additional information requested by Shropshire Council’s EHO.</p> <p>Summary of further clarifications from Waterman:</p>

Topic	Noise and Vibration
	<ul style="list-style-type: none"> • Provide reference of PPV level and damage presented in Table 15-12 in the Feb 2021 ES. (C.14.1) • Have operational noise calculations adhered to Appendix A of DMRB LA111? (C.14.2) • Construction – include calculation details within Feb 2021 ES Appendix 15.4, detailing distance of works from receptor on which calculations are based. (C.14.3) • Details on how embedded mitigation was derived or application of low noise surface to whole of the new road and why it is not possible to increase height of embedded mitigation barriers. Only an assessment of increasing height of secondary mitigation is presented in Jan 2023 SEI Appendix 1.M: Additional Noise Information. (C.14.4) • Present the construction residual effects (with mitigation) for each receptor. (C.14.5) • Provide greater clarity on how the CEMP reduces residual effects to ‘not significant’. (C.14.6) • Additional information on receptors potentially exposed to higher noise levels than based on CRTN prediction methodology. For example, those near roundabouts and / or regularly exposed to a preferential wind from road to receptor. How would this impact the presented results with secondary mitigation. (C.14.7) • Why has low noise surface not been applied to the whole road? (C.14.8) • Confirmation that proposed low noise surface is Thin Wearing Course (TWC) type. What reduction in road traffic noise has been applied within the noise model for TWC section? (C.14.9)
<p>Are there any recommendations for the request of ‘further information’ under Regulation 25 of the EIA Regulations?</p>	<p>Yes –</p> <ul style="list-style-type: none"> • Provide a Noise Insulation Regulations (NIR) Assessment – to identify if houses exposed to road traffic noise level of $\geq 68\text{dB LA}_{10,18\text{h}}$ would qualify for NIR grant. (Refer to E/2 of DMRB LA111) (R.14.1) • Provide an assessment of impact on tranquillity of the ‘Green Wedge’. (R.14.2)
<p>Other Recommendations?</p>	<p>Yes –</p> <ul style="list-style-type: none"> • Amend inconsistent terminology in significance of effects throughout the Feb 2021 ES and NTS – e.g. use of ‘high significance’ should be replaced with ‘large significance’ in line with significance effect level criteria provided in Table 15-16 of the Feb 2021 ES Chapter 15. Make it clearer in conclusions whether effects are short or long-term.

Topic	Noise and Vibration
	<ul style="list-style-type: none"> The Jan 2023 SEI NTS would benefit from a summary of the results for completeness and transparency given the Feb 2021 ES NTS is conflicting with information within the Feb 2021 ES residual effects.
Conclusions	<p>In general, the Chapter 15: Noise and Vibration of the Feb 2021 ES together with Aug 2021 SESA and Jan 2023 SEI Appendix 1.M: Additional Noise Information (January 2023) is considered robust and fit for purpose, albeit there are two potential Reg 25 requests and nine clarifications requested to fully satisfy the requirements, as set out above.</p>
Environment Agency Comments Is the ES robust on the concerns raised or are there any outstanding issues?	Not applicable.
Better Shrewsbury Transport Comments Is the ES robust on any of the concerns raised or are there any outstanding issues?	<p><u>Objection 8.1 - Unreliable noise modelling</u>: It is understood that comments are made on the potential underestimation of road traffic noise at roundabout locations where cars break and slowdown and accelerate when pulling away but also HGVs in the crawler lane. Other comments are re: localised climatic conditions at viaduct location and preferential wind direction from source to receiver.</p> <p>Noise at roundabouts where traffic decelerates and accelerates, travelling at a speed below 20kph is outside CRTN predictive methodology and would have to be measured at a comparable roundabout. CRTN does not take account of localised climatic conditions or preferential wind direction from source to receptor. If at certain locations which are known regularly to experience or are subject to the prevailing winds, the effect of wind on noise could be dealt with by an adjustment to the CRTN calculated value. There is no standard approach or algorithm on this.</p> <p>Notwithstanding the above, at face value, using CRTN methodology, CadnaA noise modelling software, LiDAR data for height information and traffic forecast data (18-hour AAWT, %HGVs and speed (kph), the noise modelling approach is considered reasonable and in line with CRTN methodology. At face value the Feb 2021 ES noise modelling used for assessment of operational road traffic noise is considered robust and in-line with CRTN methodology, although it is accepted that assessment of road traffic noise at receptors near roundabouts may be underpredicted. This could be dealt with by application of a +XdB adjustment, informed from measurements at a comparable roundabout link and comparison with CRTN prediction based on minimum 20kph criteria, to take account of this. (C.14.7)</p>

Topic**Noise and Vibration**

Objection 8.4 - The proposal conflicts with National Guidance on noise: Agreed it conflicts with NPPF 'Chapter 15. Conserving and enhancing the natural environment', paragraph 174: '*Planning policies and decisions should contribute to and enhance the natural and local environment by:*

*...e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or **noise** pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;*

There is no justification as to why a low noise surface has not been applied to the whole road and only the section from Churncote Roundabout and Hollyhead Road. Further clarification on this is requested.

(C.14.8)

Objection 8.5 - The noise assessment has not considered the significant impact of the road on Tranquillity and in particular "The Green Wedge":

This is not addressed in the Feb 2021 ES or in supplementary information and is therefore considered as outstanding information and a potential Regulation 25 request **(R.14.2)**. Even though it is accepted there are no standard methods for assessment, discussion of prevailing noise levels and how they would change with the Proposed Scheme, such as noise difference contour plot, would provide a useful basis for discussion such as impact on PROWs and the 'Green Wedge'.

15. Population and Health

Topic	Population and Health
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES EIA Scoping Report, October 2019 • Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses • Table 1-1 of Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • Chapter 7: Agriculture and Soil Resources • Chapter 16: Population and Human Health and all associated Appendices • Chapter 18: Cumulative Effects • Appendix 18.2 Committed Development In Combination Effects Assessment • ES Volume 4: Non-Technical Summary <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 16: Population and Health Addendum <p><u>Jan 2023 SEI:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 7: Population and Health Addendum • Supplementary ES Chapter 4: Agriculture and Soils Addendum <p><u>Better Shrewsbury Transport Comments:</u></p> <ul style="list-style-type: none"> • Supplementary objection by Better Shrewsbury Transport to Planning Application 21/00924/EIA North West Relief Road (10th March 2023)
<p>Key findings of the review:</p> <p>Have the correct guidance, policies and legislation been referred to?</p> <p>Has the methodology been set up correctly?</p>	<p>Yes – the correct guidance, policies and legislation has been referred to, noting that the Feb 2021 ES and Aug 2021 SESA were submitted prior to more recent Guidance from the IEMA on Human Health in EIA which supersedes ‘<i>Health in Environmental Impact Assessment: A primer for a proportionate approach</i>’ IEMA Guidance.</p> <p>Confirm whether regard has been had within the January 2023 Addendum to the latest IEMA guidance on Human Health and no additional topics were required to be scoped into the assessment on human health as a result. (C.15.1)</p> <p>The methodology is clear and refers to the appropriate guidance and legislation including the main document relied on, ‘LA 112 Population and human health’ produced by Highways England.</p>

Topic	Population and Health
	<p>However, three issues for clarification/further information are noted below.</p> <p>Paragraph 16.2.2 of the Feb 2021 ES states that vulnerable groups are assumed to be present throughout the study area. Subsequently, there is no baseline evidence that specifically identifies vulnerable groups or their prevalence in the study area. This makes it unclear how the sensitivity of receptors in relation to human health have been determined. Clarity on the reason for assuming this would be helpful e.g. does it present a worst-case-scenario? (C.15.2)</p> <p>Table 16.3 of the Feb 2021 ES states the EIA Scoping Opinion by the local planning authority requested to include impacts relating to socio-economic effects including increased employment and economic output during construction. Socio-economics is consequently scoped into the construction stage assessment, but scoped out of the of the operational stage assessment on the basis there is no direct employment generated during operation. Appendix 1.2 EIA Scoping Opinion and Consultee Responses states that <i>'the proposed Scheme is also expected to create new opportunities for future development, generating a range of socio-economic effects including increased employment and economic output (defined in terms of Gross Value Added (GVA)). Therefore, as a complement to the People & Communities section, a socio-economic impact assessment will also be undertaken. The assessment should include impacts relating to opportunities to exercise, community structure, access to services/jobs, economic growth and other effects of the proposed scheme'</i> (Section 10, Annex A, Formal Scoping Opinion). In referring to future development opportunities, the EIA Scoping Opinion does not appear to be just referring to socio-economics effects at construction stage as interpreted by the Applicant.</p> <p>Table 1-1 of the Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses does not provide any further justification for this and simply states that employment impacts have been assessed at construction stage with no reference to operational stage impacts including economic growth and access to services/jobs. It is not clear, therefore that the EIA Scoping Opinion has fully been taken into account within the Feb 2021 ES and further justification for scoping out socio-economics at operational stage is required. (C.15.3)</p> <p>Guidance note 'LA 112 Population and human health', which is relied upon in the assessment,</p>

Topic	Population and Health
	<p>refers to a number of conditions relevant to human health including sources of pollution including ‘light, odour and contamination’ as well as ‘landscape amenity’. It also refers to severance/accessibility and the ability of communities to access employment (paragraph 3.21). The Feb 2021 ES Chapter 16 assesses the impacts of severance on available development land and on the impact to businesses, however it is not clear that an assessment of the communities/population ability to access their place of employment has been considered in the impact assessment and is not cross referred to in the human health section of the assessment. These aspects do not appear to have been considered in scoping as part of the assessment and it is therefore not clear as to the justification for their exclusion from the assessment. (C.15.4)</p> <p>All other aspects of the methodology have been set up correctly and follow the relevant guidance.</p>
<p>Have baseline conditions been correctly identified?</p>	<p>In the main, yes, the baseline conditions have been correctly identified, notwithstanding the above clarification request in relation to the identification and prevalence of vulnerable groups.</p> <p>In addition, the baseline on ‘development land and businesses’ would be further enhanced by an understanding of the number of employees at each business affected (listed in Table 3-1, Appendix 16.1 of the Feb 2021 ES) in order to add further validation to the assessed sensitivity.</p> <p>The baseline on ‘development land and businesses’ could be further enhanced by an understanding of the number of employees at each business affected by severance.</p>
<p>Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?</p>	<p>The impact assessment has been undertaken as described in the methodology set out in the Feb 2021 ES Chapter 16. However, as noted above (C.15.4), the impact assessment has potentially omitted an assessment of socio-economics at operation stage and an assessment of sources of pollution and severance/accessibility to employment.</p>
<p>Are the findings of the assessment reasonable and defensible?</p>	<p>The findings to relation human health are in part reliant on other EIA topics including the Feb 2021 ES Chapter 6: Air Quality, Chapter 15: Noise and Vibration, Chapter 17: Road Drainage and the Water Environment and the Flood Risk Assessment. It is only subject to the outcome of the review of these topics including whether they respond appropriately to comments from Better Shrewsbury Transport and the Environment Agency, that the findings of the assessment in relation to human health can be</p>

Topic	Population and Health
	<p>assessed as reasonable and defensible. (C.15.5)</p> <p>All other aspects of the assessment are reasonable and defensible.</p>
<p>Are the proposed mitigation measures appropriate and residual effects correctly assessed?</p>	<p>In the main yes, although subject to the outcome of the review of the other topics noted above that have informed the assessment of human health.</p> <p>Paragraph 16.1.3 states a moderate beneficial effect on Hencott Wood, whereas the assessment at paragraph 16.8.36 states a moderate adverse effect. Clarify the effect and amend as appropriate. (C.15.6)</p> <p>The beneficial effects of employment at construction stage could be enhanced through the deployment of a community employment plan which identifies opportunities for local recruitment and training opportunities during the construction phase.</p>
<p>Are cumulative effects correctly assessed and in line with the ES methodology chapter?</p>	<p>Where there is potential for the construction period of cumulative schemes to overlap with the construction period of the Proposed Scheme it is not clear whether the in-combination effects of this have been assessed within the population and human health topic, and if not, justification for this. For example, Table 1 of Appendix 18.2 (Feb 2021 ES) identifies that scheme '1' (20/03570/FUL) has potential for the construction period to overlap but no population and human health assessment has been presented. (C.15.7)</p>
<p>NTS</p>	<p>Section 'Population and Human Health' (paragraphs 2.1.127 to 2.1.134 inclusive) of the NTS is considered to be satisfactory.</p>
<p>Summary of Recommendations</p>	
<p>Are there any recommendations for clarifications to be sought?</p>	<p>The following clarifications and recommendations have been identified:</p> <ul style="list-style-type: none"> • Confirm whether regard has been had within the Jan 2023 SEI to the latest IEMA guidance on Human Health and no additional topics were required to be scoped into the assessment on human health as a result. (C.15.1) • Paragraph 16.2.2 of the Feb 2021 ES states that vulnerable groups are assumed to be present throughout the study area. Clarity on the reason for assuming this would be helpful e.g. does it present a worst-case-scenario? (C.15.2) • It is not clear that the EIA Scoping Opinion has fully been taken into account within the Feb 2021 ES in relation to socio-economic considerations and further justification for scoping out socio-economics at operational stage is required. (C.15.3)

Topic	Population and Health
	<ul style="list-style-type: none"> • Guidance note ‘LA 112 Population and human health’ refers to a number of conditions relevant to human health including sources of pollution including light, odour and contamination’ as well as ‘landscape amenity’. It also refers to severance/accessibility and the ability of communities to access employment (paragraph 3.21). These aspects do not appear to have been considered in scoping as part of the assessment and it is therefore not clear as to the justification for their exclusion from the assessment. (C.15.4) • The findings in relation to human health are in part reliant on other EIA topics including ES Chapter 6 Air Quality, Chapter 15 Noise and Vibration, Chapter 17 Road Drainage and the Water Environment and the Flood Risk Assessment. It is only subject to the outcome of the review of these topics, that the findings of the assessment in relation to human health can be assessed as reasonable and defensible. (C.15.5) • Paragraph 16.1.3 states a moderate beneficial effect on Hencott Wood, whereas the assessment at paragraph 16.8.36 states a moderate adverse effect. (C.15.6) • Where there is potential for the construction period of cumulative schemes to overlap with the construction period of the Proposed Scheme it is not clear whether the in-combination effects of this have been assessed within the population and human health topic, and if not, justification for this. (C.15.7)
<p>Are there any recommendations for the request of ‘further information’ under Regulation 25 of the EIA Regulations?</p>	<p>No.</p>
<p>Other Recommendations?</p>	<ul style="list-style-type: none"> • The baseline on ‘development land and businesses’ would be further enhanced by an understanding of the number of employees at each business affected (listed in Table 3-1, Appendix 16.1 of the Feb 2021 ES) in order to add further validation to the assessed sensitivity. • The baseline on ‘development land and businesses’ could be further enhanced by an understanding of the number of employees at each business affected by severance. • The beneficial effects of employment at construction stage could be enhanced through the deployment of a community employment plan which identifies opportunities for local recruitment and training opportunities during the construction phase.

Topic	Population and Health
<p>Conclusions</p>	<p>In general, the Chapter 16 of the Feb 2021 ES and Section 17 of the Aug 2021 SESA and Section 7 of the Jan 2021 SEI is robust and fit for purpose with the correct guidance followed. There are however seven clarifications to fully satisfy the requirements, as set out above.</p>
<p>Environment Agency Comments</p> <p>Is the ES robust on the concerns raised or are there any outstanding issues?</p>	<p>No direct concerns have been raised in relation to the Population and Human Health topic within the EA Comments. However, a number of concerns have been raised in relation to the Road Drainage and Water Environment topic, which the Population and Human Health topic relies upon to inform the assessment of impact on human health. A review of these comments indicates that they are unlikely to have a material impact on the Population and Human Health topic, particularly given that the assessment only identifies positive/negative impacts rather than the scale of significance (as recommended in Guidance). However, this does not take into account any other clarifications of further information requests that may be made as part of the review of this topic. Therefore, depending on the outcome of the review of the Road Drainage and Water Environment topic, the Population and Human Health topic may need to take account of any clarifications or requests for information which lead to the identification of human health impacts that not already been identified in the Population and Human Health Chapter. (C.15.5)</p>
<p>Better Shrewsbury Transport Comments</p> <p>Is the ES robust on any of the concerns raised or are there any outstanding issues?</p>	<p>No direct concerns have been raised in relation to the Population and Human Health topic within the Better Transport Comments. However, a number of concerns have been raised in relation to Air Quality, Noise Quality, Agriculture Land and Soils and the Flood Risk Assessment including in some instances the robustness of modelling. The Population and Human Health Chapter relies upon information and assessments within these topics to inform the assessment of human health. Depending on the outcome of the review of these topics, the Population and Human Health topic may need to take account of any clarifications or requests for information which lead to the identification of human health impacts or changes to the human health impacts that not already been identified in the Population and Human Health Chapter and Addendums. (C.15.5)</p>

16. Road Drainage and Water Environment

Topic	Road Drainage and Water Environment
<p>List of documents reviewed:</p>	<p><u>EIA Scoping Report and Opinion:</u></p> <ul style="list-style-type: none"> • Feb 2021 ES EIA Scoping Report, October 2019 • Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses • Table 1-1 of Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses <p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • ES Chapter 3: Description of the Proposed Scheme • Chapter 17: Road Drainage and Water Environment including all Figures and Appendices • ES Volume 4: Non-Technical Summary <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 17: and Water Environment Addendum including all Figures <p><u>Jan 2023 SEI:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 6: and Water Environment including all Figures <p><u>Environment Agency Comments:</u></p> <ul style="list-style-type: none"> • EA letter dated 3 May 2023 • EA letter dated 6 July 2023 <p><u>Better Shrewsbury Transport Comments:</u></p> <ul style="list-style-type: none"> • Better Shrewsbury Transport Holding Objection – Pending Receipt of Further Information And Evidence 4th July 2023 • 04/07/23: ‘Proposed North West Relief Road, Shrewsbury. Supplementary response from Better Shrewsbury Transport (DRAFT) regarding the risk that the proposed North West Relief Road (NWRR) poses to Shrewsbury’s water supply’. • Supplementary objection by Better Shrewsbury Transport to Planning Application 21/00924/EIA North West Relief Road (10th March 2023) • 21/00924/EIA North West Road – Comments from Better Shrewsbury Transport (BeST) (Final 27th April 2021) <p><u>Severn Trent Water Comments</u></p> <ul style="list-style-type: none"> • STW letter dated 22 April 2021 • STW letter dated 3 May 2023
<p>Key findings of the review:</p>	
<p>Have the correct guidance, policies and legislation been referred to?</p>	<p>Yes, apart from Paragraph 17.2.1 of the Feb 2021 ES does not refer to the latest CIRIA SuDS guidance, namely The SuDS Manual C753.</p>

Topic	Road Drainage and Water Environment
Has the methodology been set up correctly?	Yes.
Have baseline conditions been correctly identified?	Yes.
Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?	Yes.
Are the findings of the assessment reasonable and defensible?	<p>No. The importance of safeguarding attributes such as; TW Shelton borehole public water supply and surrounding SPZ's 1 and 2, the Kinnerton Sandstone aquifer, and Eastern Floodplain has been compromised due to the provision of a lower than expected magnitude of impact rating provided in the following tables of the Jan 2023 SEI Appendix 6.B: Water Environment Risk Assessment (WERA) (C.16.1):</p> <ul style="list-style-type: none"> • Table 1-11 Significance of Effect - Proposed Scheme pressures affecting groundwater receptors during construction. • Table 1-15 Significance of Effect - Proposed Scheme pressures affecting groundwater receptors under specified operational accident scenarios. • Table 1-17 Residual Significance of Effect - Proposed Scheme pressures affecting groundwater receptors during construction. • Table 1-21 Residual Significance of Effect - Proposed Scheme pressures affecting groundwater receptors under specified operational accident scenarios. <p>The EA noted several points affecting the scoring including:</p> <ul style="list-style-type: none"> • The scoring given to the Groundwater water features of TW Shelton borehole and SPZ's 1 and 2. WSP have been given lower values that the EA consider appropriate given the attributes importance, sensitivity and the significance of impact from the proposal. DMRB LA113 provide the standard for such an assessment. • The potential pollutant pathway (PPL) between groundwater and watercourse is not agreed by the EA and needs further consideration in a response to their separate review (not covered in this assessment). • The contributing ratio between the groundwater and river water supply sources to the STW Shelton borehole. WSP note a smaller contribution from the groundwater, however the EA state no evidence is available to quantify the ratio from 'river leakage'.

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Are the proposed mitigation measures appropriate and residual effects correctly assessed?	No, the assessments perceive a lower than expected risk level and therefore mitigation requirements. The resultant lower than EA agreed Residual Significance of Effect risk prevents expected mitigation measures such as groundwater monitoring and Turbidity Protocols from being proposed for the proposal such as at the B4380 Holyhead Roundabout, Pier 1, and the Western Abutment Piling. (C.16.2)
Are cumulative effects correctly assessed and in line with the ES methodology chapter?	No, the lower than agreed WERA scoring noted in the section above may well impact cumulative findings for groundwater. (C.16.3)
NTS	In general, this does not cover all issues covered within the Feb 2021 ES Chapter 17 and may require updating following a further review of the effects and mitigation measures described above. (C.16.3)
Summary of Recommendations	
Are there any recommendations for clarifications to be sought?	<p>Yes, clarification on the comments stated above and in section 'Environment Agency Comments' below requires actioning:</p> <ul style="list-style-type: none"> • Further clarification on the magnitude of impact rating provided in Tables 1-11, 1-15, 1-17, and 1-21 of the Jan 2023 SEI Appendix 6.B: Water Environment Risk Assessment (WERA). (C.16.1) • Following a review of magnitude of impact ratings and resultant significance of effects, mitigation measures require further review. (C.16.2) • Following a review of magnitude of impact ratings and resultant significance of effects, cumulative effects and NTS may require further review. (C.16.3) • The requirement for infiltration device bases to be a suitable distance above site established maximum groundwater levels, as per Paragraph 2.6 of DMRB CD530, and The SuDS Manual (C.16.4) • The WFD assessment requires a review, following the conclusions of responses to separate EA comments on the supporting documents. (C.16.5) • The potential pollutant pathway (PPL) of the river and groundwater interaction in a spillage event needs further consideration in the dispersity assessment/DQRA, following the conclusions of responses to separate EA comments (C.16.6) • The relationship between shallow groundwater control and mitigation measures such as a sealed drainage network in SPZ's 1 and 2, requires further clarification in particular basing mitigations on maximum groundwater levels not average

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levels. **(C.16.7)**

- Section 6.5: The risk reduction measures stated within the CEMP (Paragraph 6.5.6) and DQRA (Paragraphs 6.5.10 and 6.5.11) are based on future speculations of authorities to co-operate and action a new mitigation plan, rather than existing suitable agreements. Evidence is required to substantiate the proposed level risk, such as additional detail within the road's detailed design and Maintenance Plan, and an agreed and funded Multi-agency Recovery Plan of the County Council similar interest group. **(C.16.8)**
- The quantifiable ratio of water the public water supply borehole gets from the Kinnerton Sandstone aquifer and 'leakage from the river' would need to be evidenced further. **(C.16.9)**
- Comments are on contracted designed temporary works should be covered by the Turbidity Protocol. **(C.16.10)**
- The disagreement with the 'very low' risk for Pier 1, with concerns on effect to STW existing groundwater abstractions and so the need groundwater monitoring boreholes during works and an agreed Turbidity Protocol or alternative support structures. **(C.16.11)**
- We agree with the EA's comments to include sealed drainage in SPZ's 1 and 2, and a 'proactive preventative' Maintenance Plan and Emergency Response Plan, with secured funding for both Plans. **(C.16.12)**
- No to limited evidence of sealed drainage system design and specification in SPZ's 1 and 2 or the eastern floodplain or agreed clay and additional mitigation lining to attenuation basins. Also, inappropriate detailed conveyance devices for these areas. No consideration of groundwater flooding to the banks and basins in these risk areas. **(C.16.13)**
- Infiltration systems around east of the River Severn and Berwick Road with no evidence of consideration to groundwater and water supplies and allowing for a 1.2m buffer between maximum groundwater levels and the base of the proposals. **(C.16.14)**
- The Maintenance Plan should be fully developed to include regular, occasional and remedial actions for each drainage device utilised. Aspects of the use of road salting and vegetation control pesticides in sensitive SPZ's 1 and 2 areas should be included. **(C.16.15)**

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- An Emergency Plan should be developed to include detail of all the containment assets and signage and operations required. Aspects of the use of fire retardants in sensitive SPZ's 1 and 2 areas should be included. Short-, medium-, and long-term remedial actions require including and mechanisms to action, and evidence of the available agreements and funding to provide such responses. **(C.16.16)**

Waterman have also noted, the Drainage Strategy and associated Plans appear to lack the following that should be clarified or provided:

- Allowance for maintenance access to drainage assets, apart for basins. **(C.16.17)**
- Basin 8 Proposed infiltration basin outfall is not provided. **(C.16.18)**
- Existing/proposed surface water catchments / overland flows. **(C.16.19)**
- Receiving road drainage and any exceedance flows onto/off the proposal. **(C.16.20)**
- Pond maximum depths, freeboards, gradients, shelving widths or exceedance flow management. **(C.16.21)**
- The receiving 'existing system' stress tests for soakaway discharge points as likely to receive highway discharges waters frequently due to typically low capacity of the primary groundwater outfalls. **(C.16.22)**
- A minimum 1:3 embankment gradient for some slopes are not proposed, some false cuttings are at a steeper 1:2, preventing maintenance to or across from the bank slope. **(C.16.23)**
- Separators are not considered as a road drainage mitigation asset with the current DMRB, and therefore adoption by the authority may not be considered. **(C.16.24)**
- No opportunity evidenced to promote amenity of Basins with the adjacent PRow or road users. **(C.16.25)**
- The SIA index has not been used to demonstrate effectiveness of the proposed treatment trains. The water quality mitigation effect of proposed gully and combined kerb silt traps that do not have a SIA mitigation index and therefore may not be demonstrated as a treatment device. **(C.16.26)**
- Consideration for the maintenance of combined kerbs that require traffic management for maintenance and are prone to siltation on the roadside of the inlet, and so not suitable for

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approaches, roundabouts etc where use of Traffic Management would be prohibitive. **(C.16.27)**

- The need to check the downstream receiving drainage systems conveyance capacity of secondary outfalls receiving exceedance flows from primary outfalls of infiltration device types. **(C.16.28)**
- The considerations of a safe design approach to the attenuation basins such as ponds and flood storage areas, as per the available guidance and standards, should be evidenced, including exceedance controls and routes. **(C.16.29)**

Waterman have also noted, the Fe 2021 ES appears to lack the following that should be clarified or provided:

- Additional groundwater dewatering, drainage and flooding consideration for the B4380 Holyhead Road Roundabout underpass (Equestrian Culvert East of Holyhead), due to its depth and proximity to the River Severn. **(C.16.30)**
- A review on the depth of low flows and frequency to all sources of flooding to the proposed animal crossing locations and levels. **(C.16.31)**
- Clarification on the nature and function of the proposed flood storage areas / ponds / attenuation devices in the context of their ability to provide a multi-use design e.g., including amenity, water quality mitigation and environmental enhancement as per the four pillars of SuDS design, such as consideration of incorporating their amenity use with access for road users and adjacent PROW's or paths. **(C.16.32)**
- Clarity on the assessment of scour and flooding to all proposed watercourse culvert/crossing approaches. **(C.16.33)**
- Evidence that the receiving authorities for proposed outfalls have been consulted early for discharge consent. **(C.16.34)**
- Evidence that the proposed Full bypass separator tanks will be adoptable considering their DMRB CG501 Paragraph 8.7 prohibition. **(C.16.35)**
- Consideration of the use and maintenance of adequate SuDS treatment train devices in the construction phase. **(C.16.36)**
- There is no clear information on infiltration rates therefore the scheme spatial planning (vertical and horizontal) cannot be adequately understood). **(C.16.37)**

Please refer to **Appendix A** for full details on the

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	clarifications raised to address the Drainage Strategy and associated Plans, and the Feb 2021 ES and addenda.
Are there any recommendations for the request of 'further information' under Regulation 25 of the EIA Regulations?	No.
Other Recommendations?	<ul style="list-style-type: none"> • The DMRB CG501 provides recommended design, allocation of assets for groundwater concerns, and water quality treatment indicators for various assets. • Chapter 26 of The SuDS Manual - contains several mitigations to devices for sensitive groundwater and treatment of surface water and should be sought for reference when considering treatment devices rather than wholly relying on the HEWRAT tool. These should be considered in conjunction/lieu of separation only (sealed systems) where appropriate and in agreement with the regulatory authorities. • The SuDS Manual also provides the following that is currently not adequately detailed: <ul style="list-style-type: none"> – Generic Maintenance Plans for all devices that should be utilised. – advice on erosion, pollution, and sediment control through the use of SuDS devices during Construction. • The maximum groundwater level should be clearly established and understood, in particular at sensitive areas and in relation to proposed drainage devices. This should include monitoring over a one to two-year period to confirm the max groundwater levels, fluctuation, location. In addition clear consideration of the historic records, hydrogeology and hydrogeology is required to enable design and design mitigations. • EA permits required for any groundwater dewatering with current processing timescales require 6 to 12 months. • Trigger values should be set at UK Drinking Water Standards in relation to a potable groundwater resource, and Environmental Quality Standards protective of environmental conditions within surface water bodies. Appropriate reporting throughout construction and post construction phase to be focused on deviations to baseline and relationship with the works.
Conclusions	In general, the importance and impact on the quality of public water supply source should be revised upward. Appropriate mitigation measures to the construction through monitoring and reporting,

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	<p>design through containment and control, and operation through funding and management agreements of the road by the Highways Agency and emergency services, should be evidenced. The SuDS Manual water quality assessment and mitigation measures should be applied, as should asset selection suitability and mitigation indices from DMRB CG501.</p>
<p>Environment Agency Comments Is the ES robust on the concerns raised or are there any outstanding issues?</p>	<p>Yes, all in agreement with the EA consultation letters, the following summarised clarifications should be sought:</p> <p>Regarding the Jan 2023 SEI Chapter 6: Road Drainage and Water Environment:</p> <ul style="list-style-type: none"> • Paragraph 6.1.4: The requirement for infiltration device bases to be a suitable distance above site established maximum groundwater levels, as per Paragraph 2.6 of DMRB CD530, and The SuDS Manual (C.16.4) • Paragraph 6.2.6: The WFD assessment requires a review, following the conclusions of responses to separate EA comments on the supporting documents (not covered in this review). WFD to fully consider piling works or road pollution spills, especially relating to public water supply sources and high groundwater conditions. (C.16.5) • Paragraph 6.2.24: The potential pollutant pathway (PPL) of the river and groundwater interaction in a spillage event needs further consideration in the dispersity assessment/DQRA, following the conclusions of responses to separate EA comments SEI App 6.B Annex D Groundwater surface water interaction and bedrock connectivity - CONFIDENTIAL.pdf (not covered in this review). (C.16.6) • Paragraph 6.2.26: The relationship between shallow groundwater control and mitigation measures such as a sealed drainage network in SPZ's 1 and 2, requires further clarification in particular basing mitigations on maximum groundwater levels not average levels. (C.16.7) • Section 6.5: The risk reduction measures stated within the CEMP (Paragraph 6.5.6) and DQRA (Paragraph's 6.5.10 and 6.5.11) are based on future speculations of authorities to co-operate and action a new mitigation plan, rather than existing suitable agreements. Evidence is required to substantiate the proposed level risk, such as additional detail within the road's detailed design and Maintenance Plan, and an agreed and funded Multi-agency Recovery Plan of the County Council similar interest group. (C.16.8)

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Regarding Appendix 6.B: Water Environment Risk Assessment of the Jan 2023 SEI:

- Section 1.6.15: The quantifiable ratio of water the public water supply borehole gets from the Kinnerton Sandstone aquifer and 'leakage from the river" would need to be evidenced further. **(C.16.9)**

- Section 1.7.4: Comments are on contracted designed temporary works should be covered by the Turbidity Protocol. **(C.16.10)**

Regarding Appendix 5.D: Piling Works Risk Assessment (PWRA) of the Jan 2023 SEI:

- The disagreement with the 'very low' risk for Pier 1, with concerns on effect to STW existing groundwater abstractions and so the need groundwater monitoring boreholes during works and an agreed Turbidity Protocol or alternative support structures. **(C.16.11)**

Regarding the Detailed Quantitative Risk Assessment (DQRA):

- We agree with the EA's comments to include sealed drainage in SPZ's 1 and 2, and a 'proactive preventative' Maintenance Plan and Emergency Response Plan, with secured funding for both Plans. **(C.16.12)**

Regarding the Jan 2023 Supplementary Environmental Information Appendix 6.B: Water Environment Risk Assessment (WERA):

- Embedded Mitigation and Additional Mitigation Proposals: EA permits required for any groundwater dewatering with current processing timescales require 6 to 12 months.
- Water Environment Monitoring: Trigger values should be set at UK Drinking Water Standards in relation to a potable groundwater resource, and Environmental Quality Standards protective of environmental conditions within surface water bodies. Appropriate reporting throughout construction and post construction phase to be focused on deviations to baseline and relationship with the works.
- Assessment of Effects **(C.16.1)**:
 - Table 1-11 Significance of Effect - Proposed Scheme pressures affecting groundwater receptors during construction: The magnitude of impact assessment attributed to the Western Abutment Piling, and the Pier 1 piling, does not consider the impact to the sensitive STW Shelton borehole supply that would require monitoring and the Turbidity Protocol.

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- Table 1-15 Significance of Effect - Proposed Scheme pressures affecting groundwater receptors under specified operational accident scenarios: The B4380 Holyhead Roundabout magnitude of impact to the sensitive STW Shelton borehole supply should be reassessed upward, with mitigation measures of adequate containment through a sealed drainage network, and evidence of and adequately agreed and funded routine Maintenance Plan and multi-agency Emergency Plan.
- Assessment of Residual Risks **(C.16.1)**:
 - Table 1-17 Residual Significance of Effect - Proposed Scheme pressures affecting groundwater receptors during construction: Disagreement on the given magnitude of impact for Pier 1 and Western Abutment Piling and a requirement of monitoring and the Turbidity Protocol.
 - Table 1-21 Residual Significance of Effect - Proposed Scheme pressures affecting groundwater receptors under specified operational accident scenarios: Disagreement on the given magnitude of impact for B4380 Holyhead Roundabout from emergency spillages.

Regarding the Drainage Strategy and Drainage General Arrangement Sheets 1 to 5:

- No to limited evidence of sealed drainage system design and specification in SPZ's 1 and 2 or the eastern floodplain or agreed clay and additional mitigation lining to attenuation basins. Also, inappropriate detailed conveyance devices for these areas. No consideration of groundwater flooding to the banks and basins in these risk areas. **(C.16.13)**
- Infiltration systems around east of the River Severn and Berwick Road with no evidence of consideration to groundwater and water supplies and allowing for a 1.2m buffer between maximum groundwater levels and the base of the proposals. **(C.16.14)**
- The Maintenance Plan should be fully developed to include regular, occasional and remedial actions for each drainage device utilised. Aspects of the use of road salting and vegetation control pesticides in sensitive SPZ's 1 and 2 areas should be included. **(C.16.15)**
- An Emergency Plan should be developed to include detail of all the containment assets and signage and operations required. Aspects of the

Topic	Road Drainage and Water Environment
	<p>use of fire retardants in sensitive SPZ's 1 and 2 areas should be included. Short-, medium-, and long-term remedial actions require including and mechanisms to action, and evidence of the available agreements and funding to provide such responses. (C.16.16)</p> <ul style="list-style-type: none"> • Requirement for a WFD assessment to fully consider piling works or road pollution spills, especially relating to public water supply sources and high groundwater conditions. (C.16.5) • The need to check the downstream receiving drainage systems conveyance capacity of secondary outfalls receiving exceedance flows from primary outfalls of infiltration device types. This is due the limited conveyance capacity of such infiltration devices and resultant frequent discharges to the secondary outfalls. (C.16.28) • Providing water quality treatment at source and demonstrating adequate water quality treatment trains proposed devices using the SuDS Simple Index Approach (SIA) tool, in addition to the HEWRAT tool for assessing the adequacy of discharging flows. This would provide a broader and more conservative assessment method, especially in catchments with sensitive receiving outfalls. (C.16.26) • The considerations of a safe design approach to the attenuation basins such as ponds and flood storage areas, as per the available guidance and standards, should be evidenced, including exceedance controls and routes. (C.16.29) <p>Please refer to Appendix A for a detailed review of the Drainage Strategy and General Arrangement drawings 1 to 5.</p>
<p>Better Shrewsbury Transport Comments</p> <p>Is the ES robust on any of the concerns raised or are there any outstanding issues?</p>	<p>All four consultation letters have been reviewed, of which the first three letters have 10 related comments. The comments are all reflected in the concerns of Waterman and the EA in this Chapter, and therefore no reference has been made to specific comments as it is felt they have been covered above.</p>
<p>Severn Trent Water Comments</p> <p>Is the ES robust on any of the concerns raised or are there any outstanding issues?</p>	<p>The two consultation letters have been reviewed. The first 2021 letter of provides a specific information and assessment list of seven points to better understand the risks provided by the proposal. Whilst these points are reflected in the concerns of Waterman and the EA, they are more specific and so the scope to address the EA concerns should ensure they address these seven points. In addition, a stand-off distance was requested and the understanding of long-term management of the</p>

Topic**Road Drainage and Water Environment**

drainage basin.

The second 2023 letter concerns are mostly reflected in the concerns of Waterman and the EA in this Chapter, apart from the request to increase the confidence in worst-case scenario modelling by:

- Repeating contaminant transport model scenarios.
 - Local modelling on proportional flow.
 - Assessment of impacts to the secondary abstraction boreholes including a scenario of accidental spill on the eastern side of the river.
-

17. Cumulative Effects

Topic	Cumulative Effects
List of documents reviewed:	<p><u>Feb 2021 ES:</u></p> <ul style="list-style-type: none"> • ES Chapter 18: Cumulative Effects • ES Volume 4: Non-Technical Summary <p><u>Aug 2021 SESA:</u></p> <ul style="list-style-type: none"> • Supplementary ES Chapter 18: Cumulative Effects Addendum • Supplementary Environmental Statement Non-Technical Summary Addendum <p><u>Jan 2023 SEI:</u></p> <ul style="list-style-type: none"> • Supplementary Environmental Information Chapter 8: Cumulative Effects • Supplementary Environmental Information Non-Technical Summary
Key findings of the review:	
Have the correct guidance, policies and legislation been referred to?	Yes.
Has the methodology been set up correctly?	Yes.
Have baseline conditions been correctly identified?	Yes.
Has the impact assessment been undertaken in line with the agreed methodology, such as set out at scoping stage?	Yes. Note, Appendix 8.B of the Jan 23 SEI states Committed Development ID 43 falls outside of the 1km Study Area for the cumulative assessment, but is approximately 0.25km from the Proposed Scheme. This should state that the scheme is within the 1km Study Area.
Are the findings of the assessment reasonable and defensible?	Yes. Minor note, ES Appendix 18.1 'Screening for Effect Interactions', Table 2.1 operational effects on residents states annoyance due to air quality from traffic could result in adverse effects on residents, however ES Chapter 6: Air Quality reports a significant beneficial effect to human health. This should be updated to state no cumulative adverse effects are considered likely for air quality, as have been stated for users of Public Rights of Way (PRoWs) and walkers, cyclists and horse-riders (WCH). It would be useful if Section 8.6 of Jan 23 SEI included the names and ID references of the Committed Developments in addition to the planning application references (as provided in Appendix 8.B). This section should also clarify that five Committed Developments shared a common sensitive receptor

Topic	Cumulative Effects
	<p>category, but only three met the cumulative criteria (given the NTS states five new Committed Developments were screened for inclusion within the assessment of in-combination effects which may be confusing when comparing to this section in the ES Chapter). (C.17.1)</p> <p>A figure showing the location of these additional cumulative schemes in the Jan 2023 SEI should be provided. (C.17.2)</p>
<p>Are the proposed mitigation measures appropriate and residual effects correctly assessed?</p>	<p>Yes.</p>
<p>Are cumulative effects correctly assessed and in line with the ES methodology chapter?</p>	<p>Yes for effect interactions.</p> <p>Refer to above technical topics review of in-combination cumulative effects.</p>
<p>NTS</p>	<p>The cumulative section of the Feb 2021 ES NTS is considered to be satisfactory, however the names of Committed Developments ID 1 and ID 2 should be stated rather than the ID references from the ES Chapter. A map showing the location of the Committed Developments would be useful for context.</p>
<p>Summary of Recommendations</p>	
<p>Are there any recommendations for clarifications to be sought?</p>	<ul style="list-style-type: none"> • Provide greater clarity in Section 8.6 of Jan 23 SEI on the Committed Developments screened into the in-combination cumulative assessment. (C.17.1) • Provide a figure showing the location of the additional cumulative schemes identified in the Jan 2023 SEI to provide greater context. (C.17.2)
<p>Are there any recommendations for the request of 'further information' under Regulation 25 of the EIA Regulations?</p>	
<p>Other Recommendations?</p>	<ul style="list-style-type: none"> • NTS – State the names of the Committed Developments when referred to, and provide an accompanying figure to show the location of the Committed Developments for context.
<p>Conclusions</p>	<p>In general, the cumulative chapters of the Feb 2021 ES, Aug 2021 SESA and Jan 2023 SEI are robust and fit for purpose, albeit there are 2 clarifications requested to fully satisfy the requirements, as set out above.</p>

18. Summary of Potential Residual Effects

The Feb 2021 ES Chapter 19, Aug 2021 SESA Chapter 19, and Section 6 of Chapter 1 of the Jan 2023 SEI have been checked for consistency against the relevant technical ES Chapters. No further clarifications are required, other than those recommended above for certain technical topics.

19. Summary of Recommendations

The below provides a summary of our recommendations for clarifications and requests of 'further information' under Regulation 25 of the EIA Regulations to ensure the Feb 2021 ES and its addenda are robust and fit for purpose.

	Topic	Summary of recommendations	Ref
Are there any recommendations for clarifications to be sought?	Introductory	<ul style="list-style-type: none"> Provide evidence of the subsequent agreement following issue of the EIA Scoping Opinion to not include a separate ES chapter on Traffic and Transportation. 	C.4.1
		<ul style="list-style-type: none"> For all topics acknowledgement of, and confirmation if and how updated policy and guidance would affect the assessment undertaken. Where appropriate provide justification where updating the assessment is not considered necessary. 	C.4.2
		<ul style="list-style-type: none"> Provide the approximate chainage when introducing the different sections of the Proposed Scheme in ES Chapter 3 for context. 	C.4.3
Air Quality		<ul style="list-style-type: none"> Why reference has been made to LAQM.TG16 rather than LAQM TG.19 and clarification is sought whether this guidance affects the findings and conclusions of the assessment. 	C.5.1
		<ul style="list-style-type: none"> Why the effect of 'Increased exposure to pollutants from construction traffic' was scoped out and not assessed in accordance with the IAQM's 'Guidance on the assessment of dust from demolition and construction'? 	C.5.2
		<ul style="list-style-type: none"> Why 2019 was not used as the baseline year for the assessment? 	C.5.3
		<ul style="list-style-type: none"> Why no reference or assessment for construction plant emissions has been undertaken? 	C.5.4
		<ul style="list-style-type: none"> Clarification as to why version 9.0 of the Emission Factor Toolkit (EFT) version 9.0 (published in May 2019) was used rather than EFT Version 10 (released in August 2020)? 	C.5.5
		<ul style="list-style-type: none"> Clarification as to why DEFRA 2017-based background maps for years 2017 to 2030 (published in May 2019) were used rather than DEFRA 2018-based background maps for years 2018 to 2030 (released in August 2020)? 	C.5.6
		<ul style="list-style-type: none"> Clarification on surface roughness at the met measurement site and the diurnal profile used within the model. 	C.5.7
		<ul style="list-style-type: none"> Confirmation traffic data used in the assessment was from the annual average daily traffic (AADT) columns in Appendix 6.4.1 Baseline Traffic Data. 	C.5.8

Topic	Summary of recommendations	Ref
	<ul style="list-style-type: none"> Why 2019 monitoring data not presented in the baseline conditions within ES Chapter 6 Air Quality? 	C.5.9
	<ul style="list-style-type: none"> Why sensitivity to human health was considered low risk in Table 6-11 – Sensitivity of Receptors? 	C.5.10
	<ul style="list-style-type: none"> Why the Environmental Protection UK (EPUK)/ Institute of Air Quality Management (IAQM) guidance 'Land-Use Planning & Development Control: Planning for Air Quality' (2017, v.1.2) guidance was not used for the operational phase despite stating it should be used in the EIA Scoping Report and EIA Scoping Opinion? 	C.5.11
Agriculture and Soil Resources	N/A	-
Biodiversity	<ul style="list-style-type: none"> Further justification as to the suitability of ecology data that is over two years old is sought and confirmation required as to whether this approach was agreed with the SC ecologist. 	C.7.1
	<ul style="list-style-type: none"> Provide specific length measurements on River Severn bank mitigation. 	C.7.2
	<ul style="list-style-type: none"> On consideration of the Road Drainage and Water Environment review (refer to Section 16 of this report), the potential impacts of possible crossings to the three culverts noted in Section 3.2.9 to 3.2.11 of Chapter 3: Description of the Proposed Scheme, to mammals should be considered. 	C.7.3
Climate Change	<ul style="list-style-type: none"> It should be clarified whether the updates to the following guidance document affects the findings and conclusions of the GHG assessment: <i>IEMA (2022) Assessing Greenhouse Gas Emissions and Evaluating their Significance – 2nd Edition</i>. 	C.8.1
	<ul style="list-style-type: none"> The differences in approach/assumption to modelling baseline vs with development end-user GHG emissions should be clarified so the differences are clear. 	C.8.2
	<ul style="list-style-type: none"> Paragraph 9.5.4 details the small emissions associated with minor material works with a small associated embodied carbon. This contradicts with the Feb 2021 ES Chapter 14: Materials and Waste, evaluated to be approximately 547,000 tonnes. 	C.8.3
	<ul style="list-style-type: none"> Chapter 14 concludes that over 230,000 tonnes of estimated “unacceptable earthworks” (219,000 tonnes) and “general demolition waste” (11,000 tonnes) will be sent to landfill (Table 14-14). The justification in Table 9-1 suggests that 	C.8.4

Topic	Summary of recommendations	Ref
	<p>this will have zero associated emissions, however, this is not expected to be correct. It is therefore recommended that Construction Waste A5 is included within the assessment.</p>	
	<ul style="list-style-type: none"> The significance of GHG effects when considering the total lifecycle emissions should be clarified. 	C.8.5
	<ul style="list-style-type: none"> The measures and strategies that will be implemented at design and construction to avoid, reduce and offset GHG emissions should be clarified. 	C.8.6
	<ul style="list-style-type: none"> The assumptions around future climate conditions that informs the construction-phase resilience assessment should be clarified. 	C.8.7
Geology and Soils	<ul style="list-style-type: none"> Clarification of the Piling Works Risk Assessment ratings and terminology should be sought in line with comments made by the EA. 	C.9.1
	<ul style="list-style-type: none"> Following a review of Piling Works Risk Assessments ratings and resultant significance of effects, mitigation measures require further review. 	C.9.2
	<ul style="list-style-type: none"> Following a review of impact ratings and resultant significance of effects, cumulative effects and NTS may require further review. 	C.9.3
	<ul style="list-style-type: none"> The impact of the Proposed Scheme on small volume groundwater sources should be assessed. 	C.9.4
	<ul style="list-style-type: none"> Review of shallow groundwater regime, particularly at approximate chainage 1600m to 1700m where groundwater appears to be more continuous, suggesting a more permanent groundwater table may be present, rather than perched water as suggested by WSP. 	C.9.5
	<ul style="list-style-type: none"> Clarification on the constraints on the GI for deeper boreholes being completed around the Holyhead Road roundabout should be sought. 	C.9.6
	<ul style="list-style-type: none"> It is recommended that clarification is sought from STWL to confirm they are satisfied with WSP's response relating to the relationship between groundwater and surface water. 	C.9.7
Historic Environment	<ul style="list-style-type: none"> Provide justification on the 500m study area. 	C.10.1
Landscape and Visual	<ul style="list-style-type: none"> Review of baseline sensitivity and therefore assessments 	C.11.1, C.11.2.
	<ul style="list-style-type: none"> Review of magnitude of changes. 	C.11.3

Topic	Summary of recommendations	Ref
	<ul style="list-style-type: none"> Viewpoint & photomontage showing the proposed Shelton Rough River Severn Viaduct – this is a significant structure that is not shown in any viewpoints or photomontages. 	C.11.4
Major Accidents and Disasters	<ul style="list-style-type: none"> Clarification that the most recent IEMA September 2020 Major Accidents and Disasters in EIA: A Primer has been considered in the EIA. 	C.12.1
	<ul style="list-style-type: none"> Identification of the subsequent work undertaken following EIA Scoping to rationalise the Study Area is required to clarify the approach. 	C.12.2
	<ul style="list-style-type: none"> The NTS is updated to set out further explanation of baseline, the consequences of the potential effects and the types of mitigation being proposed. 	C.12.3
Materials and Waste	<ul style="list-style-type: none"> There are a number of potential errors in the baseline conditions set out in paragraphs 14.6.1 – 14.6.32 of the Feb 2021 ES which may be typographical only, but do create doubt in the relevance of the data presented. 	C.13.1
	<ul style="list-style-type: none"> Clarification is required on why the quantity of waste predicted to be despatched for landfill disposal was expressed as a percentage of the predicted landfill void capacity available in 2019 rather than, for example, 2022. 	C.13.2
	<ul style="list-style-type: none"> The Feb 2021 ES Chapter 14 does not explicitly state the construction period. Chapter 5 of the Feb 2021 ES confirms it to be spring 2022 to autumn 2023 (period unchanged in the Aug 2021 SESA). The approach of extrapolating remaining landfill void capacity into the future (approach shown on Figure 14-4) is considered reasonable, however it is not clear the extrapolated data for remaining landfill void capacity for the construction period has been used in establishing the future baseline (paragraph 14.6.32). Clarification is required on which year the impact assessment was carried out on. 	C.13.3
	<ul style="list-style-type: none"> Clarification is required on why an assessment of the embodied carbon of materials is reported to be scoped out of the assessment in Table 14-2 of the Feb 2021 ES Chapter 14 whereas Chapter 9: Climate Change it has been scoped into the assessment. Paragraph 9.9.5 of the Feb 2021 ES Chapter 14: Climate Change estimates that approximately 70% of the construction phase GHG emissions are associated with materials. It is recommended that the materials chapter is reviewed in light of the findings of the 	C.13.4

Topic	Summary of recommendations	Ref
	<p>Feb 2021 ES Chapter 14: Climate Change to confirm that the outlined mitigation measures are proportionate based on the findings of the analysis in Chapter 9.</p> <ul style="list-style-type: none"> <li>• The assessment section states a contractor commitment to 90% diversion from landfill. Clarification is required on how this commitment will be secured. <li>• Mitigation measures and the NTS should be reviewed after baseline conditions and impact assessment recommended clarifications have been completed. <li>• It is recommended the cumulative effects chapter is reviewed after the impact assessment has been reviewed in order to confirm if it remains justifiable not to include waste. <li>• The scope and approach of the embodied carbon emissions assessment needs to be clarified for the purposes of clearly establishing the GHG emissions related to materials during the construction phase and any associated cumulative effects. 	<p></p> <p>C.13.5</p> <p>C.13.6</p> <p>C.13.7</p> <p>C.13.8</p>
Noise and Vibration	<ul style="list-style-type: none"> <li>• Provide reference of PPV level and damage presented in Table 15-12 in the Feb 2021 ES. <li>• Have operational noise calculations adhered to Appendix A of DMRB LA1111? <li>• Construction – include calculation details within Feb 2021 ES Appendix 15.4, detailing distance of works from receptor on which calculations are based. <li>• Details on how embedded mitigation was derived or application of low noise surface to whole of the new road and why it is not possible to increase height of embedded mitigation barriers. Only an assessment of increasing height of secondary mitigation is presented in Jan 2023 SEI Appendix 1.M: Additional Noise Information. <li>• Present the construction residual effects (with mitigation) for each receptor. <li>• Provide greater clarity on how the CEMP reduces residual effects to ‘not significant’. <li>• Additional information on receptors potentially exposed to higher noise levels than based on CRTN prediction methodology. For example, those near roundabouts and / or regularly exposed to a preferential wind from road to receptor. How would this impact the presented 	<p>C.14.1</p> <p>C.14.2</p> <p>C.14.3</p> <p>C.14.4</p> <p>C.14.5</p> <p>C.14.6</p> <p>C.14.7</p>

Topic	Summary of recommendations	Ref
	<p>results with secondary mitigation.</p> <ul style="list-style-type: none"> Why has low noise surface not been applied to the whole road? 	C.14.8
	<ul style="list-style-type: none"> Confirmation that proposed low noise surface is Thin Wearing Course (TWC) type. What reduction in road traffic noise has been applied within the noise model for TWC section? 	C.14.9
Population and Health	<ul style="list-style-type: none"> Confirm whether regard has been had within the Jan 2023 SEI to the latest IEMA guidance on Human Health and no additional topics were required to be scoped into the assessment on human health as a result. 	C.15.1
	<ul style="list-style-type: none"> Paragraph 16.2.2 of the Feb 2021 ES states that vulnerable groups are assumed to be present throughout the study area. Clarity on the reason for assuming this would be helpful e.g. does it present a worst-case-scenario? 	C.15.2
	<ul style="list-style-type: none"> It is not clear that the EIA Scoping Opinion has fully been taken into account within the Feb 2021 ES in relation to socio-economic considerations and further justification for scoping out socio-economics at operational stage is required. 	C.15.3
	<ul style="list-style-type: none"> Guidance note 'LA 112 Population and human health' refers to a number of conditions relevant to human health including sources of pollution including light, odour and contamination' as well as 'landscape amenity'. It also refers to severance/accessibility and the ability of communities to access employment (paragraph 3.21). These aspects do not appear to have been considered in scoping as part of the assessment and it is therefore not clear as to the justification for their exclusion from the assessment. 	C.15.4
	<ul style="list-style-type: none"> The findings in relation to human health are in part reliant on other EIA topics including ES Chapter 6 Air Quality, Chapter 15 Noise and Vibration, Chapter 17 Road Drainage and the Water Environment and the Flood Risk Assessment. It is only subject to the outcome of the review of these topics, that the findings of the assessment in relation to human health can be assessed as reasonable and defensible. 	C.15.5
	<ul style="list-style-type: none"> Paragraph 16.1.3 states a moderate beneficial effect on Hencott Wood, whereas the assessment at paragraph 16.8.36 states a moderate adverse effect. 	C.15.6

Topic	Summary of recommendations	Ref
	<ul style="list-style-type: none"> Where there is potential for the construction period of cumulative schemes to overlap with the construction period of the Proposed Scheme it is not clear whether the in-combination effects of this have been assessed within the population and human health topic, and if not, justification for this. 	C.15.7
Road Drainage and Water Environment	<ul style="list-style-type: none"> Further clarification on the magnitude of impact rating provided in Tables 1-11, 1-15, 1-17, and 1-21 of the Jan 2023 SEI Appendix 6.B: Water Environment Risk Assessment (WERA). 	C.16.1
	<ul style="list-style-type: none"> Following a review of magnitude of impact ratings and resultant significance of effects, mitigation measures require further review. 	C.16.2
	<ul style="list-style-type: none"> Following a review of magnitude of impact ratings and resultant significance of effects, cumulative effects and NTS may require further review. 	C.16.3
	<ul style="list-style-type: none"> The requirement for infiltration device bases to be a suitable distance above site established maximum groundwater levels, as per Paragraph 2.6 of DMRB CD530, and The SuDS Manual 	C.16.4
	<ul style="list-style-type: none"> The WFD assessment requires a review, following the conclusions of responses to separate EA comments on the supporting documents. 	C.16.5
	<ul style="list-style-type: none"> The potential pollutant pathway (PPL) of the river and groundwater interaction in a spillage event needs further consideration in the dispersity assessment/DQRA, following the conclusions of responses to separate EA comments 	C.16.6
	<ul style="list-style-type: none"> The relationship between shallow groundwater control and mitigation measures such as a sealed drainage network in SPZ's 1 and 2, requires further clarification in particular basing mitigations on maximum groundwater levels not average levels. 	C.16.7
	<ul style="list-style-type: none"> Section 6.5: The risk reduction measures stated within the CEMP (Paragraph 6.5.6) and DQRA (Paragraphs 6.5.10 and 6.5.11) are based on future speculations of authorities to co-operate and action a new mitigation plan, rather than existing suitable agreements. Evidence is required to substantiate the proposed level risk, such as additional detail within the road's detailed design and Maintenance Plan, and an agreed and funded Multi-agency Recovery Plan of the County Council similar interest group. 	C.16.8

Topic	Summary of recommendations	Ref
	<ul style="list-style-type: none"> The quantifiable ratio of water the public water supply borehole gets from the Kinnerton Sandstone aquifer and 'leakage from the river' would need to be evidenced further. 	C.16.9
	<ul style="list-style-type: none"> Comments are on contracted designed temporary works should be covered by the Turbidity Protocol. 	C.16.10
	<ul style="list-style-type: none"> The disagreement with the 'very low' risk for Pier 1, with concerns on effect to STW existing groundwater abstractions and so the need groundwater monitoring boreholes during works and an agreed Turbidity Protocol or alternative support structures. 	C.16.11
	<ul style="list-style-type: none"> We agree with the EA's comments to include sealed drainage in SPZ's 1 and 2, and a 'proactive preventative' Maintenance Plan and Emergency Response Plan, with secured funding for both Plans. 	C.16.12
	<ul style="list-style-type: none"> No to limited evidence of sealed drainage system design and specification in SPZ's 1 and 2 or the eastern floodplain or agreed clay and additional mitigation lining to attenuation basins. Also, inappropriate detailed conveyance devices for these areas. No consideration of groundwater flooding to the banks and basins in these risk areas. 	C.16.13
	<ul style="list-style-type: none"> Infiltration systems around east of the River Severn and Berwick Road with no evidence of consideration to groundwater and water supplies and allowing for a 1.2m buffer between maximum groundwater levels and the base of the proposals. 	C.16.14
	<ul style="list-style-type: none"> The Maintenance Plan should be fully developed to include regular, occasional and remedial actions for each drainage device utilised. Aspects of the use of road salting and vegetation control pesticides in sensitive SPZ's 1 and 2 areas should be included. 	C.16.15
	<ul style="list-style-type: none"> An Emergency Plan should be developed to include detail of all the containment assets and signage and operations required. Aspects of the use of fire retardants in sensitive SPZ's 1 and 2 areas should be included. Short-, medium-, and long-term remedial actions require including and mechanisms to action, and evidence of the available agreements and funding to provide such responses. 	C.16.16
	<p>Waterman have also noted, the Drainage Strategy and associated Plans appear to lack the following</p>	C.16.17- C.16.29

Topic	Summary of recommendations	Ref
	<p>that should be clarified or provided:</p> <ul style="list-style-type: none"> • Allowance for maintenance access to drainage assets, apart for basins. • Basin 8 Proposed infiltration basin outfall is not provided. • Existing/proposed surface water catchments / overland flows. • Receiving road drainage and any exceedance flows onto/off the proposal. • Pond maximum depths, freeboards, gradients, shelving widths or exceedance flow management. • The receiving 'existing system' stress tests for soakaway discharge points as likely to receive highway discharges waters frequently due to typically low capacity of the primary groundwater outfalls. • A minimum 1:3 embankment gradient for some slopes are not proposed, some false cuttings are at a steeper 1:2, preventing maintenance to or across from the bank slope. • Separators are not considered as a road drainage mitigation asset with the current DMRB, and therefore adoption by the authority may not be considered. • No opportunity evidenced to promote amenity of Basins with the adjacent PRow or road users. • The SIA index has not been used to demonstrate effectiveness of the proposed treatment trains. The water quality mitigation effect of proposed gully and combined kerb silt traps that do not have a SIA mitigation index and therefore may not be demonstrated as a treatment device. • Consideration for the maintenance of combined kerbs that require traffic management for maintenance and are prone to siltation on the roadside of the inlet, and so not suitable for approaches, roundabouts etc where use of Traffic Management would be prohibitive. • The need to check the downstream receiving drainage systems conveyance capacity of secondary outfalls receiving exceedance flows from primary outfalls of infiltration device types. • The considerations of a safe design approach to the attenuation basins such as ponds and flood storage areas, as per the available guidance and standards, should be evidenced, including exceedance controls and routes. 	

Topic	Summary of recommendations	Ref
	<ul style="list-style-type: none"> Additional groundwater dewatering, drainage and flooding consideration for the B4380 Holyhead Road Roundabout underpass (Equestrian Culvert East of Holyhead), due to its depth and proximity to the River Severn. 	C.16.30
	<ul style="list-style-type: none"> A review on the depth of low flows and frequency to all sources of flooding to the proposed animal crossing locations and levels. 	C.16.31
	<ul style="list-style-type: none"> Clarification on the nature and function of the proposed flood storage areas / ponds / attenuation devices in the context of their ability to provide a multi-use design e.g., including amenity, water quality mitigation and environmental enhancement as per the four pillars of SuDS design, such as consideration of incorporating their amenity use with access for road users and adjacent PROW's or paths. 	C.16.32
	<ul style="list-style-type: none"> Clarity on the assessment of scour and flooding to all proposed watercourse culvert/crossing approaches. 	C.16.33
	<ul style="list-style-type: none"> Evidence that the receiving authorities for proposed outfalls have been consulted early for discharge consent. 	C.16.34
	<ul style="list-style-type: none"> Evidence that the proposed Full bypass separator tanks will be adoptable considering their DMRB CG501 Paragraph 8.7 prohibition. 	C.16.35
	<ul style="list-style-type: none"> Consideration of the use and maintenance of adequate SuDS treatment train devices in the construction phase. 	C.16.36
	<ul style="list-style-type: none"> There is no clear information on infiltration rates therefore the scheme spatial planning (vertical and horizontal) cannot be adequately understood). 	C.16.37
	<p>Please refer to Appendix A for full details on the clarifications raised to address the Drainage Strategy and associated Plans, and the Feb 2021 ES and addenda.</p>	-
Cumulative Effects	<ul style="list-style-type: none"> Provide greater clarity in Section 8.6 of Jan 23 SEI on the Committed Developments screened into the in-combination cumulative assessment. 	C.17.1
	<ul style="list-style-type: none"> Provide a figure showing the location of the additional cumulative schemes identified in the Jan 2023 SEI to provide greater context. 	C.17.2
Are there any recommendations for the request of 'further information' under Regulation 25 of the EIA	Introductory <ul style="list-style-type: none"> Provision of a consolidated and updated NTS of the Proposed Scheme as amended, with further images to support the text, and details of construction activities and working hours is required. 	R.4.1

	Topic	Summary of recommendations	Ref
Regulations?	Air Quality	No	-
	Agriculture and Soil Resources	No	-
	Biodiversity	No	-
	Climate Change	No	-
	Geology and Soils	DQRA should be updated in line with latest consultation responses with EA and STWL, including integrating further modelling of a hydrocarbon spill at the Holyhead Road Roundabout, clearly presenting the GI data, and providing details on the outcome of the chlorinated solvent scenarios.	R.9.1
	Historic Environment	No	-
	Landscape and Visual	<ul style="list-style-type: none"> Provide an assessment on the impacts on the tranquillity of Shrewsbury's Green Wedge. 	R.11.1
		<ul style="list-style-type: none"> Provide an assessment on night-time views to address impacts of light pollution. No night-time photomontages have been submitted to support the assessment commentary on artificial lighting. 	R.11.2
	Major Accidents and Disasters	No	-
	Materials and Waste	No	-
	Noise and Vibration	<ul style="list-style-type: none"> Provide a Noise Insulation Regulations (NIR) Assessment – to identify if houses exposed to road traffic noise level of $\geq 68\text{dB LA}_{10,18\text{h}}$ would qualify for NIR grant. (Refer to E/2 of DMRB LA111). 	R.14.1
<ul style="list-style-type: none"> Provide an assessment of impact on tranquillity of the 'Green Wedge'. 		R.14.2	
Population and Health	No	-	
Road Drainage and Water Environment	No	-	
Cumulative Effects	No	-	
Other recommendations?	Introductory	<ul style="list-style-type: none"> Presentation – Each chapter has several front cover pages which hinders navigational access to the first page of the chapter and adds unnecessary pages and length to the ES. If a front cover is necessary, it is recommended that only one front cover is included with the title of the project and chapter name (as well as on the footers throughout the document), so it is clear 	-

Topic	Summary of recommendations	Ref
	<p>which chapter is being accessed.</p> <ul style="list-style-type: none"> • Contents and Structure – An overarching detailed contents page would aid navigation of the ES and Addenda. In particular, it is unclear why there are ecology appendices within SEI Chapter 1 as well as SEI Chapter 3. • The Feb 2021 ES Chapter 3 should provide more description (or at least sign-post to other ES chapters) on the construction activities, including construction materials to be used, groundwork depths, and extent of arable land and trees to be removed. • NTS – Include further images in the ES NTS to support the text. Further detail on the construction activities and working hours should be included. 	-
Air Quality	<ul style="list-style-type: none"> • Feb 2021 ES - National Planning Practice Guidance – Air Quality 2016 was referenced and should instead be made to Planning Practice Guidance – Air Quality 2019. • Feb 2021 ES NTS - No reference is made to the effect of the operational development on ecological sites in the air quality section, although it is noted to be included in the biodiversity section. 	-
Agriculture and Soil Resources	<ul style="list-style-type: none"> • Rather than map ALC grades for un-surveyed land, it would be preferable to map the fields as land not surveyed, but still make the impact assessment on the basis of the reasonable worst case approach. • The MAFF ALC survey report and data is publicly available online. Rather than have to search online for this information it would be preferable to include it with the ES baseline report. The plan of ALC grade distribution could also mark the dividing line between MAFF and RAC assessment to assist the reader. • A plan showing the extent of each farm business in relation to the development corridor would assist the reader. 	-
Biodiversity	<ul style="list-style-type: none"> • The biodiversity net gain report concluded that net gain could not be achieved for river habitat. MoRPh survey including a River Condition Assessment should be used to determine suitable offsite areas to address Watercourse Unit shortfalls. Additionally, a later version of the Natural England's Biodiversity metric should be used (or at least 3.0 onwards) as this will also help determine an accurate level of biodiversity 	-

Topic	Summary of recommendations	Ref
	<p>at baseline and post intervention due to the addition of 'Culvert' as a habitat type.</p> <ul style="list-style-type: none"> As any type of works within the RPAs of Veteran Trees would be outside of good practice, it is recommended that a further report should be provided to clearly demonstrate why these works would not be detrimental to the trees. Otherwise, a risk exists that the number of veteran trees being removed is being underestimated. This could form a planning condition. Where compensation works are proposed on land outside of the Applicant's control, agreements with the relevant landowner should be in place prior to granting planning approval. 	-
Climate Change	<ul style="list-style-type: none"> Planning condition to secure the pre-commencement preparation of a Construction Environmental Management Plan (CEMP) to include the measures described in the Feb 2021 ES Chapter 9 Table 9.30 to mitigate potential significant adverse climate effects during construction works. It is encouraged that consideration is given to the reduction in user utilisation carbon (Module B9), associated to the perceived reduction in journey distance and times experienced by end users. It is recommended that there should be greater synergy between the Feb 2021 ES Chapter 9: Climate Change and Chapter 14: Materials and Waste. 	-
Geology and Soils	<ul style="list-style-type: none"> Comments made by the EA and Severn Trent Water Limited must be addressed. Waterman agrees with including a proposed planning condition for re-visiting the Turbidity Protocol. The PWRA should be revised following completion of the final pile design. 	-
Historic Environment	<ul style="list-style-type: none"> Provide a new HER data search to confirm if any changes since the 2019 HER data. 	-
Landscape and Visual	<ul style="list-style-type: none"> Provide direction arrows on viewpoint location plan to show orientation of view. Waterman would expect photomontages to be produced for all viewpoints for a scheme of this nature. 	-
Major Accidents and Disasters	<ul style="list-style-type: none"> For completeness improved signposting to elsewhere in the ES would be beneficial, as would cross references to specific sources of information. 	-

Topic	Summary of recommendations	Ref
	<ul style="list-style-type: none"> For those issues scoped out of the assessment and for the baseline, it is recommended cross reference to specific documents is made. For example, the source used to identify historic landslides or references made to UKCP18 information. 	-
	<ul style="list-style-type: none"> For those issues scoped out, but rely on mitigation being brought forward, it is recommended they are collated into a summary document (if they are beyond the CEMP) to ensure they are captured through planning conditions or otherwise. 	-
Materials and Waste	<ul style="list-style-type: none"> Given the number of recommended clarifications throughout the waste sections of the chapter, it is recommended the waste elements of the chapter are reviewed in detail and combined with the further information provided in the addendum to Chapter 14, in order to provide a single assessment of impact from waste. 	-
	<ul style="list-style-type: none"> A number of minor typographical errors noted on review could also be addressed by that process. 	-
	<ul style="list-style-type: none"> The justification as to the exclusion of the life cycle assessment of materials, site arisings and waste should be reworded to make reference to the Feb 2021 ES Chapter 9 to provide clarity. It is recommended that the materials, site arisings and waste quantified within the Feb 2021 ES Chapter 14 are fully captured within the Life Cycle Assessment to evaluate the associated Embodied Carbon impact. 	-
Noise and Vibration	<ul style="list-style-type: none"> Amend inconsistent terminology in significance of effects throughout the Feb 2021 ES and NTS – e.g. use of ‘high significance’ should be replaced with ‘large significance’ in line with significance effect level criteria provided in Table 15-16 of the Feb 2021 ES Chapter 15. Make it clearer in conclusions whether effects are short or long-term. 	-
	<ul style="list-style-type: none"> The Jan 2023 SEI NTS would benefit from a summary of the results for completeness and transparency given the Feb 2021 ES NTS is conflicting with information within the Feb 2021 ES residual effects. 	-
Population and Health	<ul style="list-style-type: none"> The baseline on ‘development land and businesses’ would be further enhanced by an understanding of the number of employees at each business affected (listed in Table 3-1, Appendix 16.1 of the Feb 2021 ES) in order to add further validation to the assessed sensitivity. 	-

Topic	Summary of recommendations	Ref
	<ul style="list-style-type: none"> The baseline on 'development land and businesses' could be further enhanced by an understanding of the number of employees at each business affected by severance. 	-
	<ul style="list-style-type: none"> The beneficial effects of employment at construction stage could be enhanced through the deployment of a community employment plan which identifies opportunities for local recruitment and training opportunities during the construction phase. 	-
Road Drainage and Water Environment	<ul style="list-style-type: none"> The DMRB CG501 provides recommended design, allocation of assets for groundwater concerns, and water quality treatment indicators for various assets. 	-
	<ul style="list-style-type: none"> Chapter 26 of The SuDS Manual - contains several mitigations to devices for sensitive groundwater and treatment of surface water and should be sought for reference when considering treatment devices rather than wholly relying on the HEWRAT tool. These should be considered in conjunction/lieu of separation only (sealed systems) where appropriate and in agreement with the regulatory authorities. 	-
	<ul style="list-style-type: none"> The SuDS Manual also provides the following that is currently not adequately detailed: <ul style="list-style-type: none"> – Generic Maintenance Plans for all devices that should be utilised. – Advice on erosion, pollution, and sediment control through the use of SuDS devices during Construction. 	-
	<ul style="list-style-type: none"> The maximum groundwater level should be clearly established and understood, in particular at sensitive areas and in relation to proposed drainage devices. This should include monitoring over a one to two-year period to confirm the max groundwater levels, fluctuation, location. In addition clear consideration of the historic records, hydrogeology and hydrogeology is required to enable design and design mitigations 	-
	<ul style="list-style-type: none"> EA permits required for any groundwater dewatering with current processing timescales require 6 to 12 months. 	-
<ul style="list-style-type: none"> Trigger values should be set at UK Drinking Water Standards in relation to a potable groundwater resource, and Environmental Quality Standards protective of environmental conditions within surface water bodies. Appropriate reporting throughout construction 	-	

Topic	Summary of recommendations	Ref
	and post construction phase to be focused on deviations to baseline and relationship with the works.	
Cumulative Effects	<ul style="list-style-type: none"> • NTS – State the names of the Committed Developments when referred to, and provide an accompanying figure to show the location of the Committed Developments for context. 	-

APPENDICES

A. Detailed EIA Review of Geology and Soils and Road Drainage and Water Environment

Appendices

North West Relief Road, Shrewsbury

Detailed EIA Review of Geology and Soils and Road Drainage and Water Environment

Date: 1st September 2023

Client Name: Shropshire Council

Document Reference: WIE20223-100-BN-1.1.2-EA

This document has been prepared and checked in accordance with Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Prepared by	Checked & Approved by
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	Andrew Tomlinson Senior Consultant Ellen Smith Principal Consultant	Ros Boalch Associate Director

1. Introduction

- 1.1. Waterman Infrastructure & Environment Ltd (Waterman) has been commissioned by Shropshire Council (SC), to provide independent Environmental Impact Assessment (EIA) advice in relation to the North West Relief Road (NWRR) proposals (the 'Proposed Scheme'), located in Shrewsbury. The Proposed Scheme would be a single carriageway road with at-grade junctions, linking the A5 Shrewsbury Southern Bypass with the A5124 Battlefield Link Road.
- 1.2. In February 2021, SC as Highways Authority (hereafter referred to as 'the Applicant') submitted a detailed planning application in respect of the Proposed Scheme to SC as Planning Authority (planning application reference: 21/00924/EIA¹).
- 1.3. Under the Town and Country Planning (Environmental Impact Assessment), Regulations, 2017², (the 'EIA Regulations'), the Applicant recognised the need for the Proposed Scheme to follow the full EIA process and commissioned WSP as their EIA Consultant. This led to the preparation of an Environmental Statement (ES) (Ref. no. 70056211-WSP-EGN-AS-RP-LE-00007, dated February 2021) which was submitted with the detailed planning application (the 'Feb 2021 ES').
- 1.4. In August 2021, WSP submitted a Supplementary ES Addendum (the 'Aug 2021 SESA') to report on the environmental assessment of the August 2021 Planning Addendum design changes and, in turn, present any changes to the conclusions reported in the Feb 2021 ES, especially where these may concern likely significant effects. The Aug 2021 SESA also responded to received consultee comments to the planning application, in particular those raised by the Environment Agency. As

1 Shropshire Council (on-line); 'Planning application: 21/00924/EIA' <https://pa.shropshire.gov.uk/online-applications/applicationDetails.do?keyVal=QOXI5QTD06Z00&activeTab=summary>

2 The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations, 2017.

part of this response, some construction proposals were refined, allowing further assessment of temporary impacts on flood risk and fluvial geomorphological processes operating within the River Severn.

- 1.5. In January 2023, WSP submitted Supplementary Environmental Information ('Jan 2023 SEI') to review the EIA as a result of Proposed Scheme design changes (such as amending the Application Boundary) and in response to further consultee comments relating to nitrogen, geology and soils, water environment, biodiversity, air quality, and noise.
- 1.6. The findings of the independent EIA review undertaken by Waterman, with advice upon the adequacy of the Feb 2021 ES, Aug 2021 SESA, and Jan 2023 SEI submitted as part of planning application 21/00924/EIA is presented separately (report ref: WIE20223-100-R-1.2.2-ES_Rev). A review of Environment Agency, Better Shrewsbury Transport and Severn Trent Water Limited consultee comments and corresponding WSP's responses has also formed part of the independent EIA review.
- 1.7. This briefing note (which forms Appendix A of the EIA Review report) presents the detailed findings of the EIA review undertaken by Waterman with a specific focus on the topics 'Geology and Soils' and 'Road Drainage and Water Environment'.

2. Documents Reviewed

- 2.1. The following documents have been reviewed in context of the drainage, water environment and geology issues raised by the Environment Agency and Severn Trent Water Limited.

EIA Scoping Report and Opinion:

- Feb 2021 ES EIA Scoping Report – Chapter 8 Geology and Soils
- Feb 2021 ES Appendix 1.2 EIA Scoping Opinion and Consultee Responses
- Table 1-1 of Feb 2021 ES Appendix 5.1: Summary of the EIA Scoping Opinion and Consultee Responses

Feb 2021 ES:

- ES Chapter 3: Description of the Proposed Scheme
- Chapter 10: Geology and Soils
- Figure 10.1: Published Superficial Geology
- Figure 10.2: Published Bedrock Geology
- Figure 10.3: Sensitive Receptors
- Appendix 10.1: Interim Baseline Contamination Study Report
- Appendix 10.3: Interim Piling Works Risk Assessment
- Appendix 10.4: Interim Borehole Decommissioning Plan
- Appendix 10.5: Interim Baseline Water Quality Construction Monitoring Strategy
- Chapter 17: Road Drainage and Water Environment including all Figures and Appendices
- ES Volume 4: Non-Technical Summary

Aug 2021 SESA:

- Supplementary ES Chapter 10: Geology and Soils Addendum
- Supplementary ES Chapter 17: and Water Environment Addendum including all Figures

Jan 2023 SEI:

- Supplementary Environmental Information Chapter 1: Introduction
- Supplementary Environmental Information Chapter 5: Geology and Soils
- Supplementary ES Chapter 6: and Water Environment including all Figures
- Appendix 5.C: Appendix 10.2: Detailed Quantitative Risk Assessment (DQRA) Revision 4, dated April 2023*

Environment Agency Comments:

- EA letter dated 3 May 2023
- EA letter dated 6 July 2023

Severn Trent Water Limited Comments:

- STW Comments Feb 2021
- STW Comments May 2023
- WSP response June 2023

*Note, Waterman has only reviewed the redacted public version of the DQRA, as the full DQRA was unavailable for review.

3. Review of EA Consultee Comments

Geology and Soils

3.1. The Environment Agency have made a number of comments (summarised by the following underlined text) which Waterman are in agreement with, and further clarification should be sought from the Applicant:

- The location and presence of non-licenced small volume private groundwater sources do not appear to have been commented upon/assessed: Waterman Agree – the impact of the Proposed Scheme on small volume groundwater sources should be assessed.
- Groundwater and Water Supply – Comment on WSP response that the risks to strategic water suppliers are ‘Extensively covered’. WSP have considered all scenarios described in current EA guidance (“Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention” – 2001). A further seventh scenario was considered regarding enhanced turbidity. Waterman agree with the EA that the uncertainty around the final pile design does not support a “very low” risk for PS6, however the pile designers risk assessment and subsequent selection of pile type, when considered alongside other site operations, should then reduce the risk to this level. Hence the PWRA should be revised following completion of the final pile design.
- A redacted version of the DQRA has been provided to Waterman for review. It appears that key information (such as exploratory hole location plans) has been redacted; as such our review is limited to the information released by WSP. The EA comment that “extensively covered” does not equate to having sufficiently addressed their concerns raised in their response dated 3 May 2023:

- “Further consideration of the surface water- groundwater interaction is required and whether additional potential pollutant pathways (PPL) need to be included in the DQRA/dispersivity modelling”: Waterman are in agreement with the EA that surface water – groundwater interaction has not been sufficiently modelled.
- “DQRA parameter input ranges and outputs require further detail, justification and/or sensitivity analysis before the model output can be accepted”: It is understood that WSP have responded separately to the EA regarding this matter; if further detail and justification was included in that response, it should be integrated into the DQRA and EIA.
- “The overall risk categories result in moderation of the sensitivity of the ultimate receptors. The DQRA and drainage strategy allude to several key mitigation measures for which we require further clarification/detail at this stage. These are primarily the road drainage design (requirement for sealed drainage in source protection zone 1 and 2), a proactive preventative maintenance/road operational manual including securing funding requirements and an emergency response plan including details of emergency funding contingencies”: Waterman are in agreement with the EA’s statement that the DQRA ultimately guides the mitigation measures required; the EA’s concern is rooted in that the additional works required may not be completed in a timely manner and that the planning committee will not have sufficient information to guide their decision.
- Detailed Quantitative Risk Assessment (DQRA) comment on lack of site investigation, hence the request for further modelling, details on the outcome of the chlorinated solvent scenarios, and remediation options and feasibility/repercussions/costs: The majority of the exploratory hole location plans have been redacted by WSP; as such Waterman cannot comment on the perceived lack of site investigation. However, it is noted that the GI data has not been presented in a coherent manner (for example, groundwater level data has been sorted by strata, with no consideration given to the spatial distribution of the groundwater levels). Waterman are in agreement with the EA that the chlorinated solvents scenario has not been assessed. Waterman also agree that further detailed justification and sensitivity analysis should form part of the EIA. Further modelling of a hydrocarbon spill at the Holyhead Road Roundabout has been requested by Severn Trent Water Limited, and is being conducted outside of the planning process – the results should be integrated into the DQRA.
- Comment on Pollution Scenario 6 (PS6) a degree of uncertainty that would not support the adoption of ‘very low’ for Pier 1: Agreed – this should perhaps be raised to Low/Moderate subject to detailed pile design. However, WSP state that the piles will not penetrate the principal aquifer, thereby not introducing a potential pathway, however until formal design is undertaken, this cannot be confirmed.

Road Drainage and Water Environment

- 3.2. Waterman are in agreement with the EA consultation letters, with the following summarised clarifications which should be sought by the Applicant.
- 3.3. Regarding the **Feb 2021 ES NTS**:
 - Section 1.1.9 will require revising once the comments below on Section 3.2.8 of the Feb 2021 ES Chapter 3: Description of the Proposed Scheme have been addressed.
 - Sections 2.1.135 to 2.1.146:

- Section 2.1.142: during construction - no mention of provision of spillage control, SuDS, or mammal/animal passages e.g. culverts which may have a dual purpose with drainage.
- Section 2.1.143: during operation - no mention of impact of the Proposed Scheme's raised embankments to surrounding areas in respect of overland flooding and drainage.

3.4. Regarding the **Feb 2021 ES Chapter 3: Description of the Proposed Scheme**:

- Section 3.2.8 (Proposed Scheme Description):
 - A B4380 Holyhead Road Roundabout underpass is proposed for the existing PROW. The proposed roundabout underpass is around 200m from the River Severn centreline therefore groundwater requires additional consideration.
 - There is no clear drainage design for the underpass.
 - There is no clear consideration of flood risk inundation, groundwater and hydrostatic pressure.
 - A pumping station is likely to be required and therefore the spatial planning and design has not been shown.
- Section 3.2.9 to 3.2.11 (Proposed Scheme Description): Mentions three culverts (Willow Pool Wildlife Culvert, Alkmund Park Culvert, and Hencott Pool Culvert) with combined mammal/animal crossings, however there is no clear consideration of the form of the crossing. A culvert may be required. As such, there is no clear consideration on water levels for these culverts and the impact to mammal/animals.
- Section 3.2.13 to 3.2.25 (Key Components):
 - Table 3.2 - Proposed structures: Equestrian Culvert East of Holyhead: The 3.95m height and so resultant depth needed for the underpass, and approximate 300m proximity to the River Severn, may invoke operational dewatering requirements and flooding concerns in high water level events.
- Section 3.2.23 (Other Components):
 - "*Provision of two flood storage areas to mitigate for the loss of floodplain*" – naming the devices as such suggests it would be designed for flood storage only, so not for multi-use e.g., including amenity, water quality mitigation and environmental enhancement as per the four pillars of SuDS design. Terminology should be specific and consistent to allow the design to be understand.
 - "*Associated highway drainage works including the provision of seven attenuation basins, one infiltration basin and pollution control measures and utilisation of the aforementioned culverts wherever possible.*" – as per the above concern, the device name suggests exclusion of multi-use.
 - "*badger tunnels*" – at various locations specified in Table 3-4. The location of these should be considered with relation to flood risk and drainage as may not be favoured or possibly used if inundated often.
- Section 3.3.24 (Proposed Earthworks): Most lengths are proposed at a 1:3 gradient, the steepest recommended gradient to allow access over and/or maintenance for the bank slope itself (vegetation/grass clearance) or bank toe assets such as or verge ditches or other verge drainage features such as ponds etc. However, lengths including "...particularly on the

embankments and cutting slopes associated with the structures...” and “...for the false cutting slope that has been created to screen the properties between Calcott Lane and Shepherd’s Lane.” are proposed at a steeper 1:2, and therefore maintenance and access will not be possible.

- Section 3.2.26 to 3.2.32 (Supporting Infrastructure):
 - Section 3.2.31 (Bank Protection): Mentions an assessment in “Appendix 17.6: Geomorphological Assessment: River Severn” for the River Severn crossing only, so no mention if the other four or so proposed watercourse culvert approaches have been scour assessed.
- Section 3.3.33 to 3.2.45 (Proposed Strategies): No mention in Sections 3.3.34 to 3.2.28 of adequate maintenance and operational features and allowances for drainage features.
- Section 3.2.34 to 3.2.38 (Highways Drainage Strategy):
 - Section 3.2.35 (Proposed pollution control features): No mention of SuDS devices described elsewhere such as ponds. The SuDS Manual’s Table 26.3 used for the Simple Index Approach (SIA) assessment does not have indices to assess many of the proposed controls. With reference to DMRB CG501 Table 8.6.4:
 - First stage pollution control: The proposed controls provide only sediment removal as a pollution control (water quality mitigation), therefore giving limited source control. The operation of combined kerbs as noted in CG501 Table A1; are prone to siltation on the roadside of the inlet, and these require lengthy traffic management (TM) during maintenance increasing operational burden in terms of cost and traffic flow, and so not suitable for approaches, junctions and roundabouts.
 - Second stage pollution control: No comment.
 - Third stage pollution control: The control measure “*SuDS conveyance ditches*” is a generic term and not a measure with an index and therefore cannot be assessed.
 - Fourth stage pollution control: Full bypass separator tanks: DMRB C G501 Paragraph 8.7 prohibits the use of oil separators, and therefore adoption by the authority may not be possible.
 - Section 3.2.36: “Attenuation Basins 1, 2 and 7 are proposed to be permanently wet.” Will need to be appropriately designed (as ponds) to be effective and multi-use SuDS devices.
 - Section 3.2.37 (Surface water drainage): New outfalls to sewers, road authorities, Main Rivers and Ordinary watercourse will require the necessary consents. “*proposed A528 Ellesmere Road Roundabout would discharge to ground with overflow connected to the existing drainage system*”. The secondary ‘existing system’ would need to be stress tested as are likely to receive highway discharges waters often, due to the typically lower flow capacity of the proposed primary groundwater outfall.
- Section 3.2.39 to 3.2.40 (Flooding Strategy):
 - Section 3.2.39: Mentions a Flood Risk Assessment (FRA) review of the River Severn and the Alkmund Park Stream with proposed storage allowances. It is not mentioned if the other watercourse crossings were assessed for flooding namely (from Table 3.2); Willow Pool Wildlife Culvert and Hencott Pool Culvert.

- No mention of (based on Figure 17.1 Surface Water Features) design consideration or allowances for the three shown overland flow routes.
- Section 3.3 (Environmental Design and Mitigation): This has been reviewed against the available document: 'Figure 2.1 Structural Elements along Proposed Scheme Page 1 of 5' to '5 of 5'. Within Table 3-4 – Embedded mitigation to the Proposed Scheme, the following 'Design Elements', with reference to Figure 2.1 has been reviewed:
 - Road drainage and pavements: Notes the use of wildlife kerbs as mitigation used alongside roadside gullies, however this cannot be used adjacent the lengths of proposed combined kerbs.
 - Drainage catchment area 2 and 3: The mitigation device – Full bypass separator tanks: DMRB CG501 Paragraph 8.7 prohibits the use of oil separators, and therefore adoption by the authority may not be possible. There would need to be maintenance laybys during operation if this device was adopted, that are not shown on the figure. Manual penstocks require access and preferably visibility from the carriageway, signage and regular de-vegetating. Outfalls are not shown for Attenuation Basin's 1 and 3. Any discharges outfalling to railway will need consent.
 - Wildlife pond and hibernacula newt bank: the proposed pond, and provision for access is not shown on the Figure 2.1.
 - Earthwork: false cuttings proposed at 1:2, steeper than the recommended 1:3 slope to allow for access and vegetation maintenance.
 - Drainage catchment area 7: As per comments for area 2 & 3 mitigation devices. Attenuation Basin 4 outfall not shown. No opportunity provided to promote amenity of the Basin 4 with the adjacent PRoW or road users. Due to floatation issues, high cost, lack of bio-remediation and self-healing properties and the high risk of a plastic liner being damaged during maintenance and operation, a thick layer of clay soil with overlying mitigation soil is preferred rather than a plastic liner.
 - Equestrian Culvert East of Holyhead: "Figure A-3 Existing Flood Risk for the River Severn – South" This shows the underpass not at fluvial flood risk. On an operational and sustainability and accessibility level the concerns are a pumping station may have to be employed to drain this underpass with associated high continuous operational and maintenance costs, and this will likely be inundated during high watercourse water levels leading to frequent closures. The depth needed for this Equestrian underpass required a height of 3.95m will worsen flooding concerns.
 - Drainage catchment area 8: Attenuation Basin 5 not labelled on Figure 2.1. No outfall is shown. No opportunity provided to promote amenity of the Basin 5 with the adjacent PRoW or road users. Liner not recommended as per comments for Basin 4 above.
 - Shelton Rough River Severn Viaduct: 'GA Drawings and Structure Drawing' not available. Proposals for runoff to fall east to Basin 5 would need to ensure an adequate treatment train for water quality following piped drainage system over the viaduct. The "bridge deck drainage kerb" would need to consider maintenance procedures especially any TM requirements resulting in lane closure. Point assets for gully sucking are therefore preferred over linear collection devices that require cleansing due to TM constraints.

- River Severn Flood Storage Area: The device is not labelled on Figure 2.1. No allowance for maintenance access shown on Figure 2.1. Root barrier lining recommend reducing larger vegetation growth maintenance. No opportunity provided to promote amenity of the flood storage area with the adjacent PRow or road users.
 - Willow Pool Wildlife Culvert: The mitigation notes a like for like hydraulic connectivity. However, there is no mention of an adequate treatment train for water quality for any potential highway outfalls to this sensitive waterbody. No allowance for maintenance access on Figure 2.1.
 - Drainage catchment area 9: same concerns of mitigation devices as per Areas 2 & 3. Any discharges outfalling to railway will need consent. Attenuation Basin 6 - No outfall is shown on Figure 2.1. No opportunity provided to promote amenity of the Basin 6 with the adjacent woodland users or road users.
 - Alkmund Park Wood Culvert: No allowance for upstream and downstream headwall maintenance access on Figure 2.1.
 - Alkmund Park Wood Drainage Ditch: No allowance for maintenance access on Figure 2.1.
 - Alkmund Park Stream Flood Storage Area: No allowance for maintenance access on Figure 2.1. A root barrier liner is recommend reducing larger vegetation growth and therefore maintenance.
 - Catchment area 12: Same concerns of mitigation devices as per Areas 2 & 3. Attenuation Basin 7 - No outfall is shown on Figure 2.1. No opportunity provided to promote amenity of the Basin 7 with the adjacent PRow or road users.
 - Hencott Pool Culvert: Mitigation notes like for like hydraulic connectivity. However, there is no mention of adequate treatment train for water quality for any potential highway outfalls to this sensitive waterbody. No allowance for maintenance access on Figure 2.1.
 - Catchment area 13: Same concerns of mitigation devices as per Areas 2 & 3. Attenuation Basin 8 - No exceedance outfall is shown on Figure 2.1.
 - Section 3.4 (Construction Information):
 - Section 3.3.4 to 3.3.5 (Temporary Drainage Solution): No detail is provided on the spill, flow and pollution control devices, apart from 'Runoff would be collected in containment areas in order that silts and any pollutants can be captured, and outlet flows can be controlled to agreed rates of discharge.' Therefore, there is no mention of pollution control measures. Drainage water quality treatment for this temporary phase should be in line with SuDS requirements following the Simple Index Approach or pass the HEWRAT tool test as per any other phase. Any permanent SuDS or drainage devices utilised in the construction phase must be adequately protected against construction activities, including suitable protection to infiltration and pond devices. A condition assessment will need to be provided, and CCTV drainage inspections for any piped or underground assets, prior to handover.
 - Other concerns not mentioned: No allowance for access provided to all embankment toe drains and headwalls on Figure 2.1.
- 3.5. Regarding the **August 2021 Drainage Strategy Technical Note** (report ref: 70056211-WSP-HDG-AS-RP-CD-00001 P02), dated 15/07/21:

- No to limited evidence of sealed drainage system design and specification in SPZ's 1 and 2 or the eastern floodplain or agreed clay additional lining to attenuation basins. Also, inappropriate detailed conveyance devices for these areas. No consideration of groundwater flooding to the banks and basins in these risk areas.
- There is no clear information on infiltration rates therefore the scheme spatial planning (vertical and horizontal) cannot be adequately understood.
- Infiltration systems around east of the River Severn and Berwick Road with no evidence of consideration to groundwater and water supplies and allowing for a 1.2m buffer between maximum groundwater levels and the base of the proposals.
- The maximum groundwater level should be clearly established and understood in particular at sensitive areas and in relation to proposed drainage devices. This should include monitoring over a one to two-year period to confirm the max groundwater levels, fluctuation, location. In addition clear consideration of the historic records, hydrogeology and hydrogeology is required to enable design and design mitigations.
- The Maintenance Plan should be fully developed to include regular, occasional and remedial actions for each drainage device utilised. Aspects of the use of road salting and vegetation control pesticides in sensitive SPZ's 1 and 2 areas should be included.
- An Emergency Plan should be developed to include detail of all the containment assets and signage and operations required. Aspects of the use of fire retardants in sensitive SPZ's 1 and 2 areas should be included. Short-, medium-, and long-term remedial actions require including and mechanisms to action, and evidence of the available agreements and funding to provide such responses.
- Section 1 Introduction:
 - Changes to the drainage strategy include “*additional basin has been created to the west of Calcott Lane and provides attenuation for the proposed Churncote roundabout*”. It is not clear if this has been reflected on Figure 2.1 Structural Elements along Proposed Scheme.
- Section 2 Proposed Drainage Strategy:
 - “*Due to isolated low areas or inadequate connection points it may be necessary to outfall some local smaller areas to soakaways*.” The secondary ‘existing system’ would need to be stress tested as are likely to receive highway discharges waters often, due to the typically lower flow capacity of the proposed primary groundwater outfall.
 - “*Attenuation Basins 4 and 5 will also be lined with an impermeable layer of clay as requested by the Environment Agency*.” An impermeable clay layer and mitigation soil layers should be considered in place of a plastic liner and should be topped with topsoil to support vegetation and associated bioremediation. The SuDS Manual Table 26.4 provides guidance for appropriate mitigating layers.
- Section 3 Proposed Pollution Control Features:
 - The water quality mitigation effect of proposed gully and combined kerb silt traps do not have a Simple Index Approach mitigation index and DMRB CG501 Table 8.6.4 notes sediment removal pollution control characteristics only, and therefore may not be effective as a treatment at source device. The mitigation device – Full bypass separator tanks: DMRB CG501 Paragraph 8.7 prohibits the use of oil separators, and therefore adoption by the

authority may not be considered. There would need maintenance layby's during operation if this device was adopted, that are not shown on the figure. Manual penstocks require access and preferably visibility from the carriageway, signage and regular de-vegetating.

- Suitable access is briefly mentioned however not detailed for the assets shown on Figure 2.1. Access requirements are set out in DMB CG501 Section 8.5.

- Section 6 Surface Water Management:

- The Table 1 Operation for Maintenance Activities is very limited in description, with little to no mention of frequency or delineation between regular or infrequent maintenance, inspections, remedial actions and monitoring. It is not asset specific with no mention of proposed traditional or proprietary devices.

- Section 7 Safety:

- No mention of pond and flood storage area maximum depths, freeboards, basin gradients, shelving widths, exceedance flow management, and embankment gradients.

3.6. Regarding the **Jan 2023 Drainage Strategy Drawings**, the following general arrangement (GA) drawings have been reviewed:

- 70056211-WSP-HDG-AS-DR-CD-00045 C01.2 – Sheet 1 of 5
- 70056211-WSP-HDG-AS-DR-CD-00046 C01.2 – Sheet 2 of 5
- 70056211-WSP-HDG-AS-DR-CD-00047 C01.2 – Sheet 3 of 5
- 70056211-WSP-HDG-AS-DR-CD-00048 C01.2 – Sheet 4 of 5
- 70056211-WSP-HDG-AS-DR-CD-00049 C01.2 – Sheet 5 of 5

3.7. The GAs shows road catchments, and undetailed water quality mitigation devices upstream of and the outfall route (no drainage feature) of most attenuation basins / ponds / flood storage area.

- BASIN 8 is a proposed infiltration basin with no exceedance outfall.
- The existing and proposed surrounding (non-highway) surface water catchments and overland flows are not shown.
- Receiving road drainage and any exceedance flows onto/off the proposal are not shown.
- Proposed outfall to Existing outfall points / lengths not shown.
- Maintenance access apart for basins, so to culvert approaches, pollution control devices, embankment toe drains, headwalls, penstocks, flood storage area, drainage ditches, ponds, are not shown / provided. Access requirements are set out in CG501 Section 8.5.
- Basin volumes and discharge rates are based on preliminary design.

3.8. Regarding the **Jan 2023 SEI Chapter 6: Road Drainage and Water Environment**:

- Paragraph 6.1.4: The requirement for infiltration device bases to be a suitable distance above site established maximum groundwater levels, as per Paragraph 2.6 of DMRB CD530, and The SuDS Manual.
- Paragraph 6.2.6: The WFD assessment requires a review, following the conclusions of responses to separate EA comments on the supporting documents (not covered in this review). WFD to fully consider piling works or road pollution spills, especially relating to public water supply sources and high groundwater conditions.

- Paragraph 6.2.24: The potential pollutant pathway (PPL) of the river and groundwater interaction in a spillage event needs further consideration in the dispersity assessment/DQRA, following the conclusions of responses to separate EA comments SEI App 6.B Annex D Groundwater surface water interaction and bedrock connectivity - CONFIDENTIAL.pdf (not covered in this review).
 - Paragraph 6.2.26: The relationship between shallow groundwater control and mitigation measures such as a sealed drainage network in SPZ's 1 and 2, requires further clarification in particular basing mitigations on maximum groundwater levels not average levels.
 - Section 6.5: The risk reduction measures stated within the CEMP (Paragraph 6.5.6) and DQRA (Paragraph's 6.5.10 and 6.5.11) are based on future speculations of authorities to co-operate and action a new mitigation plan, rather than existing suitable agreements. Evidence is required to substantiate the proposed level risk, such as additional detail within the road's detailed design and Maintenance Plan, and an agreed and funded Multi-agency Recovery Plan of the County Council similar interest group.
- 3.9. Regarding **Appendix 6.B: Water Environment Risk Assessment of the Jan 2023 SEI**:
- Section 1.6.15: The quantifiable ratio of water the public water supply borehole gets from the Kinnerton Sandstone aquifer and 'leakage from the river" would need to be evidenced further.
 - Section 1.7.4: Comments are on contracted designed temporary works should be covered by the Turbidity Protocol.
 - Embedded Mitigation and Additional Mitigation Proposals: EA permits required for any groundwater dewatering with current processing timescales require 6 to 12 months.
 - Water Environment Monitoring: Trigger values should be set at UK Drinking Water Standards in relation to a potable groundwater resource, and Environmental Quality Standards protective of environmental conditions within surface water bodies. Appropriate reporting throughout construction and post construction phase to be focused on deviations to baseline and relationship with the works.
 - Assessment of Effects:
 - Table 1-11: The magnitude of impact assessment attributed to the Western Abutment Piling, and the Pier 1 piling, does not consider the impact to the sensitive STW Shelton borehole supply that would require monitoring and the Turbidity Protocol.
 - Table 1-15: The B4380 Holyhead Roundabout magnitude of impact to the sensitive STW Shelton borehole supply should be reassessed upward, with mitigation measures of adequate containment through a sealed drainage network, and evidence of and adequately agreed and funded routine Maintenance Plan and multi-agency Emergency Plan.
 - Assessment of Residual Risks:
 - Table 1-17: Disagreement on the given magnitude of impact for Pier 1 and Western Abutment Piling and a requirement of monitoring and the Turbidity Protocol.
 - Table 1-21: Disagreement on the given magnitude of impact for B4380 Holyhead Roundabout from emergency spillages.
- 3.10. Regarding **Appendix 5.D: Piling Works Risk Assessment (PWRA) of the Jan 2023 SEI**:
- The disagreement with the 'very low' risk for Pier 1, with concerns on effect to STW existing groundwater abstractions and so the need groundwater monitoring boreholes during works and

an agreed Turbidity Protocol or alternative support structures.

- 3.11. Regarding the **Detailed Quantitative Risk Assessment (DQRA), dated April 2023**:
- We agree with the EA's comments to include sealed drainage in SPZ's 1 and 2, and a 'proactive preventative' Maintenance Plan and Emergency Response Plan, with secured funding for both Plans.
- 3.12. We agree with the requirement for a **WFD assessment** to fully consider piling works or road pollution spills, especially relating to public water supply sources and high groundwater conditions.

4. Review of Severn Trent Water Limited Consultee Comments

Geology and Soils

- 4.1. Waterman is in general agreement with the concerns raised by Severn Trent Water Limited, which are generally in line with those already raised by the EA and described above.
- 4.2. WSP's response (dated June 2023) indicates the following:
- Piling and need for a turbidity protocol – WSP does not fully understand their demand to fully resolve and develop Turbidity Protocol given monitoring and work is not yet complete and will delay the application: Waterman understands that WSP has advocated for this issue to be dealt with via a Planning Condition and therefore would not be required to be fully covered by the EIA. Waterman is in agreement that a separate planning condition would be appropriate in order to avoid unnecessary delays in the planning process.
 - WSP does not accept there is no site-specific investigation at/proximal to Holyhead Road Roundabout but does accept there are no such ground investigation (GI) data which fully penetrates the drift cover or enters into the bedrock: Waterman agree that additional deeper GI is required.
 - WSP accept there are no such ground investigation (GI) data which fully penetrates the drift cover or enters into the bedrock but are prevented from siting deep boreholes in proximity with Holyhead Road Roundabout: WSP does not state any specific constraints to the GI which would prevent deeper boreholes being completed. Clarification on the constraints around the Holyhead Road roundabout should be sought.
 - WSP feel that the variable characteristics of the drift are reasonably and appropriately represented in SEI baseline descriptions and related assessments: Waterman agrees.
- 4.3. WSP have provided evidence of correspondence relating to the relationship between groundwater and surface water: Email correspondence between WSP and STWL have not been reviewed; it is recommended that clarification is sought from STWL to confirm they are satisfied with WSP's response.

Road Drainage and Water Environment

- 4.4. Waterman is in general agreement with the concerns raised by Severn Trent Water Limited, which are generally in line with those already raised by the EA as described above.

5. Conclusions

- 5.1. In general, the importance and impact on the quality of public water supply source should be revised upward. Appropriate mitigation measures to the construction through monitoring and reporting, design through containment and control, and operation through funding and management agreements of the road by the Highways Agency and emergency services, should be evidenced. The SuDS Manual water quality assessment and mitigation measures should be applied, as should asset selection suitability and mitigation indices from DMRB CG501. In summary, the road drainage and water environment proposals does not clearly demonstrate that flood risk, water management, water quality, and pollution control is being suitably considered in terms of ES assessment given the design proposals are not wholly complete and/or suitably detailed. As such spatial planning is therefore not clearly and robustly identified which may notably impact the scheme design principles.
- 5.2. In summary, there is a lack of supporting data related to hydrology and hydrogeology including groundwater monitoring with a detailed focus on groundwater level fluctuation, tested locations, and coordination with the proposed road and drainage proposals. Furthermore, the consideration of water quality, pollution pathways and infiltration rates are not clearly demonstrated whilst soakaway systems have been proposed. As such spatial planning is therefore not clearly and robustly identified which may notably impact the scheme design principles and local and surrounding water environment.
- 5.3. In terms of geology and soils, clarification is sought regarding information missing from the DQRA. The DQRA should be updated in line with the latest consultation responses with the Environment Agency and Severn Trent Water Limited, including integrating further modelling of a hydrocarbon spill at the Holyhead Road Roundabout, clearly presenting the ground investigation data, and providing details on the outcome of the chlorinated solvent scenarios. The Piling Works Risk Assessment needs to be revised with appropriate risk ratings, and subsequently revisited following completion of detailed pile design.

**B. WSP 1st and 2nd Clarification Responses Alongside Waterman Review
Commentary**

Appendices

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
Introductory	C.4.1	Clarification	Provide evidence of the subsequent agreement following issue of the EIA Scoping Opinion to not include a separate ES chapter on Traffic and Transportation.	No	The Scoping Opinion from Shropshire Council (dated 28 Jan 2020) initially asked for a traffic and transport assessment to be included in the EIA. A post scoping clarification letter was submitted by WSP to SC on 29th Jan 2020, which acknowledged "the importance of assessing the transport related effects of the Proposed Scheme, however, our proposed approach, in the interests of proportionality, is for such effects to be assessed in the Transport Assessment (TA) and the Population and Health chapter of the Environmental Statement (ES)". This issue was subsequently discussed at a pre-application meeting with SC and it was agreed with the Planning Officer, Mike Davies, that this approach was acceptable on 5 Feb 2020 (as referenced in distributed minutes from the pre-application meeting). This has been recorded in Chapter 5 of the ES Feb 21. It should also be noted that DMRB does not require a traffic and transport chapter, but impacts due to traffic are reported in relevant chapters e.g. noise, air, population and health instead.	This clarification is deemed acceptable on the basis it was the agreed approach with SC and noting the DMRB methodology. It is recommended written confirmation of the agreed approach is provided.		
	C.4.2	Clarification	For all topics acknowledgement of, and confirmation if and how updated policy and guidance would affect the assessment undertaken. Where appropriate provide justification where updating the assessment is not considered necessary (C.4.2).	No but please see responses below where questions about latest guidance have been commented on.	WSP has considered updates to Planning Policy when submitting various addendums and supplementary information e.g., see Appendix A of Cover Letter for August 2021 addendum within which consideration is given to policy implications of July 2021 update to NPPF. Policy changes and updates have also been generally reviewed and taken account of in the preparation of addendums and supplementary environmental information submitted in support of the planning application. WSP has not addressed, and will not be addressing, changes to NPPF brought in on 5th September as these changes relate to onshore wind. Changes in, for example, guidance or best practice have been addressed where specifically highlighted in the topic specific reviews. For example, responses to C8.1 address updated guidance and C8.7 assesses the impact of different future climate projections, concluding no difference in assessment. Justification for not updating assessments is included where relevant below.	Waterman were not provided with the August 2021 cover letter so cannot comment on this. However, this clarification is accepted and is noted that specific responses are set out in respect of other clarifications.		
	C.4.3	Clarification	Provide the approximate chainage when introducing the different sections of the Proposed Scheme in ES Chapter 3 for context.	No	The Waterman EIA Review Report acknowledges that "the completed Proposed Scheme is clearly described in detail". This recommendation is not taken as any breach of the EIA Regulations, which do not require the inclusion of chainages. This has not been raised as an issue by any statutory consultees and we do not consider it to pose a risk for legal challenge. Different projects take different views on the inclusion of chainages. Some take the view that chainages are not understood by the lay person and reference to features e.g. roundabouts, roads, watercourses is a better way of providing context / reference points.	As chainage is referred to elsewhere in the ES, ES Chapter 3 would benefit from reference to the chainage distance. However, this is not essential and unless SC would like this information to inform their description of the scheme in the committee report or otherwise, this clarification is accepted.		
	R4.1	Reg 25 Request	Provision of a consolidated and updated NTS of the Proposed Scheme as amended (C.4.3) with further images to support the text, and details of construction activities and working hours is required.	No	The recommendation states <i>Whilst it is noted the NTS Addendums for the Aug 2021 SESA and Jan 2023 SEI should be read alongside the Feb 2023 ES NTS, a consolidated updated NTS that presents the likely effects of the Proposed Scheme as amended also is needed to be of benefit to the lay reader</i> . This recommendation is not taken as any breach of the EIA Regulations and projects deal with SEI etc in various ways from (i) a full updated NTS to (ii) an NTS of the updated information only to (iii) no NTS. Both the SESA and the SEI did include NTSs so represent approach (ii). This is considered a proportionate approach and to WSP's knowledge has not been raised as an issue previously. WSP does not believe that an NTS for SEI needs to address the scheme as a whole, but should simply address the changes. An addendum that addresses just the changes would not be represented by an NTS that covers everything; indeed it might well muddy the water. In addition the NTSs include cross referencing as appropriate. The SEI NTS states "it has been prepared in order to present an update to the ES Feb 21 NTS and SESA Aug 21 NTS All three documents should be read alongside each other" thereby assisting the reader. Following further consideration and discussion based on ongoing reviews of the main topic areas it is understood there are no new, previously unreported significant effects. This means that the substance of the NTS is unlikely to change and therefore any revised NTS would be to correct any of the minor errors identified through the review and provide some of the clarity requested through Waterman review e.g. a plan of cumulative developments. There is no significant additional information from an EIA perspective following Waterman's review and WSP's clarifications / responses and therefore we maintain that it may only serve to confuse a reader at this point in the process i.e. it would be a standalone NTS with historic documentation supporting it.	We accept that in this instance a consolidated NTS does not form further environmental information as set out in Regulation 25. However, we do consider that a consolidated and updated NTS that presents the likely effects of the Proposed Scheme as amended, is needed to be of benefit to the lay reader, we understand from WSP this is being prepared. The updates could be provision of additional narrative explaining for instance what temporary or permanent effects may be or what mitigation means and residual effects, or through the provision of more images to exemplify the scheme. It is considered that with clear introductory context setting that clarity can be given to the reader how a consolidated NTS has been prepared subsequent to the previous 3 NTS documents. It is likely this will document will supersede the previous NTS, but will acknowledge other ES documentation as necessary. Further reasons for this request and suggestions of how the NTS could be presented include: Provision of the total site area and site boundary (and updated Figure 1 - the additional areas could be annotated differently). A change of c.55ha in site area from original ES could seem huge to a lay person and it is not immediately apparent what or where this land is or what will be located in its place. Updates to the numbers referenced within the study areas / Application Bounday e.g. 11 recreational sites, 3 cycle routes, demonstrate changes do not affect the baseline etc. Explain what the additional site area contains and contextual commentary in terms of its sensitivity / value. Appreciating the site area is large there are necessarily generalisations that need to be made, but exemplification would go far to demonstrate to the lay person the scale and nature of the changes in comparison to the original - for instance identifying Hencott Pool Noted, our recommendation still stands should any subsequent reporting be prepared.		
	Other Recommendation 1	Other	Presentation – Each chapter has several front cover pages which hinders navigational access to the first page of the chapter and adds unnecessary pages and length to the ES. If a front cover is necessary, it is recommended that only one front cover is included with the title of the project and chapter name (as well as on the footers throughout the document), so it is clear which chapter is being accessed.	No	This is not considered fundamental issue to the robustness or defensibility of the ES, SESA or ESI.			
	Other Recommendation 2	Other	Contents and Structure – An overarching detailed contents page would aid navigation of the ES and Addenda. In particular, it is unclear why there are ecology appendices within SEI Chapter 1 as well as SEI Chapter 3.	No	Accepted that this would aid navigation, however, this is not considered a fundamental issue to the robustness or defensibility of the ES, EIA or ESI. Ecology appendices included within Chapter 1 are documents that have been specifically produced in response to comments and queries raised to the Feb 2021 ES or as a result of updated baseline surveys conducted in 2021 or early 2022 (Prior to the design freeze for the 2022 SEI design). Ecology appendices included within Chapter 3 are the result additional surveys carried out during 2022 to ensure that survey data is up to date at the time of determination, or presenting updated assessment for areas previously unsurveyed (as a result of the design changes).	Noted, this clarification is accepted.		
	Other Recommendation 3	Other	As set out above, the Feb 2021 ES Chapter 3 should provide more description (or at least sign-post to other ES chapters) on the construction activities, including construction materials to be used, groundwork depths, and extent of arable land and trees to be removed.	No	Information on the construction on the Proposed Scheme is provided in Section 3.4, which is considered to meet the requirements of the EIA Regulations. The Waterman EIA Review report acknowledges that the further information that they have recommended included in the Scheme Description is contained within the relevant technical chapters. Although it is accepted that signposting readers to where this information is located would be useful, it is not considered that the ES is currently in breach of the EIA Regulations and is not considered a fundamental issue to the robustness or defensibility of the ES, EIA or ESI.	Noted, on the assumption that SC are content they understand construction activities, this clarification is accepted.		

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	Other Recommendation 4	Other	NTS – Include further images in the ES NTS to support the text. Further detail on the construction activities and working hours should be included.	No	This is not considered fundamental to the robustness or defensibility of the ES, ESA or ESI.	See response above.		
Air Quality	C.5.1	Clarification	Why reference has been made to LAQM.TG16 rather than LAQM TG.19 and clarification is sought whether this guidance affects the findings and conclusions of the assessment.	Will not change assessment outcome in terms of significance of effects.	The original assessment began in 2019, before TG.19 was produced. There have been limited changes to the guidance and therefore the changes incorporated in LAQM TG.19 are unlikely to alter the conclusions of the assessment. The assessment was included in the initial Planning Application in February 2021 and the Applicant's position is supported by Shropshire Council Regulatory Services in their comments dated September 2023, which state "It is noted there have been changes to various policies and legislative levels introduced for PM2.5 at a national scale since the initial assessment was completed. It is not considered necessary for additional assessment as modelled background maps of PM2.5 provided by DEFRA find levels of pollution below the 2040 limit of 10ug/m3 in 2023 and future years". WSP have received no indication from any other Statutory Consultees that this assessment is not appropriate. The matter was discussed during a meeting between topic specialists (from WSP and Waterman) on 18.09.23. The consensus between the specialists who attended the workshop was that the changes in guidance were unlikely to alter the conclusions of the assessment.	As of 6.10.23 Waterman have not seen the comments dated September 2023 from Shropshire Council Regulatory Services. However, if agreed with Shropshire Council Regulatory Services - no further comment.		
	C.5.2	Clarification	Why the effect of 'increased exposure to pollutants from construction traffic' was scoped out and not assessed in accordance with the IAQM's 'Guidance on the assessment of dust from demolition and construction'?	Will not change assessment outcome in terms of significance of effects.	As is set out in Table 6-2, the assessment of construction traffic impacts was scoped out with reference to DMRB LA105. The IAQM guidance was used for a more detailed representation of construction dust impacts only. This approach was discussed and agreed by Shropshire Council Regulatory Services throughout the EIA process, as reflected in their formal comments in response to the planning application dated April 2021: "The assessment states that increases in air pollution as a result of construction vehicle movements has been scoped out. This approach is accepted with reference to p23 of the DMRB LA105 Air Quality guidance document. As an AQMA exists in the town centre it is recommended that, should the application be granted planning approval, that a condition is placed which prohibits the movement of construction vehicle traffic through the AQMA. In effect this will remove vehicles in the town centre and ensure no significant number of HGV movements occurs due to the proposed development".	If agreed with Shropshire Council Regulatory Services - no further comment.		
	C.5.3	Clarification	Why 2019 was not used as the baseline year for the assessment?	Will not change assessment outcome in terms of significance of effects.	The assessment work was undertaken in 2019, before a full complement of monitoring data for 2019 was available. It is considered that using 2019 as the baseline year is unlikely to alter the conclusions of the assessment. The Applicant's position is supported by Shropshire Council Regulatory Services in their comments dated September 2023, which state "The air quality model continues to be considered to have been carried out in line with relevant guidance. Inputs available to scrutinise are considered satisfactory. It is noted that since its production there have been changes which would be expected over time. For example, the model has used EFT v9.0 for input data on emission factors from the fleet. The latest version of EFT is now v11. However, it is not anticipated that a rerun of the model using updated emissions factors would create a difference to outputs that would significantly impact on model outputs to a level that would change conclusions on the level of impact forecast". The matter was discussed during a meeting between topic specialists on 18.09.23. The consensus between the specialists who attended the workshop was that the changes in guidance were unlikely to alter the conclusions of the assessment.	If agreed with Shropshire Council Regulatory Services - no further comment.		
	C.5.4	Clarification	Why no reference or assessment for construction plant emissions has been undertaken?	Will not change assessment outcome in terms of significance of effects.	The assessment of construction traffic impacts was scoped out with reference to DMRB LA105. The IAQM guidance was used for a more detailed representation of construction dust impacts only. This approach was discussed and agreed by Shropshire Council Regulatory Services throughout the EIA process, as reflected in their formal comments in response to the planning application dated April 2021: "The assessment states that increases in air pollution as a result of construction vehicle movements has been scoped out. This approach is accepted with reference to p23 of the DMRB LA105 Air Quality guidance document. As an AQMA exists in the town centre it is recommended that, should the application be granted planning approval, that a condition is placed which prohibits the movement of construction vehicle traffic through the AQMA. In effect this will remove vehicles in the town centre and ensure no significant number of HGV movements occurs due to the proposed development".	This comment is referring to construction plant and not construction traffic. Appropriate response required.	We cannot find definitive meeting minutes where it was discussed and agreed that we would be using the DMRB guidance for the assessment, rather than the IAQM guidance as set out in the Scoping Report/Scoping Opinion. I have attached an e-mail chain between our Air Quality team and representatives from Shropshire Council, where our colleague Sam Carter states on 16th October 2019 (see page 9) that: "Following the air quality surveys, we will undertake an air quality assessment as set out in the DMRB & associated Highways England guidance notes. This will be reported as part of the environmental impact assessment for the scheme." We are aware that this e-mail pre-dates the formal submission of the Scoping Opinion (25th October 2019) and there is no formal acceptance of this approach from Shropshire Council. However, we draw attention to the Regulatory Services comments from 13th September 2023, whereby they state in their summary: "Despite some increases in air pollutant concentration in some areas the overall assessment of air quality impact is considered not significant at worst and could be viewed as having a beneficial impact due to the locations where betterments would be found (areas where national objective levels are or are close to being exceeded and/or areas which in any given future year would be likely to have highest concentrations of pollutant). The model is considered robust and no revisions for additional future years post 2023 are considered necessary as the impacts would be expected to be less significant in all cases making the impact." In addition, we have undertaken a sensitivity analysis to confirm that there would be no change to our assessment if we were to have used the IAQM guidance. I have attached a copy of the findings to this email for reference.	Shropshire Council Regulatory Services view requested. WSP acknowledge there is no written agreement to adopt the DMRB LA 105 - Air quality methodology (DMRB) instead of IAQM's Guidance on the assessment of dust from demolition and construction (IAQM) as set out in the EIA scoping report. Although it is understood Shropshire Council Regulatory Services have accepted DMRB this has not been specifically noted in respect of the assessment of construction traffic. With regard to construction vehicle emissions there is no assessment as this is scoped out of the EIA on the basis the construction programme is less than 2 years as per the DMRB methodology. If not accepted by SC and the approach set out in the scoping report remains applicable (use of IAQM guidance) then further clarification in respect of construction traffic and potentially an assessment if they exceed the thresholds set out in the IAQM guidance could be needed. The ES states: "for the purposes of this ES, it is anticipated that the average daily in and out movements of HGVs and LGVs would be 35 each. It is anticipated that the vehicle movements would be greatest, and potentially up to 180 each, during the importation of bulk materials to the construction site, the earthworks and the pavement works which are anticipated to last from four to six months." We also understand the mitigation is to exclude construction HGVs within Shrewsbury AQMA. So if average daily movements is 35 HGV for all years and these are outside of the AQMA then these are below the IAQM thresholds and can be scoped out. If the peak construction vehicles of 180 HGV movements last 4-6 months, so the average AADT for that year will be below 100 if the other months are significantly lower than 100 (outside of an AQMA) then this is also below the thresholds. However, we would need WSP to confirm this is the case, unless SC confirm this is accepted.

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	C.5.5	Clarification	Clarification as to why version 9.0 of the Emission Factor Toolkit (EFT) version 9.0 (published in May 2019) was used rather than EFT Version 10 (released in August 2020)?	Will not change assessment outcome in terms of significance of effects.	<p>The assessment was undertaken in 2019, before EFT v10 was released.</p> <p>Using EFT v10 rather than EFT 9.0 is considered unlikely to alter the conclusions of the assessment. The Applicant's position is supported by Shropshire Council Regulatory Services in their comments dated September 2023, which state "The air quality model continues to be considered to have been carried out in line with relevant guidance. Inputs available to scrutinise are considered satisfactory. It is noted that since its production there have been changes which would be expected over time. For example, the model has used EFT v9.0 for input data on emission factors from the fleet. The latest version of EFT is now v11. However, it is not anticipated that a rerun of the model using updated emissions factors would create a difference to outputs that would significantly impact on model outputs to a level that would change conclusions on the level of impact forecast".</p> <p>The matter was discussed during a meeting between topic specialists on 18.09.23. The consensus between the specialists who attended the workshop was that the changes in guidance were unlikely to alter the conclusions of the assessment.</p>	If agreed with Shropshire Council Regulatory Services - no further comment.		
	C.5.6	Clarification	Clarification as to why DEFRA 2017-based background maps for years 2017 to 2030 (published in May 2019) were used rather than DEFRA 2018-based background maps for years 2018 to 2030 (released in August 2020)?	Will not change assessment outcome in terms of significance of effects.	<p>The assessment was undertaken in 2019, before the 2018-2030 background maps were released.</p> <p>Using DEFRA 2018-based background maps rather than DEFRA 2017-based background maps is considered unlikely to alter the conclusions of the assessment. The Applicant's position is supported by Shropshire Council Regulatory Services in their comments dated September 2023.</p> <p>The matter was discussed during a meeting between topic specialists on 18.09.23. The consensus between the specialists who attended the workshop was that the changes in background mapping were unlikely to alter the conclusions of the assessment.</p>	If agreed with Shropshire Council Regulatory Services - no further comment.		
	C.5.7	Clarification	Clarification on surface roughness at the met measurement site and the diurnal profile used within the model.	Will not change assessment outcome in terms of significance of effects.	<p>Met site SR = 0.3m (agricultural max); Diurnal profile split into 4 periods – AM, IP, PM, OP, with flow levels for weekday flows taken from modelled data. AADT conserved.</p> <p>The matter was discussed during a meeting between topic specialists on 18.09.23. The consensus between the specialists who attended the workshop was that the changes in background mapping were unlikely to alter the conclusions of the assessment.</p>	No further comment.		
	C.5.8	Clarification	Confirmation traffic data used in the assessment was from the annual average daily traffic (AADT) columns in Appendix 6.4.1 Baseline Traffic Data.	Will not change assessment outcome in terms of significance of effects.	Confirmed this is the data set that was used.	No further comment.		
	C.5.9	Clarification	Why 2019 monitoring data not presented in the baseline conditions within ES Chapter 6 Air Quality?	Will not change assessment outcome in terms of significance of effects.	<p>The assessment was undertaken in 2019, before a full complement of monitoring data for 2019 was available. In addition the baseline year for the scheme was 2017.</p> <p>At the time of preparation, 2019 monitoring data was not available and 2017 was selected as the base year of the assessment and was accepted for use based on the traffic monitoring and modelling that had been undertaken.</p> <p>The traffic team have stated that the traffic data monitored and modelled in 2017 is considered robust for 6 years and is therefore appropriate for use as a pre-COVID baseline and it is not necessary to update these to 2018 or 2019.</p> <p>The matter was discussed during a meeting between topic specialists on 18.09.23. The consensus between the specialists who attended the workshop was that the changes in background mapping were unlikely to alter the conclusions of the assessment.</p>	It was mentioned in the meeting on the 18.09.23 that the baseline year of 2017 was agreed with the highways department of Shropshire Council. Please provide evidence of this?		
	C.5.10	Clarification	Why sensitivity to human health was considered low risk in Table 6-11 – Sensitivity of Receptors?	Will not change assessment outcome in terms of significance of effects.	<p>Sensitivity to Human Health was determined using Table 2Bb of Appendix 6.2 (rather than 2Ba as described in paragraph 6.11.16 of the ES chapter). Reference in 6.11.16 should read Tables 2Ba to 2Bc depending on receptor type.</p> <p>It has been (conservatively) assumed that Demolition, Earthworks, and Construction activities may occur anywhere within the Red Line Boundary shown in Figure 6-1. With respect to Human Health impacts and Table 2Bb specifically, existing concentrations of PM10 have been taken to be below 24ug/m3. This results in a low area sensitivity to Human Health impacts as there are fewer than 100 highly sensitive individual receptors within 20m of the RLB, as shown in Figure 6-1.</p> <p>Matter discussed during meeting with topic specialists 18.09.23. The consensus between the specialists who attended the workshop was that the changes in background mapping were unlikely to alter the conclusions of the assessment.</p>	No further comment.		
	C.5.11	Clarification	Why the Environmental Protection UK (EPUK)/Institute of Air Quality Management (IAQM) guidance 'Land-Use Planning & Development Control: Planning for Air Quality' (2017, v.1.2) guidance was not used for the operational phase despite stating it should be used in the EIA Scoping Report and EIA Scoping Opinion?	Will not change assessment outcome in terms of significance of effects.	<p>During the assessment/design evolution it was suggested and agreed that the DMRB guidance would be the most appropriate for the assessment.</p> <p>This approach was agreed with the EHO at the time on the 18.10.19 (Matthew Clark). This is reiterated in Table 6.1 of the Feb 21 ES Chapter 6 and is reflected in Shropshire Council Regulatory Services comments dated April 2021 and September 2023 (below).</p> <p>(April 2021 SC Regulatory Services Comments) "Given the information provided by the applicant and detail provided in the report the model used is considered to be suitable with no aspects which deviate significantly from established guidance. As such the model outputs are considered to be a reasonable set of figures to base conclusions around the significance of the development in terms of its air quality impact on human health".</p> <p>(September 2023 SC Regulatory Services Comments) "The air quality model continues to be considered to have been carried out in line with relevant guidance. Inputs available to scrutinise are considered satisfactory".</p>	If agreed with Shropshire Council Regulatory Services - no further comment.		
	Other Recommendations 1	Other	Feb 2021 ES - National Planning Practice Guidance – Air Quality 2016 was referenced and should instead be made to Planning Practice Guidance – Air Quality 2019.	No	<p>The original assessment began in 2019, before the Air Quality NPPG was updated, so was correct at the time of writing. Updating the reference to the current NPPG would not change the outcome of the assessment.</p> <p>The Applicant's position is supported by Shropshire Council Regulatory Services in their comments dated September 2023.</p> <p>The matter was discussed during a meeting between topic specialists on 18.09.23. The consensus between the specialists who attended the workshop was that the changes in guidance were unlikely to alter the conclusions of the assessment.</p>	No further comment.		

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	Other Recommendations 2	Other	Feb 2021 ES NTS - No reference is made to the effect of the operational development on ecological sites in the air quality section, although it is noted to be included in the biodiversity section.	No	As pointed out in the meeting of the topic specialists, the conclusion on significance of effects to ecological sites as a result of the air quality impacts from the operation of the scheme are presented in the biodiversity section. Latest detailed air quality impacts along with mitigation are presented in SEI Appendix 3.B and a draft Compensation strategy is provided SEI Appendix 3.E. These are referred to in the SEI NTS.	No further comment.		
Biodiversity	C.7.1	Clarification	Further justification as to the suitability of ecology data that is over two years old is sought and confirmation required as to whether this approach was agreed with the SC ecologist.	No	The specific surveys mentioned have not been repeated since 2019 due to the habitats within the site not changing in type, extent or management in the intervening period of time. As a result, it is not expected that the results of any updated surveys would have changed the assessment of impacts. The SC Ecologist has had a long standing involvement with the scheme and additional surveys/further supporting documents have been provided where requested/deemed necessary. Updates to the Wintering Birds, Reptile and Hedgerow Surveys have not been requested as part of these discussions and, given the habitats on site have not changed in types. WSP does not believe these to be required following the detailed comments from the SC Ecologist (dated 2/6/23) which did not identify the requirement for these surveys.	Correspondence and / or confirmation with SC Ecologist is recommended to evidence this consultation. Particularly as during the update walking in 2022 it was noted that several areas of land management has changed (Table 3.1 row 11 in SEI Jan 23 Chapter 3 appendix 3.F). Assuming the approach to surveys has been confirmed by SC, this clarification is accepted on the basis that the changes to the variations in land management noted in Table 3.1 are not affecting hedgerows or habitats suitable for protected species surveys that are now out of date e.g. wintering birds and reptiles. However, even though you confirm that the habitats have not changed on site, the 2019 survey work is still likely to be over the 18 months to 3 years range specified in the CIEEM 2019 guidance and species status on site may have changed. Depending upon the habitat/species concerned, this could be addressed by a suitably worded condition requiring pre-construction surveys.	We do not have a copy of any meeting minutes or e-mail exchanges with the County Ecologist that confirm that Shropshire Council are happy with our approach not to repeat surveys for Wintering Birds, Reptiles and Hedgerows. Additionally, we do not have any written evidence that we can share regarding their acceptance of the use for BNG Metric 2.0. These matters have been discussed with the County Ecology on 12th October and they have been verbally agreed. These matter have been raised directly with the LPA who will be providing further advice to Waterman on this the week commencing 16th October.	Subject to confirmation that certain approaches in respect to surveys have been agreed with the SC ecologist, the clarifications are accepted, noting the requirement for a suitably worded planning conditions for example pre-construction surveys. The methodology used within the Biodiversity Net Gain Assessment needs further consideration in order to formulate a Section 106 obligation, however this is not material to the EIA.
	C.7.2	Clarification	Provide specific length measurements on River Severn bank mitigation.	No	The proposed bank protection measures will comprise of rock bags and green bank protection measures installed for a length of up to 86m along the west side of the River Severn (right bank). The Rock bags will be situated between the river bed and mean annual water level, with the green bank protection located above the mean annual water level and up to the 1 in 200+90% climate change year water level.	See Waterman response to 'Other recommendation 1' below around further detail needed for proposed river works	We do not have a copy of any meeting minutes or e-mail exchanges with the County Ecologist that confirm that Shropshire Council are happy with our approach not to repeat surveys for Wintering Birds, Reptiles and Hedgerows. Additionally, we do not have any written evidence that we can share regarding their acceptance of the use for BNG Metric 2.0. These matters have been discussed with the County Ecology on 12th October and they have been verbally agreed. These matter have been raised directly with the LPA who will be providing further advice to Waterman on this the week commencing 16th October.	Subject to confirmation that certain approaches in respect to surveys have been agreed with the SC ecologist, the clarifications are accepted, noting the requirement for a suitably worded planning conditions for example pre-construction surveys. The methodology used within the Biodiversity Net Gain Assessment needs further consideration in order to formulate a Section 106 obligation, however this is not material to the EIA.
	C.7.3	Clarification	On consideration of the Road Drainage and Water Environment review (refer to Section 16 of this report), the potential impacts of possible crossings to the three culverts noted in Section 3.2.9 to 3.2.11 of Chapter 3: Description of the Proposed Scheme, to mammals should be considered.	No	The crossings all support mammal ledges and planting to lead mammals away from the road towards the culverts reducing the likelihood of impacts. The mammal ledges are included in: Willow Pool Wildlife Culvert; Oxon Culvert (Mammals shelves added in the SEI design); Alkmund Park Culvert; and Hencott Pool Culvert.	This clarification is accepted.		
	Other Recommendation 1	Other	The biodiversity net gain report concluded that net gain could not be achieved for river habitat. MoRPH survey including a River Condition Assessment should be used to determine suitable offsite areas to address Watercourse Unit shortfalls. Additionally, a later version of the Natural England's Biodiversity metric should be used (or at least 3.0 onwards) as this will also help determine an accurate level of biodiversity at baseline and post intervention due to the addition of 'Culvert' as a habitat type.	No	The scheme has been assessed under Metric 2.0 and submitted prior to the incoming Environment Act becoming a requirement for inclusion into applications. As a result of the timing of the scheme application, MoRPH survey was not undertaken and is not part of the assessment used. No request has been made for an update to the metric used and this is not considered an appropriate requirement based on the timing of the application. This matter has been discussed with the LPA on a number of occasions, and was first raised in May 2021, wherein it was agreed that use of Metric 2.0 was appropriate as the latest version at the time of submission and given BNG Assessment was not a validation requirement at the time of submission, which remains the case.	Under the 2.0 metric where a development (the proposed viaduct) comes within 10m of the bank tops of a river you are required to calculate the baseline and post-intervention units of 'rivers and streams' and complete a river condition assessment. Moreover, referring to page 60 of the 2.0 BNG Metric User Guide this data is underpinned by a Morph survey- 'The rivers and streams condition assessment is based on geomorphic principles that are an extension of established citizen science surveys. The response clarifies that the LPA ecologist has agreed that metric 2.0 can be used (although provision of evidence confirming this approach with SC is recommended) however, the clarification does not confirm that an assessment of the River including a Morph survey is not required. This still needs clarifying. Currently, a -49.66% loss in river units has been recorded within the metric but there is no evidence of an assessment of options to address this shortfall by considering on Site enhancements or creation to the river or through off site possibilities. Furthermore, the strategic significance and condition score has been undervalued. Please see the Shrewsbury river management catchment here https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/9 . The condition score of 'moderate' has been used, likely due to using the 'low-risk condition assessment' however, culverting and a large viaduct is proposed for the River Severn and Alkmund Park Stream. A low-risk condition assessment can only be used where the development (red line boundary) is within the riparian zone but no built development is proposed (Page 64 of BNG Metric 2.0 User guide) . The low-risk calculator enters a default condition score of Moderate. 'high' should have been used in the absence of Morph data and a 'worst case scenario' approach. The metric also appears to suggest that the River Severn will be retained as the baseline situation, despite the following modifications occurring as part of the proposed works: clearance to bankside habitats near the River Severn at Chainage 2300 – 2400m and production of the viaduct which would also entail a reduction in water quality from siltation and run-off. A general lack of clarity around how the river will be affected is presented. A more detailed figure and confirmation of consultation with the LPA ecologist is needed to further clarify impacts to the river and how it shall be mitigated and then enhanced. This shortfall uncertainty needs further assessment as currently it would be difficult to formulate a Section 106 obligation to address it when there is no evidence that land has secured.	We do not have a copy of any meeting minutes or e-mail exchanges with the County Ecologist that confirm that Shropshire Council are happy with our approach not to repeat surveys for Wintering Birds, Reptiles and Hedgerows. Additionally, we do not have any written evidence that we can share regarding their acceptance of the use for BNG Metric 2.0. These matters have been discussed with the County Ecology on 12th October and they have been verbally agreed. These matter have been raised directly with the LPA who will be providing further advice to Waterman on this the week commencing 16th October.	Subject to confirmation that certain approaches in respect to surveys have been agreed with the SC ecologist, the clarifications are accepted, noting the requirement for a suitably worded planning conditions for example pre-construction surveys. The methodology used within the Biodiversity Net Gain Assessment needs further consideration in order to formulate a Section 106 obligation, however this is not material to the EIA.
	Other Recommendation 2	Other	As any type of works within the RPAs of Veteran Trees would be outside of good practice, it is recommended that a further report should be provided to clearly demonstrate why these works would not be detrimental to the trees. Otherwise, a risk exists that the number of veteran trees being removed is being underestimated. This could form a planning condition.	No	Unavoidable scheme impacts on retained veteran trees have already been assessed in the arboricultural reports with outline mitigation/protection recommended for retained trees. Scheme impacts on all removed trees (including veterans) are identified in the Arboricultural Removals Plans. Outline tree protection measures/mitigation are discussed in the submitted arboricultural reports to minimise unavoidable adverse impacts to retained trees. Please refer to Table 6-4, Table 3-2 and Table 3-3 with the arb report submitted with the ES, ES addendum and SEI respectively. All retained trees (including veterans) are identified on the Arboricultural Protection Plans and, at planning stage, are proposed to be safeguarded on the basis of Construction Exclusion Zones (CEZs). CEZs are formed using the Root Protection Areas (RPAs) of most arboricultural features as calculated to BS5837. In line with best practice, RPAs for veteran trees are calculated according to Natural England/Forestry Commission's Standing Advice i.e. 15 x stem diameter or 5m beyond canopy - whichever buffer is greater. It is best practice to avoid tree RPAs as part of design development, however there are unavoidable instances where potentially adverse construction activities are required within RPAs of trees. Pre-construction, details of a tree protection scheme and mitigation will be finalised in an Arboricultural Method Statement and Tree Protection Plan showing how retained trees will be protected during the implementation of the Proposed Development. This is often a standard planning condition requirement.	This clarification is accepted.		

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	Other Recommendation 3	Other	Where compensation works are proposed on land outside of the Applicant's control, agreements with the relevant landowner should be in place prior to granting planning approval.	No	The current approach is that that compensation works will be covered by a Section 106 agreement. Discussions with the landowners are currently on-going and they are content with the proposals. A draft compensation strategy has been developed and amended following consultation with the County Ecologist and County Arboriculturalist. As the compensation will be secured by a Section 106 Agreement, and this will need to be signed before the Council can issue the decision notice, agreements with landowners would be in place before planning is granted. It is envisaged that the preparation, submission and implementation of a Final Compensation Delivery and Management Plan will be the subject of a clause set out in the Section 106 Agreement.	Clarification is accepted, however, work outside the RLB Offsite work should be included within the offsite metric tab please confirm why no calculations have been included within this section of the metric.		
Climate Change	C.8.1	Clarification	It should be clarified whether the updates to the following guidance document affects the findings and conclusions of the GHG assessment: IEMA (2022) Assessing Greenhouse Gas Emissions and Evaluating their Significance – 2nd Edition.	No	IEMA identifies that the revised guidance (IEMA (2022) Assessing Greenhouse Gas Emissions and Evaluating their Significance – 2nd Edition) does not change IEMA's position that all emissions contribute to climate change, but does provide more nuanced levels of significance, which includes five distinct levels of significance (major adverse, moderate adverse, minor adverse, negligible, beneficial), which are not solely based on whether a project emits GHG emissions alone. The assessment of GHG emissions for the Proposed Scheme identified the following with respect likely significant effects: Construction Phase. The magnitude of change in GHG emissions during construction would be moderate. The adverse effect is considered to be significant for the construction phase. Operational Phase. The magnitude of change would be negligible and the Proposed Scheme would likely have a slight beneficial effect and therefore be not significant. Having reviewed the latest IEMA (2022) guidance it is considered that this would not alter the above findings reported in the GHG assessment for the Proposed Scheme.	This clarification is accepted.		
	C.8.2	Clarification	The differences in approach/assumption to modelling baseline vs with development end-user GHG emissions should be clarified so the differences are clear.	No	The approach for determining end-user GHG emissions is described in the Operational Phase of Section 9.7 Assessment Methodology (Feb 21 ES Chapter 9: Climate). This has used standard methodologies to model traffic data for the baseline year (2023) and the future modelled year (2038), which was then used to determine associated GHG emissions based on WebTAG data from the Department of Transport. From this, emissions were then quantified for each year over the lifetime of the Proposed Scheme, up to 2082 (based on extrapolating the difference between emissions for 2023 and 2038). Traffic data was based on traffic modelling for 2023 and for 2038, which considered changes for a number of parameters, including the proportion of vehicle types (i.e. Cars, LGVs, OGVs and PSVs); fuel type (i.e. petrol, diesel, electric); forecast fuel/energy consumption for different classes of vehicle; road length; vehicle speed and number of vehicles over a 24 hour period. As identified in Section 9.8 Assessment Assumptions and Limitations, when calculating end-user traffic emissions the difference between the baseline (2023) and with development scenario (2038) relates to a modal shift in road users, which includes an increase in the proportion of electric vehicles over vehicles using fossil fuels.	This clarification is accepted.		
	C.8.3	Clarification	Paragraph 9.5.4 details the small emissions associated with minor material works with a small associated embodied carbon. This contradicts with the Feb 2021 ES Chapter 14: Materials and Waste, evaluated to be approximately 547,000 tonnes.	No	The discrepancy identified in the comment for the scale of embodied carbon emissions appears to relate to an inappropriate comparison between emissions considered for the existing baseline (in Paragraph 9.5.4, Feb 21 ES Chapter 9: Climate), and those considered for construction of the Proposed Scheme (i.e. 547,311 tonnes of materials required for construction identified in Table 14-12, Feb 2021 ES Chapter 14: Materials and Waste). Paragraph 9.5.4 of the Feb 21 ES Chapter 9: Climate is within the section for the Existing Baseline (i.e. without development), which considers emissions for operation and management of the existing assets, identifying the requirement for 'a small number of components... and minor works and repairs of the highway and ancillary infrastructure'. Therefore, it concludes that baseline emissions (for the existing assets) are expected to be small, and as such are not quantified. This does not relate to the embodied carbon associated with materials or waste during the Construction Phase. Section 9.7 (Assessment Methodology) of the Feb 21 ES Chapter 9: Climate, confirms that for the Construction Phase, the types and quantities of material resources required for the Proposed Scheme and waste generated has been obtained from Chapter 14: Materials and Waste, which has been entered into the Highways England Carbon Tool to determine the associated embodied carbon emissions. The material and waste quantities inputted into the Highways England Carbon Tool are identified in Table 9-8 of the Feb 21 ES Chapter 9: Climate, which, allowing for weight to volume conversion factors and categorisation of materials, aligns with the types and quantities of construction materials and waste identified in Section 14.10 of the Feb 2021 ES Chapter 14: Materials and Waste (Table 14-12: Materials, Table 14-14: Forecast Waste).	This clarification is accepted.		
	C.8.4	Clarification	Chapter 14 concludes that over 230,000 tonnes of estimated "unacceptable earthworks" (219,000 tonnes) and "general demolition waste" (11,000 tonnes) will be sent to landfill (Table 14-14). The justification in Table 9-1 suggests that this will have zero associated emissions, however, this is not expected to be correct. It is therefore recommended that Construction Waste A5 is included within the assessment.	No	The identification of 'Disposal of waste A5' for the Construction Phase as an element that would be scoped out of the assessment is an oversight in Table 9-1 (Feb 21 ES Chapter 9: Climate). It is confirmed that GHG emissions associated with Construction Waste have been accounted for in the assessment. This is evidenced in Table 9-8 (Feb 21 ES Chapter 9: Climate), where the breakdown of Construction Phase waste arisings entered into the Highways England Carbon Tool corresponds to the quantities of waste forecast for landfill disposal for construction of the Proposed Scheme (identified in Table 14-14 of the Feb 2021 ES Chapter 14: Materials and Waste), totalling 230,155 tonnes of waste landfilled in each table. Figure 9-1 (Feb 21 ES Chapter 9: Climate), provides a further breakdown identifying the embodied carbon emissions associated with this Construction Waste (14,175,661 tCO2e). The same approach for evaluating emissions for Construction Waste was adopted in the subsequent ES Addendum (Aug 2021). The breakdown of Construction Phase waste arisings in the Climate chapter (Table 1-1 of Chapter 9: Climate, Addendum Part 1 – Greenhouse Gases), aligns with the revised forecast of waste quantities for construction of the Proposed Scheme (Table 1-2 of Supplementary Environmental Statement Chapter 14: Materials and Waste Addendum), with an associated reduction in the embodied carbon emissions identified for Construction Waste (8,705,224 tCO2e, Fig 1-1 of Chapter 9: Climate, Addendum Part 1 – Greenhouse Gases).	This clarification is accepted as the response provides sufficient clarification to address the comment. However, it is noted that two figures in the response appear to be typos; 14,175,661 tCO2e and 8,705,224 tCO2e, which should contain a decimal point before the final three digits and are therefore an order of magnitude lower than suggested (i.e. 14,175.661 and 8,705.224 respectively). No further response or action required.		
	C.8.5	Clarification	The significance of GHG effects when considering the total lifecycle emissions should be clarified.	No	As described in the assessment methodology (Section 9.7 of the Feb 21 ES Chapter 9: Climate), the significance criteria for assessing GHG impacts is in line with the DMRB LA 114 and comparing estimated GHG emissions arising from the Proposed Scheme with the respective UK carbon budgets, set by the UK Government covering 2018 to 2037. The significance of total lifecycle GHG emissions is in accordance with the relevant parameters for distinguishing between effects for the Construction Phase and Operational Phase of the Proposed Scheme. Total lifecycle emissions are identified in Table 9-10 of the Feb 21 ES Chapter 9: Climate, and for the ES Addendum (Aug 2021) in Table 1-2 of Chapter 9: Climate, Addendum Part 1 – Greenhouse Gases, with further breakdown in these tables with respect to Construction Phase and Operational Phase GHG emissions, in the context of relevant UK National Carbon Budgets periods. The approach used is considered appropriate for determining the likely significance of lifetime GHG emissions, whilst providing relevant context in terms of the Construction and Operation phases for the Proposed Scheme and the 5-year UK carbon budgets.	This clarification is accepted.		
	C.8.6	Clarification	The measures and strategies that will be implemented at design and construction to avoid, reduce and offset GHG emissions should be clarified.	No	Measures and strategies to mitigate the effects of GHG emissions identified in the Feb 21 ES Chapter 9: Climate, includes confirmation from the Design team that re-use of site won materials (earthworks) has been incorporated into the data used to calculate construction GHG emissions. Further to this, the Outline Construction Environmental Management Plan (Feb 2021), confirms that a number of mitigation measures are identified aimed at reducing construction phase emissions as far as possible. They include, but are not limited to, design optimisation to reduce the requirement for construction materials, substitution of construction materials for lower carbon alternatives and use of efficient construction processes, such as design for manufacture and assembly. The applicant confirmed to the LPA on 23rd August 2023 that "Options are currently being explored by Shropshire Council to use the NWRR as a catalyst for the commencement of active carbon management processes (local biochar production). The opportunity now exists to use the NWRR quantified carbon costs of £1.4m (budget allocations for the management of this have now been made within the overall project costs), in order to seed and develop this initiative to initially manage down the carbon legacy of the road, potentially to neutrality in due course, and also to leave an established local processing capability that can assist with the mitigation of wider Council carbon impacts".	This clarification is accepted.		

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	C.8.7	Clarification	The assumptions around future climate conditions that informs the construction-phase resilience assessment should be clarified.	No	<p>It is acknowledged that a timeslice for the construction phase (initially anticipated to be completed by 2024) is not covered by the future climate projections, which consider the 2050 (covering the period from 2040 to 2069) and the 2080s (covering the period between 2070 and 2099).</p> <p>However, it is considered that the findings of the assessment would not be altered by the inclusion of an earlier timeslice (such as the 2030s, covering 2020-2049). The climate trends and events identified under the current baseline, when considered with the climate projections for the 2050s are indicative of the changes in climate which may occur during the construction period.</p> <p>Furthermore, the assessment of likelihood conducted uses the precautionary principle approach as defined by IEMA guide, and the consequence score takes into account embedded mitigation measures. As there was no identified construction phase embedded mitigation at the time of the assessment, the construction phase was found to have significant effects. The additional mitigation measures are considered best practice for inclusion within a CEMP.</p>	This clarification is accepted.		
	Other recommendations	Other	It is encouraged that consideration is given to the reduction in user utilisation carbon (Module B9), associated to the perceived reduction in journey distance and times experienced by end users. It is recommended that there should be greater synergy between the Feb 2021 ES Chapter 9: Climate Change and Chapter 14: Materials and Waste.	No	The approach for determining end-user GHG emissions is described in the Operational Phase of Section 9.7 Assessment Methodology (Feb 21 ES Chapter 9: Climate). This has used standard methodologies to model traffic data for the baseline year (2023) and the future modelled year (2038). Traffic modelling was based on forecast data for 2023 and for 2038, which considered changes for a number of parameters, which is understood to include journey distance and time.	This clarification is accepted.		
	Other recommendations	Other	Planning condition to secure the pre-commencement preparation of a Construction Environmental Management Plan (CEMP) to include the measures described in the Feb 2021 ES Chapter 9 Table 9.30 to mitigate potential significant adverse climate effects during construction works.	No	An Outline CEMP has already been produced and provided as part of the application (Appendix 3.1 of the Feb 2021 ES) which replicates this table. This is Table 7.2 of the Outline CEMP. It is anticipated that the LPA will require a pre-commencement planning condition to secure the Detailed CEMP.	This clarification is accepted.		
	Other recommendations	Other	It is recommended that there should be greater synergy between the Feb 2021 ES Chapter 9: Climate Change and Chapter 14: Materials and Waste	No	<p>Section 9.7 (Assessment Methodology) of the Feb 21 ES Chapter 9: Climate, confirms that for the Construction Phase, the types and quantities of material resources required for the Proposed Scheme and waste generated has been obtained from Chapter 14: Materials and Waste, which has been entered into the Highways England Carbon Tool to determine the associated embodied carbon emissions.</p> <p>The material and waste quantities inputted into the Highways England Carbon Tool are identified in Table 9-8 of the Feb 21 ES Chapter 9: Climate, which, allowing for weight to volume conversion factors and categorisation of materials, aligns with the types and quantities of construction materials and waste identified in Section 14.10 of the Feb 2021 ES Chapter 14: Materials and Waste (Table 14-12: Materials, Table 14-14: Forecast Waste).</p> <p>The same approach for evaluating emissions for Construction Waste was adopted in the subsequent ES Addendum (Aug 2021). The breakdown of Construction Phase waste arisings in the Climate chapter (Table 1-1 of Chapter 9: Climate, Addendum Part 1 – Greenhouse Gases), aligns with the revised forecast of waste quantities for construction of the Proposed Scheme (Table 1-2 of Supplementary Environmental Statement Chapter 14: Materials and Waste Addendum), with an associated reduction in the embodied carbon emissions identified for Construction Waste.</p>	This clarification is accepted.		
Geology and Soils	C.9.1	Clarification	Clarification of the Piling Works Risk Assessment ratings and terminology should be sought in line with comments made by the EA.	No	<p>As explained within WSP's initial response to the EA (letter dated 21st June) (Annex A), and referred to again in our long response to the EA (dated 31st July) (Annex B) on this matter:</p> <p><i>The EA has stated they disagree with the risks attributed to piling works for Shelton Rough River Severn Viaduct which WSP considered as very low to negligible at Pier 1. Pier 1 has critical support foundations within Source Protection Zone (SPZ) 2 which penetrate the Basal Sand and Gravel deposits in hydraulic continuity with the sandstone aquifer. The risk rating has been established based on the perceived scenario given the 10 m requisite standoff to bedrock (i.e. piles will not penetrate the bedrock) and the lack of evidence to indicate direct fissure connectivity with the abstraction source. The risk rating inherently acknowledges the severity of such an incident occurring (i.e. high potential magnitude) but the low perceived likelihood of occurrence (i.e. negligible) leading to a very low risk. WSP stands by this very low risk rating (and moderate Design Manual for Roads and Bridges (DMRB) 'significance of effect' outcome) regarding turbidity generation due to piling at Pier 1 and believe it is in accordance with EIA Regulations.</i></p> <p><i>Following the Moderate Significance of Effect for Pier 1 we have committed to the following mitigation, which we maintain could be secured via a suitably worded planning condition, a position we understand Severn Trent Water Ltd now agree with following our recent response (dated 7 June 2023) (Annex C to their latest comments (dated 3 May 2023) (Annex D):</i></p> <ul style="list-style-type: none"> <i>The development of a Turbidity Protocol including the deployment of turbidity monitoring sondes for the collection of baseline data, which will be used to inform the setting of turbidity criteria for construction monitoring, to provide further reassurance. We acknowledge the need to further expand the outline principles for the Turbidity Protocol. WSP is committed to providing this required detail following the collection of baseline monitoring data and proposed investigative test piling works.</i> <i>Alongside the Turbidity Protocol there are plans to develop emergency operational plans to mitigate pollution risk, potentially including the capability to intercept drainage before discharging to the River Severn, which will be formulated in liaison with the EA & STWL in accordance with the Shropshire Council Multi-Agency Recovery Plan (2014).</i> <p>WSP's position is well thought out, precautionary & appropriate. We maintain our position is considered both defensible and very robust.</p>	We agree with WSP that the turbidity protocol and piling risk assessment will allow the level of risk to be better defined and that an appropriately worded condition would be suitable to address the current shortfall of specific data. One specific objection is that the risk rating is too low; we would still maintain that a slightly greater risk level should be applied until the additional detailed design is undertaken, whereby the certainty of design will justify the risk level to be lowered. Whilst we understand WSP's argument, we would not expect this to have any impact on the overall assessment, but it may be sufficient to allow the EA to remove this particular point of objection.		
	C.9.2	Clarification	Following a review of Piling Works Risk Assessments ratings and resultant significance of effects, mitigation measures require further review.					
	C.9.3	Clarification	Following a review of impact ratings and resultant significance of effects, cumulative effects and NTS may require further review.					

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	C.9.4	Clarification	The impact of the Proposed Scheme on small volume groundwater sources should be assessed.	No	<p>We refer to our response to the EA (31st July 23) (Annex B) on this matter:</p> <p><i>We accept that non-licensed small volume private groundwater sources (springs, wells and boreholes nominally supplying potable water to farms and rural isolated residential properties) will be afforded protected rights against any derogation impact (quantity/quality) arising directly from the development.</i></p> <p><i>Within the Environmental Statement (ES), February 2021 we presented groundwater abstraction licence data received from the EA and EnviroCheck Reports within the Study Area (Table 17-12 and Figure 17-1 within Chapter 17 of the ES). This included abstractions up to 1.0km from the Proposed Scheme. In addition, we reported an awareness of two additional licensed exempt private water supplies (quantity <20m3/d and do not require a licence) that are within 2.0km of the Proposed Scheme. A further request will be made to Shropshire Council to: identify any new and relevant licence exempt groundwater abstractions; determine possible impacts and formulate mitigation where appropriate; and this will be reported in due course.</i></p> <p><i>From the available abstraction data, two or three locations that may warrant further consideration / assessment are detailed within Table 2 [presented on page 14 of the response to the EA on 31st July 23 (Annex B)].</i></p> <p><i>With respect to the abstraction at Udlington Farm (BH SI41/24), licensed to Morris with current status unknown, details from the BGS Geolindex indicate this borehole was drilled to a depth of 52 m bgl. Strata description indicate soft sandstone / wet mild sand / sand and gravel, although based on depth this is likely to be primarily targeting the Basal Sand and Gravel. Risks to quality/quantity of supply at this location would principally be in relation to a modelled incident occurring at the Holyhead Road Roundabout (i.e. Model Scenario 2 (PPL4) addressed within the DQRA). Notwithstanding, the assessment of risk to the STWL abstraction would be considered more sensitive both in terms of pumping rate and drawdown, proximity to the roundabout, fracture connectivity, etc. It is therefore considered that model outputs and mitigation measures associated with the existing DQRA model scenario 2 would be suitably protective of this general farming and domestic abstraction (if currently active or remains serviceable for future use).</i></p> <p><i>Other licensed abstractions out-with the Shelton area, summarised in Table 2 [presented on page 14 of the response to the EA on 31st July 23 (Appendix F)], include:</i></p> <ul style="list-style-type: none"> <i>• A Shropshire Groundwater Scheme borehole located near Huffleys Bank, though its status is unknown. This source is ~415m west of Infiltration Basin 8 and is believed to draw from bedrock Sandstone. This is (or was) part of Phase 3, the Lenton component, to the Shropshire Groundwater</i> <p>As detailed within our response to the EA (31st July 23) (Annex B) on this matter:</p>	This clarification is accepted.		
	C.9.5	Clarification	Review of shallow groundwater regime, particularly at approximate chainage 1600m to 1700m where groundwater appears to be more continuous, suggesting a more permanent groundwater table may be present, rather than perched water as suggested by WSP.	No	<p>We note comments relating to perched groundwater records for CPT820 proximal to Clayton Way. However, with reference to para. 4.4.5 of the PWR, more recent drilling (Phase 4) included locations CP920-CP923 which were progressed to a depth of 35m below ground level (bgl).</p> <p>Groundwater was not encountered during the drilling of any of these boreholes and consequently none were installed for the purpose of groundwater monitoring.</p> <p>A summary of the groundwater monitoring data available for the boreholes that have been installed, for monitoring purposes within proximity of Clayton Way, is presented in Table 1 [presented on page 7 of the response to the EA on 31st July 23]. BH3-S and BH3-D have been monitored over the longest timeframe (2007 to 2022). The data at all locations indicate groundwater in the superficial deposits, where encountered, is perched and discontinuous. A water table has not been presented within the superficial deposits on the cross section (Plate 2-4 of the PWR) on this basis.</p> <p>Notwithstanding, we acknowledge comments in relation to anticipated dewatering requirements for the road cutting at this location, based on encountered perched water levels. Requirements for the control of groundwater during construction and any potential post development drainage scheme are duly noted, as is the requirement to obtain an abstraction licence and/or discharge permit in this instance.</p>	This clarification is accepted.		
	C.9.6	Clarification	Clarification on the constraints on the GI for deeper boreholes being completed around the Holyhead Road roundabout should be sought.	No	<p>Refer to WSP's response to STWL (7th June 23):</p> <p><i>We do not accept there is no site-specific investigation at/proximal to Holyhead Road Roundabout but we do accept there are no such ground investigation (GI) data which fully penetrates the drift cover or enters into the bedrock. The nearest available GI to Holyhead Roundabout is shown in Figure 1: Cross Section Through Attenuation Basin 4 [Extract from Plate C-2 of SEI Chapter 6 Road Drainage and Water Environment, Appendix 6B: Water Environment Risk Assessment]. Within, and proximal to the proposed Holyhead Road Roundabout there are no deep boreholes but there are several shallow boreholes (up to ~7m deep) and trial pits including:</i></p> <ul style="list-style-type: none"> <i>- TP403, TP8 (07), TP230/17, TP231/17, and TP232/17; and</i> <i>- BH107/17, BH401, SI41SE55(72) and SI41SE54(72).</i> <p><i>We would further point out that we were prevented from siting deep boreholes at or proximal to Holyhead Road Roundabout:</i></p> <ul style="list-style-type: none"> <i>- With STWL not consenting us to construct MWS as originally planned but instead asking us to alternatively utilise OBH1.</i> <i>- Being constrained by the presence of sensitive sites in areas of potential interest, resulting in us being unable to locate boreholes in this area.</i> 	This clarification is accepted.		
	C.9.7	Clarification	It is recommended that clarification is sought from STWL to confirm they are satisfied with WSP's response relating to the relationship between groundwater and surface water.	No	<p>Technical discussions have been held with STWL during weekly catch up meetings, which are minuted, specifically a meeting held on 13th April 2023 (confidential) on this matter. Subsequent details are presented within WSP's response to STWL (7th June 23) (Annex C):</p> <p><i>We feel we addressed these issues in our routine weekly meeting with STWL on 13th April 2023 and in related emails with the first sent later that same day and the second on 21st April (confidential). These include;</i></p> <ul style="list-style-type: none"> <i>• a. Preceding the meeting on the 13th April we provided extended hydrographic plots including a clear and unequivocal correlation between river levels monitored by the EA at Welsh Bridge and levels monitored by WSP for the project close to the Shelton Intake.</i> <i>• b. On the 13th April we provided extended hydrographic evidence and associated annotations which is considered to robustly corroborate that the river and groundwater systems are hydraulically decoupled and river to groundwater interaction is minimal as previously concluded. This details two strands of key evidence:</i> <ul style="list-style-type: none"> <i>* i. That an unequivocal east-west groundwater level gradient in the bedrock Sandstone is maintained under all antecedent conditions over the monitoring period from March 2022 to April 2023 including periods of high and/or flood river level conditions as well as periods of recessing and/or low groundwater levels. If ever river to groundwater interaction were to be significant this east-west gradient, which also transects the river, would be broken.</i> <i>* ii. When significant high and/or flood levels occur in the river it is evident that corresponding groundwater levels in bedrock Sandstone commence recessions in such a way that they cannot be significantly influenced by river levels, even when river levels are relatively higher and present the potential for such interaction.</i> <ul style="list-style-type: none"> <i>• c. On the 21st April we sent an email to STWL (confidential) with attachments addressing the issues raised regarding queried river levels. Within this it is explained that the river level quoted of 49.15mAOD and described as the mean annual water level is both not surveyed (it is calculated), and is misquoted. The level was derived to help inform proposed river bank stabilisation works. This was derived using an estimate of the mean annual river flow and this was inputted into the project hydraulic river model to derive a modelled river level for the mean annual flow along the Shelton reach – when this work was first conceived there was no level gauge in place at Shelton. Typically, the mean annual flow represents the ~Q30 (a flow typically exceeded approx. 30% of the time). Reference to our bespoke river level monitoring along the Shelton reach suggests the average river level is ~48.0mAOD.</i> <p><i>Collectively, we feel these responses address STWL's queries and robustly corroborate our previous conclusions.</i></p> <p>Whilst WSP accepts that they have not received formal confirmation of agreement/acceptance on this matter, to date STWL has not raised any issue with the information or evidence presented that informs our conceptual understanding. WSP continues to discuss the ongoing data and</p>	This clarification is accepted.		

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
					findings with STWL at bi-weekly meetings.			
	R.9.1	Reg 25 Request	DQRA should be updated in line with latest consultation responses with EA and STWL, including integrating further modelling of a hydrocarbon spill at the Holyhead Road Roundabout, clearly presenting the GI data, and providing details on the outcome of the chlorinated solvent scenarios.	No	<p>Additional modelling results have been presented to both STWL [points 3 and 4 on pages 4 and 5 and table 1 on page 8 of the letter dated 7th June 23 (Annex C)] and the EA [page 8 of our response dated 31st July 23 (Annex B), with further detail presented within Annex B (confidential)] in our response to their comments, including discussion on the chlorinated solvent scenarios.</p> <p>All GI findings/data, including Phase 4 and groundwater data to May 2023, has been incorporated into the DQRA. Initial findings from Phase 4A indicate associated data would not change the overall conclusions of the assessment.</p> <p>The EA's latest comments (1st September) (Annex E) acknowledge the additional assessment and model outputs putting emphasis on the need to secure "a bespoke Multi-Agency Recovery Plan which includes remedial mitigation options (not solely limited to the immediate emergency services response), with associated financial provision (i.e. an emergency contingency remedial fund made available)". It is indicated that condition(s) could be used to develop the MARP, with agreement from them and STWL.</p> <p>WSP is signed up to a NDA with STWL and EA including some of the more sensitive work. They are in receipt of all of the information.</p>	Agree that DQRA appears to satisfy this original query. Given the highly conservative assessment that has been necessary, would hope that the EA/STWL would agree to conditions in respect of MARP and engineering designs.		
	Other recommendations	Other	Comments made by the EA and Severn Trent Water Limited must be addressed. Waterman agrees with including a proposed planning condition for re-visiting the Turbidity Protocol.	No	Comments from both STWL and the EA have largely been addressed in WSP's response comments shared on 7th June (Annex C) and 31st July (Annex B) respectively, as acknowledged in our meeting of 2nd Oct 23. WSP welcomes the notion that it is considered appropriate/reasonable to include development of the Turbidity Protocol (in full consultation with key stakeholders) as a suitably worded Planning Condition. This has been tacitly accepted by STWL (who have agreed to contribute to the development of associated wording), and more recently by the EA (response comments of 1st September (Annex E)).	This clarification is accepted.		
	Other recommendations	Other	The PWRA should be revised following completion of the final pile design.	No	It is the intention that the development of the Turbidity Protocol as a Planning Condition would capture all of the relevant aspects/implications of the final pile design. If significant changes are made to the final pile design then a revisit of the PWRA may be warranted; however this is not anticipated.	Agreed		
Historic Environment	C.10.1	Clarification	Provide justification on the 500m study area.	No	Justification for the study area is set out within section 11.3 of ES Feb 21 Chapter 11 (Historic Environment). The inner 500m study area was considered through professional judgement to be appropriate to characterise the historic environment of the Application Boundary and surrounding area. This judgement is based on the quantity of archaeological investigations and finds recorded on the Historic Environment Record (HER) and in this case 500m was considered appropriate to provide sufficient information to characterise the baseline archaeological potential.	This clarification is accepted.		
	Other recommendations	Other	Provide a new HER data search to confirm if any changes since the 2019 HER data.	No	The review has concluded that the archaeological assessment and evaluations presented in the ES Feb 21 Chapter 11 and appendices are valid and fit for purpose. Whilst the February 2021 ES has utilised data from 2019, this assessment has been superseded by subsequent site investigations, which have clarified the presence and likely significance of archaeological receptors on the site. Whilst there may be additional investigations recorded in the wider study area since 2021 these are unlikely to change the conclusions of the ES and as such a new HER search is not considered necessary.	This clarification is accepted.		
Landscape and Visual	C.11.1	Clarification	Review of baseline sensitivity and therefore assessments	No	<p>Character areas LLCA 1a and LLCA 1b fall under the same landscape typology as per The Shropshire Landscape Typology 2006. However there has been a distinction made due to the subtle character differences between the two (notably the estate landscape of Berwick hall and the presence of larger estate woodlands within LLCA 1b and, in contrast, the presence of the major existing road corridors in LLCA 1a). While this distinction would suggest a lower susceptibility for LLCA 1a, it is accepted that this does not necessarily constitute "low susceptibility" (in terms of the definition within the methodology). An assumption of moderate susceptibility would therefore imply an overall sensitivity of Medium for the LLCA.</p> <p>Notwithstanding this, adopting the same magnitude of change as per the original assessment would not result in a different reported effect (this would remain as slight adverse). WSP has reviewed sensitivity and magnitude of change ratings for the other LLCAs and are content with those reported for LLCA 2.</p> <p>In respect of LLCA 4, there may be a similar justification to LLCA 1a for susceptibility being in the order of medium as opposed to low. For magnitude of change during construction, there may also be reasonable justification for this to be described as minor adverse (as opposed to negligible). Applying these differences would lead to a construction assessment effect of slight adverse (as opposed to neutral as reported) however this outcome would remain non-significant.</p> <p>The methodology adopts specific guidance as set out within LA 107 Landscape and Visual Effects and LA 104 Environmental Assessment and Monitoring. An initial review of baseline sensitivity ratings and predicted magnitudes of change within the assessment did not highlight any obvious discrepancies in relation to visual receptors and representative viewpoints.</p> <p>While the content of Table 12-9 (as specifically abstracted from LA107) presents some level of ambiguity in respect of interpreting baseline sensitivity for both residential receptors and users of recreational footpaths (based on PROW importance as designated routes or as local paths), the judgements made on sensitivity would appear to be consistent in their approach. The challenge made would therefore appear to be based on methodology, as opposed to discrepancies between viewpoints.</p> <p>With reference to the example quoted, Vp 19 relates to recreational users of the Shropshire way (nationally important) which under the terms of Table 12-9 constitutes a high sensitivity receptor. Whereas Vp 5 & Vp 15 relates to recreational users of PROW which are not considered nationally important under Table 12-9 and constitutes a medium sensitivity receptor.</p>	This clarification is accepted.		
	C.11.2	Clarification	Review of magnitude of changes.	No	<p>WSP has reviewed the magnitude of change for all LLCAs and are content with the assessor's decisions. SC Landscape Advisor has previously confirmed satisfaction with the assessment undertaken.</p> <p>An initial review of baseline sensitivity ratings and predicted magnitudes of change within the assessment did not highlight any obvious discrepancies in relation to visual receptors and representative viewpoints.</p>	This clarification is accepted.		

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	C.11.3	Clarification	Viewpoint & photomontage showing the proposed Shelton Rough River Severn Viaduct – this is a significant structure that is not shown in any viewpoints or photomontages.	No	VP4 & VP19 (representing recreational users of the Shropshire way) focus on other elements of the scheme (roundabout, not viaduct). This is due to the existing vegetation being retained and the distance from the VPs to the viaduct, meaning there will not be a view of the viaduct from these VPs. Whilst WSP acknowledges the viaduct structure, we consider how receptors would experience the view with the limited access people have of it. This is due to the existing mature vegetation which is consistent along the river course. VPs 6, 18 & 24 make reference to the viaduct, however it is not a major component of the view. Therefore, it was not considered appropriate to provide a photomontage of these VP locations. Furthermore, all viewpoints were discussed and agreed with LPA and no request was made for specific VP's relating to the viaduct or a photomontage.	This clarification is accepted - based on VPs being agreed with SC.		
	R.11.1	Reg 25 Request	Provide an assessment on the impacts on the tranquillity of Shrewsbury's Green Wedge	No	The "Green Wedge" is not a designation from the statutory development plan, nor is it a statutory landscape designation. Landscape and noise assessments have been undertaken in accordance with the Scoping Opinion e.g. have used Landscape Character Areas, Public Rights of Ways, historic parks and gardens. The SC Landscape Advisor (Environmental Solutions through Partnership ESP - a private company acting on behalf of Shropshire Council for landscape and visual matters) is happy with this assessment and the LPA did not request an assessment on tranquillity.	This clarification is accepted.		
	R.11.2	Reg 25 Request	Provide an assessment on night-time views to address impacts of light pollution. No night-time photomontages have been submitted to support the assessment commentary on artificial lighting	No	The Scoping Report undertook to agree representative viewpoints with Shropshire Council and to discuss verified photomontages with relevant stakeholders. The ES states at Table 12-1 - Summary of consultation undertaken in support of this Chapter - The agreements where with Environmental Solutions through Partnership (ESP) (a private company acting on behalf of Shropshire Council for landscape and visual matters) - on 13/9/19 the following is recorded "The proposed representative viewpoint location and visual receptors for the basis of the visual impact assessment were agreed. The draft Zone of Theoretical Visibility (ZTV) has been shared with ESP. The ZTV will be used to establish the likely viability of the Proposed Scheme and subsequent study area for the assessment. The ZTV will be confirmed and amended following further consultation". Further consultation was held with ESP on 02/07/20 is recorded stating "Agreement of Study Area, ZTV and proposed viewpoints and montages". No nighttime photomontages were requested. An assessment of night time views has been carried out - it was undertaken post the ES 2021 submission and issued as an addendum in April 2021 - title is Chapter 12: Landscape and Visual Addendum. The assessment looked at receptors and assessed the impact at viewpoints due to lighting, which focuses on junctions. Full details on the lighting of the scheme is set out in the Scheme Description (bullet points at 3.2.41). We did not determine that night-time photomontages were appropriate and no requests were specifically received for night time photography/photomontages. Previously viewpoints had been agreed through scoping - see scoping report and opinion.	This clarification is accepted - based on VPs being agreed with SC.		
	Other recommendations	Other	Provide direction arrows on viewpoint location plan to show orientation of view.	No	Accepted that that it would have been useful to include direction arrows on viewpoint locations, however this would not change the outcome of the assessment and does not affect the robustness of the EIA. The photosheets in Appendix 12.5 clearly state the orientation of the view.	No further comment.		
	Other recommendations	Other	Waterman would expect photomontages to be produced for all viewpoints for a scheme of this nature.	No	WSP would not normally undertake photomontages for every viewpoint considered in the assessment, but would select those that help to demonstrate the impact of a scheme. The ES states at Table 12-1 - Summary of consultation undertaken in support of this Chapter - The agreements relating to viewpoints were with Environmental Solutions through Partnership (ESP) (a private company acting on behalf of Shropshire Council for landscape and visual matters) - on 13/9/19 the following is recorded "The proposed representative viewpoint location and visual receptors for the basis of the visual impact assessment were agreed. The draft Zone of Theoretical Visibility (ZTV) has been shared with ESP. The ZTV will be used to establish the likely viability of the Proposed Scheme and subsequent study area for the assessment. The ZTV will be confirmed and amended following further consultation". Further consultation was held with ESP on 02/07/20 is recorded stating "Agreement of Study Area, ZTV and proposed viewpoints and montages".	This clarification is accepted - based on VPs being agreed with SC.		
Major Accidents and Disasters	C.12.1	Clarification	Clarification that the most recent IEMA September 2020 Major Accidents and Disasters in EIA: A Primer has been considered in the EIA.	No	The MA&D chapter was in draft prior to the IEMA September 2020 Major Accidents and Disasters in EIA: A Primer being published. WSP was involved with Arup in publishing this guidance and had detailed knowledge of this guidance at the time of drafting the MA&D EIA chapter. WSP can confirm that the IEMA Primer was considered in this EIA chapter.	This clarification is accepted.		
	C.12.2	Clarification	Identification of the subsequent work undertaken following EIA Scoping to rationalise the Study Area is required to clarify the approach.	No	It is clear in the text of the MA&D assessment as to why the study area was reduced. Further detailed review and assessment of the influencing external factors within the vicinity of the Proposed scheme during the ES indicated that these lay within 250m of the proposed route/site, and as such the study area was reduced to 250m.	It is clear that subsequent work found that the key influencing external factors lay within 250m however there is no detail to explain what the subsequent work was, hence the clarification sought. Presumably on further desk based review of the 5km corridor nothing was noted beyond 250m, or if it was, then justification made why it was not considered relevant (in MAD long list). Please confirm this is the case.		
	C.12.3	Clarification	The NTS is updated to set out further explanation of baseline, the consequences of the potential effects and the types of mitigation being proposed.	No	The MA&D team have reviewed the NTS and confirm that it contains the information expected. However, there is one error in the following sentence (the 'without' should be replaced with 'within'): 'There is one COMAH site within the study area, but the Proposed Scheme does not lie within the consultation distance prescribed for this installation.'	Noted and the types of mitigation summarised here would still be beneficial. With regard to typo, this should be updated in the consolidated NTS (R4.1).		
	Other recommendations	Other	For completeness improved signposting to elsewhere in the ES would be beneficial, as would cross references to specific sources of information.	No	The introduction makes a cross reference to the other chapters in the ES which should be read in conjunction with the MA&D chapter. Specific cross references to ES chapters are also made in the Baseline Conditions Section.	This clarification is accepted.		
	Other recommendations	Other	For those issues scoped out of the assessment and for the baseline, it is recommended cross reference to specific documents is made. For example, the source used to identify historic landslides or references made to UKCP18 information.	No	Specific cross references to sources of information are made in Appendix 13.2: MAD Long List. Specific documents where information has been obtained from are also provided in the Baseline Conditions section and sources of baseline information are also listed in paragraph 13.6.2.	This clarification is accepted.		
	Other recommendations	Other	For those issues scoped out, but rely on mitigation being brought forward, it is recommended they are collated into a summary document (if they are beyond CEMP) to ensure they are captured through planning conditions or otherwise	No	The majority of the MA&D types have been scoped out on the basis that they are either not relevant to the location or the risk is no different to other roads in the vicinity. There are some MA&D types that have been scoped out on the basis that the design of the Proposed Scheme would take into consideration the potential risks, these should be included in the design risk register until they have been designed out. Other mitigation measures which the assessment has relied on are presented in the other technical topic chapters (e.g. air quality) and/or within the CEMP.	This clarification is accepted.		

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Materials and Waste	C.13.1	Clarification	There are a number of potential errors in the baseline conditions set out in paragraphs 14.6.1 – 14.6.32 of the Feb 2021 ES which may be typographical only, but do create doubt in the relevance of the data presented.	No	Any typographical errors would not affect the assessment and conclusions.	The response does not address the specific queries raised. Unless the specific sections identified have been reviewed and WSP confirm all the errors are just typographical errors and the data presented is all relevant, we cannot accept this response.	The proposed mitigation in Section 14.11 and 14.12 is sufficient to mitigate any possible residual effects. Good practice advice has been proposed in Section 14.12 which will be implemented, as industry standard, providing further mitigation. One of the mitigation measures is the CEMP which will be expanded to incorporate a Site Waste Management Plan (SWMP) which the Principal Contractor will manage (see Section 14.12). The SWMP will identify and suitably manage any proposed waste, further reducing any possible waste to landfill. The amount of forecasted waste is 230,155 tonnes, this is considered a negligible amount.	The response does not address the specific queries raised. Whilst it is identified as an EIA clarification at present, without the confidence in the baseline we cannot say if it is actually requiring further assessment without WSP advising further on the baseline and so we are unable to accept this clarification.
	C.13.2	Clarification	Clarification is required on why the quantity of waste predicted to be despatched for landfill disposal was expressed as a percentage of the predicted landfill void capacity available in 2019 rather than, for example, 2022.	No	As the report was drafted in early 2021, the most up to date publicly available data at that time was for 2019. Due to COVID-19 there was a delay in 2020 data from the EA. There were no changes to the Materials and Waste assessment warranting an update as part of the SEI Jan 2023.	If the landfill void had further reduced as evidenced by data available in January 2023 (or as extrapolated from data provided in the February 2021 assessment), this could impact the assessment. See Waterman comment on C.13.3.	The proposed mitigation in Section 14.11 and 14.12 is sufficient to mitigate any possible residual effects. Good practice advice has been proposed in Section 14.12 which will be implemented, as industry standard, providing further mitigation. One of the mitigation measures is the CEMP which will be expanded to incorporate a Site Waste Management Plan (SWMP) which the Principal Contractor will manage (see Section 14.12). The SWMP will identify and suitably manage any proposed waste, further reducing any possible waste to landfill. The amount of forecasted waste is 230,155 tonnes, this is considered a negligible amount.	The response does not address the specific queries raised. Whilst it is identified as an EIA clarification at present, without the confidence in the baseline we cannot say if it is actually requiring further assessment without WSP advising further on the baseline and so we are unable to accept this clarification.
	C.13.3	Clarification	The Feb 2021 ES Chapter 14 does not explicitly state the construction period. Chapter 5 of the Feb 2021 ES confirms it to be spring 2022 to autumn 2023 (period unchanged in the Aug 2021 SESA). The approach of extrapolating remaining landfill void capacity into the future (approach shown on Figure 14-4) is considered reasonable, however it is not clear the extrapolated data for remaining landfill void capacity for the construction period has been used in establishing the future baseline (paragraph 14.6.32). Clarification is required on which year the impact assessment was carried out on.	No	The chapter states that the Proposed Scheme's Operational Year is 2023 (para 14.6.8) this was used in the assessment. If the Operational Year would be changed to the 2026, as stated in the SEI Jan 23, the significance of effects would not change. The landfill volume would account for less than 1% of non-hazardous regional landfill capacity.	Paragraph 14.6.8 February 2021 is in a section about construction material availability and makes no mention of the operational year. Paragraph 14.6.28 does. This is not quite the same period as the construction phase. Looking at the graph on which an extrapolation could be based (Figure 14-4), assuming it is data for the West Midlands (not confirmed in ref C.13.1 above), by 2023 the regional inert landfill void is extrapolated to indicate it will have reduced by a third, and the non-inert reduced to a half, with data not shown out to 2026. Given the conclusion that the landfill volume would account for less than 1% of non-hazardous regional landfill capacity is dependent on which year was used to establish the non-hazardous regional landfill capacity. The calculation set out in 14.10.11 is based on non-hazardous regional landfill capacity of ca. 40,000,000cu.m. The figure is also stated in Table 14-8 as the remaining non-hazardous landfill void capacity for 2019. Therefore, the assessment appears based on 2019 void. It is not immediately apparent how to extrapolate using the data in Figure 14-4 as for 2019 it appears the total (i.e. inert and non-inert) void is ca.40,000,000cu.m. However, following that line on the graph to 2023 derives a regional all waste types landfill void capacity of ca.25,000,000cu.m. Revisiting the calculation set out in para. 14.10.11, the outcome would be revised upwards to 0.92% (currently 0.7% and both below the 1% threshold). However, if the assessment should be based on non-hazardous landfill void (because the unacceptable earthworks material is unlikely to be suitable for disposal as inert waste), the percentage of regional non-hazardous landfill void used up, based on the data in Figure 14-4 (ca. 15,000,000cu.m 2023 non-inert) would be 1.5%. So potentially altering the assessment. The apparent contradictions between the data provided in Table 14-8 and Figure 14-4 should be resolved and the quantity of wastes to be sent to landfill from the Proposed Development considered in the context of 2023.	The proposed mitigation in Section 14.11 and 14.12 is sufficient to mitigate any possible residual effects. Good practice advice has been proposed in Section 14.12 which will be implemented, as industry standard, providing further mitigation. One of the mitigation measures is the CEMP which will be expanded to incorporate a Site Waste Management Plan (SWMP) which the Principal Contractor will manage (see Section 14.12). The SWMP will identify and suitably manage any proposed waste, further reducing any possible waste to landfill. The amount of forecasted waste is 230,155 tonnes, this is considered a negligible amount.	The response does not address the specific queries raised. Whilst it is identified as an EIA clarification at present, without the confidence in the baseline we cannot say if it is actually requiring further assessment without WSP advising further on the baseline and so we are unable to accept this clarification.
	C.13.4	Clarification	Clarification is required on why an assessment of the embodied carbon of materials is reported to be scoped out of the assessment in Table 14-2 of the Feb 2021 ES Chapter 14 whereas Chapter 9: Climate Change it has been scoped into the assessment. Paragraph 9.9.5 of the Feb 2021 ES Chapter 14: Climate Change estimates that approximately 70% of the construction phase GHG emissions are associated with materials. It is recommended that the materials chapter is reviewed in light of the findings of the Feb 2021 ES Chapter 14: Climate Change to confirm that the outlined mitigation measures are proportionate based on the findings of the analysis in Chapter 9.	No	Embodied carbon is not included in the assessment criteria for DMRB LA110.	Response is considered to be valid, however, to avoid contradiction and misleading the reader (in light of Chapter 9 conclusions), it is recommended that Paragraph 14.4.3 and Table 14-2 are rephrased.	Whilst we acknowledge that it could be helpful to rephrase these sections, we clearly state in paragraph 14.2.2 and in Section 14.8 that the assessment is following DMRB LA110. As mentioned embodied carbon is not included in the assessment criteria for DMRB LA110. We do not feel there is the need to reiterate that DMRB LA110 has been followed in every location.	The response does not address the specific queries raised. Whilst it is identified as an EIA clarification at present, without the confidence in the baseline we cannot say if it is actually requiring further assessment without WSP advising further on the baseline and so we are unable to accept this clarification.
	C.13.5	Clarification	The assessment section states a contractor commitment to 90% diversion from landfill. Clarification is required on how this commitment will be secured.	No	See Section 14.11.3: "This mitigation shall be secured through the planning consent to ensure the Principal Contractor is legally required to achieve the stated percentage of recycled aggregate."	Para 14.11.3 refers to securing the use of recycled aggregate, not the diversion from landfill. Response therefore cannot be accepted. Clarification required on how the 90% diversion from landfill will be secured.	The Applicant has committed to the CEMP being expanded to incorporate a Site Waste Management Plan (SWMP) which the Principal Contractor will manage (see Section 14.12). The SWMP will identify and suitably manage any proposed waste, further reducing any possible waste to landfill. Committing to a minimum of 90% diversion from landfill would meet the requirement of a suitably worded planning condition.	The response does not address the specific queries raised. Whilst it is identified as an EIA clarification at present, without the confidence in the baseline we cannot say if it is actually requiring further assessment without WSP advising further on the baseline and so we are unable to accept this clarification.

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	C.13.6	Clarification	Mitigation measures and the NTS should be reviewed after baseline conditions and impact assessment recommended clarifications have been completed.	No	No change to the mitigation measures. It is unlikely mitigation measures would change if there is an error in the baseline.	See response to C.13.3. There may be an error in the assessment.	The proposed mitigation in Section 14.11 and 14.12 is sufficient to mitigate any possible residual effects. Good practice advice has been proposed in Section 14.12 which will be implemented, as industry standard, providing further mitigation. One of the mitigation measures is the CEMP which will be expanded to incorporate a Site Waste Management Plan (SWMP) which the Principal Contractor will manage (see Section 14.12). The SWMP will identify and suitably manage any proposed waste, further reducing any possible waste to landfill. The amount of forecasted waste is 230,155 tonnes, this is considered a negligible amount.	The response does not address the specific queries raised. Whilst it is identified as an EIA clarification at present, without the confidence in the baseline we cannot say if it is actually requiring further assessment without WSP advising further on the baseline and so we are unable to accept this clarification.
	C.13.7	Clarification	It is recommended the cumulative effects chapter is reviewed after the impact assessment has been reviewed in order to confirm if it remains justifiable not to include waste.	No	No change to the Cumulative Effects Chapter. It is unlikely mitigation measures would change if there is an error in the baseline.	See response to C.13.3. There may be an error in the assessment.	The proposed mitigation in Section 14.11 and 14.12 is sufficient to mitigate any possible residual effects. Good practice advice has been proposed in Section 14.12 which will be implemented, as industry standard, providing further mitigation. One of the mitigation measures is the CEMP which will be expanded to incorporate a Site Waste Management Plan (SWMP) which the Principal Contractor will manage (see Section 14.12). The SWMP will identify and suitably manage any proposed waste, further reducing any possible waste to landfill. The amount of forecasted waste is 230,155 tonnes, this is considered a negligible amount.	The response does not address the specific queries raised. Whilst it is identified as an EIA clarification at present, without the confidence in the baseline we cannot say if it is actually requiring further assessment without WSP advising further on the baseline and so we are unable to accept this clarification.
	C.13.8	Clarification	The scope and approach of the embodied carbon emissions assessment needs to be clarified for the purposes of clearly establishing the GHG emissions related to materials during the construction phase and any associated cumulative effects.	No	Embodied carbon is not included in the assessment criteria for DMRB LA110.	This clarification is accepted.		
	Other recommendations	Other	Given the number of recommended clarifications throughout the waste sections of the chapter, it is recommended the waste elements of the chapter are reviewed in detail and combined with the further information provided in the addendum to Chapter 14, in order to provide a single assessment of impact from waste.	No	There are no required updates to the assessment for the Materials and Waste Chapter therefore no requirement for any updates.	See response to C.13.3. There may be an error in the assessment.	The proposed mitigation in Section 14.11 and 14.12 is sufficient to mitigate any possible residual effects. Good practice advice has been proposed in Section 14.12 which will be implemented, as industry standard, providing further mitigation. One of the mitigation measures is the CEMP which will be expanded to incorporate a Site Waste Management Plan (SWMP) which the Principal Contractor will manage (see Section 14.12). The SWMP will identify and suitably manage any proposed waste, further reducing any possible waste to landfill. The amount of forecasted waste is 230,155 tonnes, this is considered a negligible amount.	The response does not address the specific queries raised. Whilst it is identified as an EIA clarification at present, without the confidence in the baseline we cannot say if it is actually requiring further assessment without WSP advising further on the baseline and so we are unable to accept this clarification.
	Other recommendations	Other	A number of minor typographic errors noted on review could also be addressed by that process	No	Any typographical errors do not affect the assessment and conclusions.	This clarification is accepted.		
	Other recommendations	Other	The justification as to the exclusion of the life cycle assessment of materials, site arisings and waste should be reworded to make reference to the Feb 2021 ES Chapter 9 to provide clarity. It is recommended that the materials, site arisings and waste quantified within the Feb 2021 ES Chapter 14 are fully captured within the Life Cycle Assessment to evaluate the associated Embodied Carbon impact.	No	Life Cycle Assessment has been scoped out. Elements scoped out of the assessment can be found in Table 14-2 of the ES Feb 21.	Response is considered to be valid, however, to avoid contradiction and misleading the reader (in light of Chapter 9 conclusions), it is recommended that Paragraph 14.4.3 and Table 14-2 are rephrased.	Whilst we acknowledge that it could be helpful to rephrase these sections, we clearly state in paragraph 14.2.2 and in Section 14.8 that the assessment is following DMRB LA110. As mentioned embodied carbon is not included in the assessment criteria for DMRB LA110. We do not feel there is the need to reiterate that DMRB LA110 has been followed in every location.	This clarification is accepted.
Noise and Vibration	C.14.1	Clarification	Provide reference of PPV level and damage presented in Table 15-12 in the Feb 2021 ES.	No	The reference is already provided in Table 15-12, i.e. the Table Source is provided beneath the table and this is BS 5228-2 Table B.2.	Accept that PPV levels presented in Table 15-12 have been derived from Table B2 of BS5228-2, as indicated in paragraph 15.5.24.		
	C.14.2	Clarification	Have operational noise calculations adhered to Appendix A of DMRB LA111?	No	Yes, operational noise calculations have adhered to Appendix A of DMRB LA111.	This clarification is accepted.		
	C.14.3	Clarification	Construction – include calculation details within Feb 2021 ES Appendix 15.4, detailing distance of works from receptor on which calculations are based.	No	The distances from receptors to works have been calculated as part of our assessment process. It is not deemed proportional to provide distances to each work stage for each receptor. The receptor locations and the Proposed Scheme can be found in Figure 15-1 of the Feb 21 ES.	The distance from works to receptor for each construction stage is not requested. It is assumed that calculations are based when works are being undertaken at the shortest distance to the receptor and therefore worst-case. It is only this distance from works to receptor that has been requested for transparency, but is not considered critical as this is ultimately controlled through CEMP measures and any exceedance would ultimately be investigated and controlled. This clarification is accepted.		
	C.14.4	Clarification	Details on how embedded mitigation was derived or application of low noise surface to whole of the new road and why it is not possible to increase height of embedded mitigation barriers. Only an assessment of increasing height of secondary mitigation is presented in Jan 2023 SEI Appendix 1.M: Additional Noise Information.	No	The embedded mitigation was unchanged between the Feb 21 ES and Jan 23 SEI, hence why the SEI only considered the secondary mitigation. WSP can confirm that the entirety of the Proposed Scheme will have quiet road surface as standard. This has been modelled and reported as part of the secondary mitigation results. This is detailed in the Transport Assessment.	This clarification is accepted.		

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	C.14.5	Clarification	Present the construction residual effects (with mitigation) for each receptor.	No	Details of representative receptor with mitigation have been provided for receptors with construction residual effects. In line with DMRB LA 111, construction noise levels are calculated at selected locations which are representative of all noise sensitive receptors in the study area. The information already provided is an adequate representation of receptors (with mitigation) with construction residual effects, which are likely significant. The text in Section 15.12 indicates there may be marginal exceedances once screening is taken into account.	This clarification is accepted.		
	C.14.6	Clarification	Provide greater clarity on how the CEMP reduces residual effects to 'not significant'.	No	At this stage, detailed information regarding construction activities and plant is not available. It is not unreasonable to assume that the Principal Contractor could manage the works/programme within the CEMP to reduce the residual effects.	Accepted would be controlled through implementation of CEMP measures with any exceedances being investigated and rectified.		
	C.14.7	Clarification	Additional information on receptors potentially exposed to higher noise levels than based on CRTN prediction methodology. For example, those near roundabouts and / or regularly exposed to a preferential wind from road to receptor. How would this impact the presented results with secondary mitigation.	No	The assessment follows DMRB guidance which in turn refers to the methodology in CRTN. CRTN standalone and DMRB states 'The procedures assume typical traffic and noise propagation conditions which are consistent with moderately adverse wind velocities and directions during the specified periods (i.e. a wind from the source to the receiver).'	This clarification is accepted.		
	C.14.8	Clarification	Why has low noise surface not been applied to the whole road?	No	WSP can confirm that the entirety of the Proposed Scheme will have quiet road surface as standard. This has been modelled and reported as part of the secondary mitigation results. This is detailed in the Transport Assessment.	This clarification is accepted.		
	C.14.9	Clarification	Confirmation that proposed low noise surface is Thin Wearing Course (TWC) type. What reduction in road traffic noise has been applied within the noise model for TWC section?	No	The reduction in road traffic noise has been applied for the low noise surface is in line with the methodology in LA 111.	Clarification if -3.5dB applied or if based on RSI data.	The model corrections applied in the noise model are as follows: Sections where TWC is to be applied AND predicted speed is above 75km/h a surface correction of -3.5dB is applied. For sections where TWC is to be applied and predicted speed is below 75 km/h the correction applied is -1.0dB.	This clarification is accepted.
	R.14.1	Reg 25 Request	Noise Insulation Regulations (NIR) are referred to, but a NIR assessment has not been undertaken. This is required to identify if houses exposed to road traffic noise level of 268dB LA10,18h would qualify for an NIR grant. (Refer to E/2 of DMRB LA111)	No	A preliminary NIR assessment is described in ES Feb 21 Section 15.10. In this section WSP have stated the initial results and found one property may be eligible. It is standard practice to undertake a detailed NIR assessment post planning submission.	This clarification is accepted.		
	R.14.2	Reg 25 Request	Provide an assessment of impact on tranquillity of the 'Green Wedge'	No	The Scoping Report did not propose and assessment of Tranquillity (including of the "Green Wedge"). The Scoping opinion did not raise the issue either. Therefore the EIA was carried out in accordance with the Scoping opinion. DMRB does not include an assessment of Tranquillity. Waterman to set out the justification for this request. The "Green Wedge" is not a designation from the statutory development plan, nor is it a statutory noise designation. Landscape and noise assessments have been undertaken in accordance with the Scoping Opinion e.g. have used LCAs, ProWs, historic parks and gardens. The landscape advisor is happy with this assessment and the LPA did not request an assessment on tranquillity.	This clarification is accepted.		
	Other recommendation	Other	Amend inconsistent terminology in significance of effects throughout the Feb 2021 ES and NTS – e.g. use of 'high significance' should be replaced with 'large significance' in line with significance effect level criteria provided in Table 15-16 of the Feb 2021 ES Chapter 15. Make it clearer in conclusions whether effects are short or long-term.	No	The NTS should read 'large significance' in the short term. The Noise and Vibration Chapter 15 provides the correct wording. The NTS wording does not effect the Noise assessment or conclusions within the Noise Chapter 15.	This clarification is accepted.		
	Other recommendation	Other	The Jan 2023 SEI NTS would benefit from a summary of the results for completeness and transparency given the Feb 2021 ES NTS is conflicting with information within the Feb 2021 ES residual effects	No	There is no material conflict with only a minor clarification that does not effect the assessment or conclusions.	This clarification is accepted.		
Population and Health	C.15.1	Clarification	Confirm whether regard has been had within the Jan 2023 SEI to the latest IEMA guidance on Human Health and no additional topics were required to be scoped into the assessment on human health as a result.	No.	As IEMA guidance wasn't available at the time of writing, DMRB guidance has been applied. However, the assessment has considered determinants of health which are in line with the latest IEMA guidance, albeit assessed in a slightly different way.	This clarification is accepted.		
	C.15.2	Clarification	Paragraph 16.2.2 of the Feb 2021 ES states that vulnerable groups are assumed to be present throughout the study area. Clarity on the reason for assuming this would be helpful e.g. does it present a worst-case scenario?	No.	Yes, vulnerable groups have been assumed to be present throughout the study area in order to apply worst case scenario.	This clarification is accepted.		

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	C.15.3	Clarification	It is not clear that the EIA Scoping Opinion has fully been taken into account within the Feb 2021 ES in relation to socio-economic considerations and further justification for scoping out socio-economics at operational stage is required.	No.	Minimal jobs will be directly generated for operation of the scheme. The Outline Business Case should include details of the economic case and benefits of the scheme to the wider economy. Table 16-3 of the 2021 ES states: Although not included in DMRB guidance, it was requested in the Scoping Opinion by the local planning authority to include impacts relating to socio-economic effects including increased employment and economic output during construction. Although not explicitly outline in scoping, these effects (with the exception of odour – see below) have been considered within the ES.	Response does not provide sufficient clarification as the reviewers of the ES do not have access to the OBC to corroborate this response. The economic impacts assessed within the Outline Business Case could be cross-referenced here in order to provide further justification, or, if the Council have reviewed the OBC and are satisfied that the socio-economic benefits at operation stage are not significant then this could be accepted. The reference here to Odour appears erroneous.	The Scoping opinion states the following: The proposed Scheme is also expected to create new opportunities for future development, generating a range of socio-economic effects including increased employment and economic output (defined in terms of Gross Value Added (GVA)). Therefore, as a complement to the People & Communities section, a socio-economic impact assessment will also be undertaken. Socio-economic calculations for Construction employment generation have been included for the construction phase of the scheme in Table 16-25 of the ES, where construction costs and likely FTEs are known. Socio-economic outputs defined in terms of GVA would not normally be calculated during the operational phase of a road scheme, where there are undefined or minimal to no jobs directly associated with its operation. During construction it is very unlikely that socio-economic output defined in terms of GVA would give rise to a significant beneficial effect. Section 3 of the OBC outlines the economic case for the Proposed Scheme and covers the following: Benefits -Economic benefits from time and vehicle operating cost savings, and reductions in greenhouse gas emissions are calculated using TUBA (Transport User Benefit Analysis). -Economic benefits from savings in accidents are calculated using COBALT (Cost and Benefit to Accidents – Light Touch) -The economic benefits of reliability improvements are calculated separately. For the benefit of the reviewers, the OBC is a publicly available document which can be found on the Shropshire Council website at the following link: https://www.shropshire.gov.uk/roads-and-highways/shrewsbury-north-west-relief-road/outline-business-case-obc/	No further comment
	C.15.4	Clarification	Guidance note 'LA 112 Population and human health' refers to a number of conditions relevant to human health including sources of pollution including light, odour and contamination' as well as 'landscape amenity'. It also refers to severance/accessibility and the ability of communities to access employment (paragraph 3.21). These aspects do not appear to have been considered in scoping as part of the assessment and it is therefore not clear as to the justification for their exclusion from the assessment.	No.	Although not explicitly outline in scoping, these effects (with the exception of odour – see below) have been considered within the ES. Odour has not been considered within the ES and has therefore not been included as part of the Population and Human Health assessment. Odour was not included as a requirement within the Scoping Report response. Lighting has been included as part of the Landscape and Visual Impact Assessment (operation only) and will therefore would have been considered as part of the assessment on visual amenity. In terms of landscape amenity, "views from the road" and "Journey amenity" have been considered in 16.8.25 and 16.8.26. Effects of contamination of water sources has been considered within 16.8.23. Effects on driver stress (which considers delay and impacts on accessibility) have been considered in 16.8.24. The impacts of severance of Public Rights of Way have been covered under paragraph 16.8.19.	Response is partially sufficient. However, it continues not to be clear that the ability of communities to access employment, including places of employment that will be adversely affected during the construction process, has been taken into account. Driver Stress does not specifically cover access to these employment sites.	Access to employment and potential severance is covered within 16.8.13 and 16.8.14. These have been repeated below reference: <i>16.8.13 The Proposed Scheme would be located directly adjacent to Oxon Business Park and Battlefield Enterprise Park (of very high sensitivity). There would be no permanent land take from the protected employment site. However, access to the employment site may be disrupted during construction due to potential traffic management measures. This has the potential to impact access to businesses within the business parks during construction. The magnitude of severance is considered to be minor as a worst case, resulting in a temporary moderate adverse effect (significant).</i> <i>16.8.14 There are several business properties whose access lie within or in close proximity to the Proposed Scheme. Their access may be disrupted during construction due to traffic management measures. The magnitude of disruption is considered to be minor, resulting in a temporary slight adverse effect (not significant) on Churncote Farm Shop (of medium sensitivity), Cote Kitchen (of medium sensitivity), Soundscape Studios (of medium sensitivity), Co-op Food (of medium sensitivity), businesses in Oxon Business Park (of high sensitivity) and businesses at the western end of Battlefield Enterprise Park (of medium sensitivity). A temporary moderate adverse effect (significant) on Oxon Hall Touring Park (of very high sensitivity) is anticipated.</i>	No further comment
	C.15.5	Clarification	The findings in relation to human health are in part reliant on other EIA topics including ES Chapter 6 Air Quality, Chapter 15 Noise and Vibration, Chapter 17 Road Drainage and the Water Environment and the Flood Risk Assessment. It is only subject to the outcome of the review of these topics, that the findings of the assessment in	No.	Changes to air quality, noise and vibration and Water environment were reviewed as part of the SESA and SEI addendums. The design changes did not change the assessment for Human Health and Population.	Not sufficient. It still needs to be confirmed that the outcome of the Waterman review of these topics will not/has not led to changes in the outcome of these topics that would then lead to a change in the assessment on human health.	Changes to air quality, noise and vibration and Water environment were reviewed as part of the SESA and SEI addendums. The design changes and the outcomes of the Waterman review did not change the assessment for Human Health and Population.	The outcomes of the Watermans Review across all topics is not yet complete.
	C.15.6	Clarification	Paragraph 16.1.3 states a moderate beneficial effect on Hencott Wood, whereas the assessment at paragraph 16.8.36 states a moderate adverse effect.	No.	Accepted – typo in 16.1.3 – this should state adverse not beneficial. Although this is an error given that the later paragraph (16.8.36) reports the correct assessment and given the context of the reporting it is unlikely that a reader of the text taken in its entirety would be misled.	This clarification is accepted.		
	C.15.7	Clarification	Where there is potential for the construction period of cumulative schemes to overlap with the construction period of the Proposed Scheme it is not clear whether the in-combination effects of this have been assessed within the population and human health topic, and if not, justification for this.	No.	P&HH author screened committed developments against likely significant effects with information available at the time of writing.	This clarification is accepted.		
	Other recommendations	Other	The baseline on 'development land and businesses' would be further enhanced by an understanding of the number of employees at each business affected (listed in Table 3-1, Appendix 16.1 of the Feb 2021 ES) in order to add further validation to the assessed sensitivity.	No.	The assessment is unlikely to change based on this information, which would also require consultation with businesses in question; this is not considered to be proportionate to assessment, and not what was proposed within assessment methodology.	This clarification is accepted.		

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	Other recommendations	Other	The baseline on 'development land and businesses' could be further enhanced by an understanding of the number of employees at each business affected by severance.	No.	The assessment is unlikely to change based on this information, which would also require consultation with businesses in question; this is not considered to be proportionate to assessment, and not what was proposed within assessment methodology.	This clarification is accepted.		
	Other recommendations	Other	The beneficial effects of employment at construction stage could be enhanced through the deployment of a community employment plan which identifies opportunities for local recruitment and training opportunities during the construction phase.	No.	Noted – this is not within the scope of the assessment and suggest this is picked up with the Principal Contractor if the Client wishes to peruse.	This clarification is accepted.		
Road Drainage and Water Environment	C.16.1	Clarification	Further clarification on the magnitude of impact rating provided in Tables 1-11, 1-15, 1-17, and 1-21 of the Jan 2023 SEI Appendix 6.B: Water Environment Risk Assessment (WERA).	No	See response to points C.9.1-C.9.3 regarding the PWRA ratings (relating back to comments in our initial response to the EA in letter dated 21st June (Annex A), and referred to again in long response dated 31st July (Annex B)). All parties agree the proposed Turbidity Protocol is required. We advocate it is only essential with regard to proposed piling works at pier 1. Changing the basis of assessment to something as indicated by the EA would bring more structures under the Turbidity Protocol – this is potentially undesirable/problematic (it is already agreed that structures east of the R Severn and east of the trench feature do not require mitigation, similarly features at Clayton Way. To bring additional features/structures under the umbrella of the Turbidity Protocol would therefore be overly precautionary and create an unnecessary financial burden). In addition, regarding the DQRA ratings, we refer to 'Key Point 3 - DQRA' within our initial response to the EA dated 21st June (Annex A): <i>We disagree that the risk categories result in moderation of the sensitivity of the receptors. As discussed above, the risk rating inherently acknowledges the severity of such an incident occurring via a high potential magnitude of occurrence. It is the very low to negligible/none perceived likelihood of an incident being realised that result in the low to negligible/no risk assessment outcomes. The assessment reviews the conceptual, model and scenario uncertainty as well as the model projections. Together these indicate the most likely scenario to be realised is that of a hydrocarbon spill at the Holyhead Road Roundabout (i.e. incident 1, potential pollutant linkage (PPL) 4). However, the model projections indicate no exceedance at the receptor, with breakthrough (at undetectable concentrations) at 150 years, owing to the thickness (circa. 40m) of largely cohesive unsaturated zone deposits underlying the Roundabout, offering protection to the Sandstone aquifer below. As discussed within para. 9.2.9 of the DQRA, the models have assumed no attenuation or clean-up afforded through drainage systems and associated emergency management and no effort would be made towards soils and groundwater remediation post incident... this is an unlikely response to an incident within a SPZ. Furthermore, breakthrough times under Model Scenario 1 (PPL2) and Model Scenario 2 (PPL4) are substantive as per Plate 9-1 thereby negating the precautionary argument that there would be insufficient time to deliver such clean up. The likelihood of such an incident being realised is therefore justifiably negligible to none. The outcome of more extreme modelling projections, as discussed above and presented within, remain consistent with these conclusions.</i> WPS's position is well thought out, precautionary & appropriate. WSP maintains its position that is defensible & very robust.	WSP to confirm if this response reflects the EA's comment on their letter of 01/09/23? See below extract from EA's letter: <i>"We reiterate our position that we see the development of a written Turbidity Protocol and monitoring plan as key to informing any piling methodology, monitoring protocols, trigger criteria, and contingency action plans for all reasonably foreseeable scenarios.</i> <i>Our last response pointed you towards our previous comments including uncertainties from modification of piling methodology, design and materials following the proposed trial test piles.</i> <i>We suggested that it is also plausible that at the point any potential impacts are observed, arising from any foreseen or unforeseen impacts from the proposed development on the Shelton water supply sources, mitigation options should consider appropriate financial reparations to fund/implement any necessary corrective actions.</i> <i>It is unclear what mitigation options may be necessary and how this would be secured. We recommend that you seek the comments of Severn Trent Water on this element to ensure they are satisfied with options, potential risk and effective control measures.</i> <i>If you are minded to approve the application, the general Piling Works Risk Assessment (notwithstanding some current uncertainty, and in the absence of test piles) must be suitably controlled, including but not limited to, an appropriately worded Turbidity Protocol and monitoring plan.</i> <i>The default to investigating any turbidity issues at the abstraction sources during the construction period at Shelton in accordance with the Turbidity Protocol contingency plan provides further reassurance and should be included within your consideration for a planning condition."</i>	Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned.	
	C.16.2	Clarification	Following a review of magnitude of impact ratings and resultant significance of effects, mitigation measures require further review.	No	See response to points C.9.1-C.9.3 regarding the PWRA ratings (relating back to comments in our initial response to the EA in letter dated 21st June (Annex A), and referred to again in long response dated 31st July (Annex B)). All parties agree the proposed Turbidity Protocol is required. We advocate it is only essential with regard to proposed piling works at pier 1. Changing the basis of assessment to something as indicated by the EA would bring more structures under the Turbidity Protocol – this is potentially undesirable/problematic (it is already agreed that structures east of the R Severn and east of the trench feature do not require mitigation, similarly features at Clayton Way. To bring additional features/structures under the umbrella of the Turbidity Protocol would therefore be overly precautionary and create an unnecessary financial burden). In addition, regarding the DQRA ratings, we refer to 'Key Point 3 - DQRA' within our initial response to the EA dated 21st June (Annex A): <i>We disagree that the risk categories result in moderation of the sensitivity of the receptors. As discussed above, the risk rating inherently acknowledges the severity of such an incident occurring via a high potential magnitude of occurrence. It is the very low to negligible/none perceived likelihood of an incident being realised that result in the low to negligible/no risk assessment outcomes. The assessment reviews the conceptual, model and scenario uncertainty as well as the model projections. Together these indicate the most likely scenario to be realised is that of a hydrocarbon spill at the Holyhead Road Roundabout (i.e. incident 1, potential pollutant linkage (PPL) 4). However, the model projections indicate no exceedance at the receptor, with breakthrough (at undetectable concentrations) at 150 years, owing to the thickness (circa. 40m) of largely cohesive unsaturated zone deposits underlying the Roundabout, offering protection to the Sandstone aquifer below. As discussed within para. 9.2.9 of the DQRA, the models have assumed no attenuation or clean-up afforded through drainage systems and associated emergency management and no effort would be made towards soils and groundwater remediation post incident... this is an unlikely response to an incident within a SPZ. Furthermore, breakthrough times under Model Scenario 1 (PPL2) and Model Scenario 2 (PPL4) are substantive as per Plate 9-1 thereby negating the precautionary argument that there would be insufficient time to deliver such clean up. The likelihood of such an incident being realised is therefore justifiably negligible to none. The outcome of more extreme modelling projections, as discussed above and presented within, remain consistent with these conclusions.</i> WPS's position is well thought out, precautionary & appropriate. WSP maintains its position that is defensible & very robust.	WSP to confirm if this response reflects the EA's comment on their letter of 01/09/23? See below extract from EA's letter: <i>"We reiterate our position that we see the development of a written Turbidity Protocol and monitoring plan as key to informing any piling methodology, monitoring protocols, trigger criteria, and contingency action plans for all reasonably foreseeable scenarios.</i> <i>Our last response pointed you towards our previous comments including uncertainties from modification of piling methodology, design and materials following the proposed trial test piles.</i> <i>We suggested that it is also plausible that at the point any potential impacts are observed, arising from any foreseen or unforeseen impacts from the proposed development on the Shelton water supply sources, mitigation options should consider appropriate financial reparations to fund/implement any necessary corrective actions.</i> <i>It is unclear what mitigation options may be necessary and how this would be secured. We recommend that you seek the comments of Severn Trent Water on this element to ensure they are satisfied with options, potential risk and effective control measures.</i> <i>If you are minded to approve the application, the general Piling Works Risk Assessment (notwithstanding some current uncertainty, and in the absence of test piles) must be suitably controlled, including but not limited to, an appropriately worded Turbidity Protocol and monitoring plan.</i> <i>The default to investigating any turbidity issues at the abstraction sources during the construction period at Shelton in accordance with the Turbidity Protocol contingency plan provides further reassurance and should be included within your consideration for a planning condition."</i>	Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned.	
	C.16.3	Clarification	Following a review of magnitude of impact ratings and resultant significance of effects, cumulative effects and NTS may require further review.	No	Please read the responses to Recommendation: C.16.1 & C.16.2 above. There is no requirement to update the magnitude of impact ratings therefore no change in resultant significance of effects, cumulative effects and NTS.	Ditto with Waterman's response to C.16.1		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned.
	C.16.4	Clarification	The requirement for infiltration device bases to be a suitable distance above site established maximum groundwater levels, as per Paragraph 2.6 of DMRB CD530, and The SuDS Manual	No	This has been agreed in the WSP response to the EA dated 31st July 2023 (Annex B), the text on page 20 is as follows: <i>6.1.4 – The EA highlights that any proposed infiltration basin/soakaway structure needs to be constructed at least 1.2m above max. groundwater level in areas where a high to medium risk to groundwater flooding is delineated or assessed.</i> <i>In this regard we can comment as follows:</i> <i>- We acknowledge the EA's criteria to be applied across the scheme, although the only proposed infiltration for road drainage is at Basin 8, for which;</i> <i>- The proposed construction of Infiltration Basin 8, close to Ellesmere Road roundabout, is the only infiltration/soakaway feature proposed to drain the road, satisfies this criterion with the base of the gravel backfill for the basin being ~4.0m above the perched groundwater table.</i>	This clarification is accepted.		

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	C.16.5	Clarification	The WFD assessment requires a review, following the conclusions of responses to separate EA comments on the supporting documents.	No	<p>WSP do not agree with the EA's position but will endeavour to alleviate the EA's concerns.</p> <p>The WFDa is linked to other assessments/documents & whilst the EA remain unconvinced about other points there will remain a difference of opinion here. See page 20 of the letter from WSP to the EA dated 31st July 2023 (Annex B), as reproduced below: 6.2.6 – The EA mentions in its review of the WFDa that this ultimately relates to other supporting documents. In this regard the EA indicated: In its covering letter, of 3rd May 2023 (Annex F), that it could not confirm compliance in respect of groundwater. Correspondingly, in our 'initial' response under Additional Responses – WFDa we have already indicated related assessments/considerations we believe feed into this. In its letter dated 6th July 2023 (Annex G), further elaboration that non-compliance essentially relates to current lack of reassurance relating to key aspects of hydrogeological understanding/conceptualisation and proposed mitigation measures.</p> <p>Therefore, we believe addressing these matters, as proposed, is required to satisfy this issue.</p> <p>The EA has subsequently commented further in their letter dated 1st September 2023 (pgs. 7 and 8) (Annex E) the following: Water Framework Directive (WFD) Assessment With regard to WFD, and potential deterioration from the development impacts, we have consistently advised on the need for a WFD assessment. See previous replies. About your point 4, we mean 'uncertainties' around these elements.</p> <p>WFD can require measures to be implemented to protect supply and prevent deterioration in raw water quality due to pollution of Drinking Water Protected Areas (DWPA) as caused by human activities. DWPA's are identified as 'at risk' in River Basin Management Plans. There are also related requirements in the Drinking Water Directive. WFD aims to protect and prevent deterioration of the status or potential of surface waters and groundwater, and to achieve good status. The WFD assessment needs to demonstrate with a high level of confidence that the proposal/activity supports these objectives.</p> <p>Environmental objectives include - to prevent deterioration, protect and enhance and prevent/reduce pollution to groundwater/controlled waters. Similarly, your adopted Core Strategy 18: Sustainable Water Management states that: "Developments will integrate measures for sustainable water management to reduce flood risk, avoid an adverse impact on water quality and quantity within Shropshire, including groundwater resources, and provide opportunities to enhance biodiversity, health and recreation, by ensuring that... New development enhances and protects water quality, including Shropshire's groundwater resources". Emerging Local Plan Review – (pre submission draft) DP19. Water Resources and Water Quality is also relevant.</p> <p>Under WFD any activity considered likely to compromise environmental objectives must undergo a thorough assessment before they can be permitted under regulation 19 and must also ensure other related objectives are not compromised as a result of the proposed (human) activities. All the requirements of the WFD Regulations must apply. An assessment must provide evidence to satisfy the following conditions:</p> <ul style="list-style-type: none"> • all practicable steps are taken to mitigate (including effective implementation) the adverse impact on the status of the water body • the benefits to human health or human safety or sustainable development outweigh the benefits of achieving the environmental objectives or the activity is of overriding public interest • there are no other means of providing the services offered by the activity that are technically feasible or of a proportionate cost and provides a significantly better environmental option. <p>We have previously said the WFD assessment isn't compliant (informed by other related assessments/detail, including those referred to above) focusing on the water environment (groundwater and surface water) and potential deterioration.</p> <p>The proposal includes a human interaction (viaduct over within the 'drinking water protected area'/SP2 within the WFD catchment). At the June 2023 meeting, the applicant/WSP disagreed on the need to further consider an impact from their piling works or a pollution incident from the road, in this regard.</p> <p>We reiterate that the above points inform and should be factored into a WFD assessment document. WSP believes that the mitigation measures proposed should address WFD related issues. We appreciate that the EA remain to be convinced that the mitigation measures are satisfactory. We think that a meeting to discuss this particular matter is warranted to establish if anything is fundamentally missing from the assessment provided.</p>	WSP to discuss matters further with the EA to agree the way forward.	WSP indicated that "... a meeting to discuss this particular matter is warranted to establish if anything is fundamentally missing from the assessment provided."		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. WSP to discuss matters further with the EA to agree the way forward.
	C.16.6	Clarification	The potential pollutant pathway (PPL) of the river and groundwater interaction in a spillage event needs further consideration in the dispersity assessment/DQRA, following the conclusions of responses to separate EA comments	No	<p>WSP disagrees for reasons/evidence already provided to the EA (latest update to the EA within initial response dated 21st June 23 (Annex A), and referred to again within long response dated 31st July (Annex B)) and will further engage to present further evidence and arguments to this effect - see extracts provided below.</p> <p>Under Key Point 1 - Conceptual Hydrogeological Understanding: [we have] Provided additional and compelling evidence that river to groundwater interaction is minimal indicating our previous conclusions are robust. In this regard, we provided a copy of our email to STWL and cc'd to the EA via Sue Forsyth dated 13th April 2023. In summary this demonstrates;</p> <p>i. That an unequivocal east-west groundwater level gradient in the bedrock Sandstone is maintained under all antecedent conditions over the monitoring period from March 2022 to April 2023 including periods of high and/or flood river level conditions at Shelton as well as periods of recessing and/or low groundwater levels. If ever river to groundwater interaction were to be significant this east-west gradient, which also transects the river, would be broken; and</p> <p>ii. When significant high and/or flood levels occur in the river at Shelton it is evident that corresponding groundwater levels in bedrock Sandstone commence recessions in such a way that they cannot be significantly influenced by river levels even when river levels are relatively higher and present the potential for such interaction.</p> <p>We consider that the conclusions we have previously presented, regarding minimal river to groundwater interaction and minimal source contribution from the river towards STWL's groundwater abstractions at their Shelton boreholes, are robust.</p> <p>Under Key Point 3 - DQRA: Accordingly, our conceptualisation remains unchanged, and we highlight the following key points as presented within the DQRA:</p>	WSP to discuss matters further with the EA to agree the way forward.	WSP indicated that "... the recent response from the EA dated 1st September (Annex E) provides some encouragement that the conceptualisation regarding GW-SW interaction is becoming more aligned (pages 4-5 under heading 'Conceptual Hydrogeological Understanding')"		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. WSP to discuss matters further with the EA to agree the way forward.

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
					<p>• In accordance with the groundwater – surface water interaction assessment, water level data indicates under normal/predominant conditions there is an upward flux from bedrock Sandstone to the river and the river is predominantly gaining.</p> <p>• The exception to this being during periods of high rainfall and high river level, when the eastern floodplain would likely, to some extent, be flooded (at which point any incident occurring at this time would essentially be directly into the river and subject to significant dilution), or during a period when groundwater levels undergo prolonged recession and groundwater levels fall below those in the river.</p> <p>• The overall contribution of leakage from the river to the abstraction is now considered to be only approximately 2% at most, far less than previously perceived.</p> <p>Further, in accordance with additional evidence provided above, under Conceptual Hydrogeological Understanding, we point out that our previous conclusion regarding limited river to groundwater interaction is corroborated/strengthened and that this latest evidence suggests there are no antecedent condition scenarios which significantly reverse this assertion.</p> <p>As indicated, WSP have already provided significant evidence suggesting river to groundwater interaction is weak/limited and we are continuing with this effort. We have invited the EA to hold a technical meeting on the subject in an effort to explain our conceptual justification, however without acceptance. Notwithstanding, the recent response from the EA dated 1st September (Annex E) provides some encouragement that the conceptualisation regarding GW-SW interaction is becoming more aligned (pages 4-5 under heading 'Conceptual Hydrogeological Understanding').</p>			
	C.16.7	Clarification	The relationship between shallow groundwater control and mitigation measures such as a sealed drainage network in SPZ's 1 and 2, requires further clarification in particular basing mitigations on maximum groundwater levels not average levels.	No	<p>Agreed and provided commitments as already indicated.</p> <p>Already committed to this in recent letter/response to EA 31st July (Annex B) - we have already undertaken/committed to further investigating and addressing this issue at detailed design. See pages 9-10, 21 and 27-28 of the letter from WSP to the EA dated 31st July 2023 (Annex B), as reproduced below: Proposed Drainage Strategy - Sheets 1 to 5 (January 23), Drainage Layout Sheets 1 to 30 & Drainage Strategy (Report no. 70056211-wsp-hdg-as-rp-cd-00001 p02) dated July 2021 In summary the EA comments as follows: 1 They express concern re. sealed drainage systems in SPZ1/2 & request clarification in line with proposed Drainage Strategy & whether private water supplies present a material consideration. 2 Allied to this; a the issue over long term road drainage preventative maintenance and emergency response in the event of a spill is raised allied to proposals to develop a Plan through Shropshire Council's Multi Agency Recovery Plan (2014); and b whether associated risks could be further mitigated through speed reductions (on approach to Holyhead Road Roundabout) and via signage within the Drinking Water Protected Area (DWPA).</p> <p>Essentially, all the above EA comments/concerns were made by the EA in their covering letter and similarly dealt with in our 'initial' response under Road Drainage as follows: 1 Our response to the point regarding non-sealed drainage systems in SPZ1/2 is covered previously, any proposals to incorporate non-sealed drainage features within SPZ1/2 have been presented in error and conflict with the intended Drainage Strategy for the Proposed Scheme. Accordingly, these errors will be rectified and updated. 2 Further, our response to requests/suggestions for; a Preventative maintenance and emergency response to be covered through development of a plan though Shropshire Council's Multi Agency Recovery Plan (2014) cross referenced our commitment to STWL for proactive development of such a plan via implementation of an appropriate Planning Condition. Further, this point is covered previously; and b Highlighted that speed reductions to 40mph are already proposed on all approaches to Holyhead Road roundabout and are shown on the drawings included with the SEI submission.</p> <p>Additionally, and as an extended part to point 1 above in connection with the point made by the EA regarding private water supplies, we refer the EA to our response given later under the Technical Review of Each Report concerning Chapter 5 Geology and Soils in respect of the Baseline Contamination Study Report. Here, all information on known groundwater abstractions in the Study Area and potentially at risk from the proposed scheme, out-with the STWL Shelton sources, are elucidated.</p> <p>pg. 21...</p> <p>In relation to geotechnical works potentially being at risk from groundwater flooding this will continue to be checked as part of the ongoing monitoring referred to and this will be done with reference to high/maximum levels encountered; and In relation to the need for drainage systems within SPZ1/2 to be sealed we refer the EA to our response given earlier in this document under Proposed Drainage Strategy. On this point the EA subsequently seeks assurance, outlined in their letter dated 6 July 2023 (Annex G), that revised details will be submitted on this matter. Accordingly, we can assure the EA that these details will be included in the completed detailed design.</p> <p>pgs. 27-28...</p> <p>ROAD DRAINAGE On this topic WSP: Will rectify any non-sealed drainage features presented within SPZ1/2, contrary to the Drainage Strategy, and issue revised details. Agrees to develop a long-term road drainage preventative maintenance/operational plan; is already in discussion with Shropshire Council in relation to Multi-Agency Recovery Plan (2014) which Shropshire Council are fully committed to further developing as a Planning Condition.</p>	<p>The EA are requesting via their latest letter of 01/09/23 that WSP should provide plans showing the error being rectified. The EA's letter states that "[WSP] has acknowledged the error of having included non-sealed road drainage systems in SPZ 1 and 2, contrary with their intended Drainage Strategy for the Proposed Scheme, and have provided assurances that these errors will be rectified and updated. We have not seen updated plans since drawing this to your attention in May 2023. We recommend that these are updated accordingly prior to any planning committee as part of any approved plans/any scheme for final drainage approvals."</p> <p>WSP to address EA's comment.</p>		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. Further evidence / drawings to be provided to the EA.

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	C.16.8	Clarification	Section 6.5: The risk reduction measures stated within the CEMP (Paragraph 6.5.6) and DQRA (Paragraphs 6.5.10 and 6.5.11) are based on future speculations of authorities to cooperate and action a new mitigation plan, rather than existing suitable agreements. Evidence is required to substantiate the proposed level risk, such as additional detail within the road's detailed design and Maintenance Plan, and an agreed and funded Multi-agency Recovery Plan of the County Council similar interest group.	No	WSP understand SC has already made a commitment to develop a full road drainage maintenance & emergency recovery plan as a Planning condition and this was communicated as a commitment in letter/response to EA on 31st July on page 8/9 (Annex B): <i>In our 'initial' response, under Road Drainage, we replied indicating 'the applicant and WSP can assure the EA we are fully committed to further developing the existing Multi-Agency Recovery Plan to the satisfaction of key Stakeholders'. We have subsequently met with the Shropshire Council officers leading on the Multi-Agency Recovery Plan (MARF) and have agreed a way forward which includes adding to risk registers and developing guidance notes for emergency services. This would be in addition to the work that will be undertaken on developing and agreeing with the EA and STWL an appropriate maintenance plan of the road carriageway drainage attenuation system. Accordingly, it is proposed to progress these matters as a Planning Condition which will cover both (i) maintenance of road drainage system and (ii) the setting up of appropriate and specific emergency response mechanisms for incidents within the SPZ under the umbrella of the MARF. Allied to this, we believe STWL is formulating some scoping ideas to help with progression.</i>	Waterman are happy as long as Shropshire Council and the EA are happy with this approach		Way forward agreed with Shropshire Council at meeting held on 17/10/23: SC confirmed acceptance.
		Clarification	The quantifiable ratio of water the public water supply borehole gets from the Kinnerton Sandstone aquifer and "leakage from the river" would need to be evidenced further.	No	WSP disagrees and has provided significant evidence suggesting river to groundwater interaction is weak/limited. Please refer to pages 4 and 26 of the letter from WSP to the EA dated 31st July 2023 (Annex B), as reproduced below: <i>In Annex A the EA repeats and elaborates on earlier points made in respect of Conceptual Hydrogeological Understanding in their covering letter. Accordingly, we refer to our corresponding 'initial' response covering issues raised regarding both Welsh Bridge river levels and river to groundwater interaction. Further, we would add that all available evidence gleaned from construction/investigation of MW1 (a key component to the Phase 4A Ground Investigation (GI)), obtained subsequent to the SEI submission, does not alter any of our previous conclusions. However, in the EA letter dated 6 July 2023 (Annex G) they still question our conclusion that river to groundwater interaction is limited citing a different interpretation of, and resulting conclusion from, the additional data provided in our 'initial' response. We maintain that the interpretation we have provided is robust and seek an opportunity to meet with the EA to explain our reasoning, as well as to understand how the EA have reached their conclusions.</i> pg. 26... <i>Conceptual Hydrogeological Understanding</i> <i>On this topic WSP:</i> <i>Believes it has adequately explained the use of Welsh Bridge river levels in the SEI and demonstrated an unequivocal, and subsequently established, relationship between Welsh Bridge and Shelton river levels. However, we will be happy to further discuss this matter in a meeting if considered helpful. Refutes the EA's assertion that there may be significant interaction between the River Severn and groundwater in the Shelton area. In this regard we have cited additional evidence and will be happy to meet to further demonstrate and discuss this evidence, and to understand how the EA have reached their conclusions.</i>	WSP to discuss this further with the EA and agree the way forward. WSP indicated that they are happy "to meet the EA to explain our reasoning, as well as to understand how the EA have reached their conclusions"		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. WSP to discuss matters further with the EA to agree the way forward.
	C.16.10	Clarification	Comments are on contracted designed temporary works should be covered by the Turbidity Protocol.	No	WSP disagrees & feels its position is both defensible & very robust We are strongly of the view that only pier 1 piling requires essential mitigation backup through the Turbidity Control. See page 22 of the letter from WSP to the EA dated 31st July 2023 (Annex B), as reproduced in green below: <i>We do not believe this is necessary for the following reasons:</i> <i>Out-with viaduct piling works no groundworks are very deep and do not penetrate into the underlying Basal Sands and Gravels and remain far above the water table for the main aquifer therein. Correspondingly, we assess the Significance of Effect on the main Bedrock aquifer as Slight [not significant] (see Table 1-11 in the WERA).</i> <i>Further, we have already covered this concern in points 17 to 22 of our CONFIDENTIAL letter to the EA dated 3 February 2023 providing feedback on Bedrock Interpretation & Definition Note, Turbidity Monitoring Update & Test Piles.</i> Other than the piling works, no other works are considered deep or intrusive enough to warrant such consideration. Further, test piling is deliberately located at a much less sensitive location, for which STWL are content and is intended to further inform development of the Turbidity Protocol.	This does not seem to address EA's further comment received on 01/09/23. The EA stated that "We reiterate our position that we see the development of a written Turbidity Protocol and monitoring plan as key to informing any piling methodology, monitoring protocols, trigger criteria, and contingency action plans for all reasonably foreseeable scenarios".		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned.
	C.16.11	Clarification	The disagreement with the 'very low' risk for Pier 1, with concerns on effect to STW existing groundwater abstractions and so the need groundwater monitoring boreholes during works and an agreed Turbidity Protocol or alternative support structures.	No	Although WSP disagree on the assignment of risk, we all agree the Turbidity Protocol, including associated monitoring, is required for pier 1 but the EA consider it should have wider application. See pages 5-7 and 22 of the letter from WSP to the EA dated 31st July 2023 (Annex B), as reproduced below: <i>Piling Works Risk Assessment (PWRA) We acknowledge that the principal concern lies with the risk potential for mobilisation of suspended solids via fractures within the bedrock aquifer which could affect the Shelton Public Water Supply (PWS) and the potential consequences of such an incident occurring. We also acknowledge that the development of the Turbidity Protocol is critical for mitigation of potential perceived risk and have demonstrated commitment to its development. We would again highlight that this forms a specialist and complex undertaking and would be fully detailed as a planning condition rather than pre-determination given the time and expense required, of developing the Turbidity Protocol and to proceed with these activities pre-determination is considered unreasonable. Part of the development is to install an investigative test pile (in an area of low risk) and, if proposed outside of the NWRR Planning Application, will require a specific (and further) planning application. Regarding the request for clarification of the source of the river level hydrograph data presented – please refer to our response under the heading 'Conceptual Hydrogeological Understanding'. In the SEI submission we presented river levels at Welsh Bridge when showing hydrographic plots of groundwater level data which significantly pre-dated commencement of bespoke river level monitoring at Shelton Intake, in March 2022. Now that we have developed a well constrained correlation between river levels at Welsh Bridge and Shelton Intake, as appended to our 'initial' response, if desired, to aid the understanding, we could update such SEI figures with equivalent levels at Shelton Intake derived using the said correlation. We would highlight that the perceived risk associated with piling for the Western Abutment, whilst sited within SP22, is deemed negligible on the basis that the design assumptions demonstrate the piles will not penetrate the water table of the main aquifer and therefore the source – pathway – receptor linkage is broken.</i> <i>The construction of Pier 1 alone therefore presents the greatest risk potential (and even this is assessed as very low risk) and the development of the Turbidity Protocol is a requirement of the construction of this feature to provide assurance to key stakeholder STWL. In this respect, and with the source – pathway – receptor linkage in mind, the following should be noted that:</i> <i>All viaduct pile/abutment structures are subject to the requisite minimum 10m standoff (as defined within the PWRA). Despite targeted investigations, no fissure/fracture connectivity has been found within the upper bedrock Sandstone between any viaduct pile/abutment structure location and STWL Shelton groundwater abstraction boreholes. The piles of Viaduct piers 2 to 9 and those of the Eastern Abutment are all located on the opposite side of the trench feature, in the bedrock Sandstone, to STWL Shelton groundwater abstraction boreholes. As previously stated, the Western Abutment does not penetrate the water table of the Main Aquifer.</i>	Ditto with Waterman's response to C.16.10		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned.

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					<p>Notwithstanding, any turbidity issues identified at the abstraction during the construction works in the Shelton area will be investigated in accordance with the developed contingency plan within the Turbidity Protocol and addressed in full consultation with the key stakeholders. We note comments relating to perched groundwater records for CPT820 proximal to Clayton Way. However, with reference to para. 4.4.5 of the PWRA, more recent drilling (Phase 4) included locations CP920-CP923 which were progressed to a depth of 35m below ground level (bgl). Groundwater was not encountered during the drilling of any of these boreholes and consequently none were installed for the purpose of groundwater monitoring.</p> <p>A summary of the groundwater monitoring data available for the boreholes that have been installed, for monitoring purposes within proximity of Clayton Way, is presented in Table 1 below. BH3-S and BH3-D have been monitored over the longest timeframe (2007 to 2022). The data at all locations indicate groundwater in the superficial deposits, where encountered, is perched and discontinuous. A water table has not been presented within the superficial deposits on the cross section (Plate 2-4 of the PWRA) on this basis.</p> <p>Notwithstanding, we acknowledge comments in relation to anticipated dewatering requirements for the road cutting at this location, based on encountered perched water levels. Requirements for the control of groundwater during construction and any potential post development drainage scheme are duly noted, as is the requirement to obtain an abstraction licence and/or discharge permit in this instance.</p> <p>Table 1: Groundwater monitoring summary - Superficial Deposits - Clayton Way Not reproduced here</p> <p>We acknowledge and agree that the Turbidity Protocol is a critical requirement to set out monitoring and contingency planning actions, to provide reassurance of risk management of the proposed works. WSP (on behalf of the client) has demonstrated a commitment to fulfilling this critical requirement with full consultation with the relevant key stakeholders. We recognise the need for further detail to inform the piling methodology, monitoring protocols, trigger criteria and contingency action plans for all reasonably foreseeable scenarios. The details require further investment of bespoke monitoring instrumentation over a reasonable timeframe to obtain sufficient baseline data (minimum 6 months) as well as proposed investigative test piling (including installation of additional monitoring points and use of bespoke equipment for monitoring purposes pre, during and post-test piling). As detailed above, we have therefore proposed that the Turbidity Protocol ultimately be developed, in consultation with key stakeholders, as a Planning Condition.</p> <p>Given the associated time and complexity of undertaking the required activities (as acknowledged in your response) we feel that it would be unreasonable to expect this level of detail to be obtained pre-determination.</p> <p>In addition, please refer to page 22 of the WSP letter to the EA dated 31st July 2023 (Annex B) below:</p> <p>In connection with the above we respond as follows: In relation to the 'very low' risk assigned to viaduct Pier 1 we have responded to this same point previously in this document and in our 'initial' response under General EIA Comments and Key Point 2 – PWRA; and In relation to the need for a suitably worded Turbidity Protocol we have responded to this same point previously in this document and in our 'initial' response under Key Point 2 – PWRA.</p>			
	C.16.12	Clarification	We agree with the EA's comments to include sealed drainage in SPZ's 1 and 2,	No	Agreed – already committed to this in recent letter/response to EA on 31st July (Annex B) we have already undertaken/committed to further investigating and addressing this issue at detailed design in accordance with a suitably worded planning condition. See response to C.16.7 above for details.	Ditto with Waterman's response to C.16.7		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. Further evidence / drawings to be provided to the EA.
	C.16.13	Clarification	No to limited evidence of sealed drainage system design and specification in SPZ's 1 and 2 or the eastern floodplain or agreed clay and additional mitigation lining to attenuation basins. Also, inappropriate detailed conveyance devices for these areas. No consideration of groundwater flooding to the banks and basins in these risk areas.	No	Agreed – already committed to this in recent letter/response to EA on 31st July (Annex B) we have already undertaken/committed to further investigating and addressing this issue at detailed design in accordance with a suitably worded planning condition. See response to C.16.7 above for details.	Ditto with Waterman's response to C.16.7		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. Further evidence / drawings to be provided to the EA.
	C.16.14	Clarification	Infiltration systems around east of the River Severn and Berwick Road with no evidence of consideration to groundwater and water supplies and allowing for a 1.2m buffer between maximum groundwater levels and the base of the proposals.	No	<p>Agreed – already committed to this in recent letter/response to EA on 31st July (Annex B) we have already undertaken/committed to further investigating and addressing this issue at detailed design in accordance with a suitably worded planning condition. Please see extract from page 20 of the letter/response to EA on 31st July (Annex B) :</p> <p>6.1.4 – The EA highlights that any proposed infiltration basin/soakaway structure needs to be constructed at least 1.2m above max. groundwater level in areas where a high to medium risk to groundwater flooding is delineated or assessed. In this regard we can comment as follows: - We acknowledge the EA's criteria to be applied across the scheme, although the only proposed infiltration for road drainage is at Basin 8, for which; -The proposed construction of Infiltration Basin 8, close to Ellesmere Road roundabout, is the only infiltration/soakaway feature proposed to drain the road, satisfies this criterion with the base of the gravel backfill for the basin being ~4.0m above the perched groundwater table.</p>	This clarification is accepted.		

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	C.16.15	Clarification	The Maintenance Plan should be fully developed to include regular, occasional and remedial actions for each drainage device utilised. Aspects of the use of road salting and vegetation control pesticides in sensitive SPZ's 1 and 2 areas should be included.	No	<p>Agreed and provided commitments as already indicated.</p> <p>Already committed to this in recent letter/response to EA 31st July (Annex B) - we have already undertaken/committed to further investigating and addressing this issue at detailed design. See pages 9-10, 21 and 27-28 of the letter from WSP to the EA dated 31st July 2023 (Annex B), as reproduced below: <i>Proposed Drainage Strategy - Sheets 1 to 5 (January 23), Drainage Layout Sheets 1 to 30 & Drainage Strategy (Report no. 70056211-wsp-hdg-as-rp-cd-00001 p02) dated July 2021.</i> <i>In summary the EA comments as follows:</i> 1 They express concern re. sealed drainage systems in SPZ1/2 & request clarification in line with proposed Drainage Strategy & whether private water supplies present a material consideration. 2 Allied to this; a the issue over long term road drainage preventative maintenance and emergency response in the event of a spill is raised allied to proposals to develop a Plan through Shropshire Council's Multi Agency Recovery Plan (2014); and b whether associated risks could be further mitigated through speed reductions (an approach to Holyhead Road Roundabout) and via signage within the Drinking Water Protected Area (DWPA).</p> <p>Essentially, all the above EA comments/concerns were made by the EA in their covering letter and similarly dealt with in our 'initial' response under Road Drainage as follows: 1 Our response to the point regarding non-sealed drainage systems in SPZ1/2 is covered previously, any proposals to incorporate non-sealed drainage features within SPZ1/2 have been presented in error and conflict with the intended Drainage Strategy for the Proposed Scheme. Accordingly, these errors will be rectified and updated. 2 Further, our response to requests/suggestions for; a Preventative maintenance and emergency response to be covered through development of a plan through Shropshire Council's Multi Agency Recovery Plan (2014) cross referenced our commitment to STWL for proactive development of such a plan via implementation of an appropriate Planning Condition. Further, this point is covered previously; and b Highlighted that speed reductions to 40mph are already proposed on all approaches to Holyhead Road roundabout and are shown on the drawings included with the SEI submission.</p> <p>Additionally, and as an extended part to point 1 above in connection with the point made by the EA regarding private water supplies, we refer the EA to our response given later under the Technical Review of Each Report concerning Chapter 5 Geology and Soils in respect of the Baseline Contamination Study Report.</p> <p>pg. 21... In relation to geotechnical works potentially being at risk from groundwater flooding this will continue to be checked as part of the ongoing monitoring referred to and this will be done with reference to high/maximum levels encountered; and In relation to the need for drainage systems within SPZ1/2 to be sealed we refer the EA to our response given earlier in this document under Proposed Drainage Strategy. On this point the EA subsequently seeks assurance, outlined in their letter dated 6 July 2023 (Annex G), that revised details will be submitted on this matter. Accordingly, we can assure the EA that these details will be included in the completed detailed design.</p> <p>pgs. 27-28... ROAD DRAINAGE On this topic WSP: Will rectify any non-sealed drainage features presented within SPZ1/2, contrary to the Drainage Strategy, and issue revised details. Agrees to develop a long-term road drainage preventative maintenance/operational plan; is already in discussion with Shropshire Council in relation to Multi-Agency Recovery Plan (2014) which Shropshire Council are fully committed to further developing as a Planning Condition.</p>	Ditto with Waterman's response to C.16.7		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. Further evidence / drawings to be provided to the EA.
	C.16.16	Clarification	An Emergency Plan should be developed to include detail of all the containment assets and signage and operations required. Aspects of the use of fire retardants in sensitive SPZ's 1 and 2 areas should be included. Short-, medium- and long-term remedial actions require including and mechanisms to action, and evidence of the available agreements and funding to provide such responses.	No	<p>Agreed and provided commitments as already indicated.</p> <p>Already committed to this in recent letter/response to EA 31st July (Annex B) - we have already undertaken/committed to further investigating and addressing this issue at detailed design. See pages 9-10, 21 and 27-28 of the letter from WSP to the EA dated 31st July 2023 (Annex B), as reproduced below: <i>Proposed Drainage Strategy - Sheets 1 to 5 (January 23), Drainage Layout Sheets 1 to 30 & Drainage Strategy (Report no. 70056211-wsp-hdg-as-rp-cd-00001 p02) dated July 2021.</i> <i>In summary the EA comments as follows:</i> 1 They express concern re. sealed drainage systems in SPZ1/2 & request clarification in line with proposed Drainage Strategy & whether private water supplies present a material consideration. 2 Allied to this; a the issue over long term road drainage preventative maintenance and emergency response in the event of a spill is raised allied to proposals to develop a Plan through Shropshire Council's Multi Agency Recovery Plan (2014); and b whether associated risks could be further mitigated through speed reductions (an approach to Holyhead Road Roundabout) and via signage within the Drinking Water Protected Area (DWPA).</p> <p>Essentially, all the above EA comments/concerns were made by the EA in their covering letter and similarly dealt with in our 'initial' response under Road Drainage as follows: 1 Our response to the point regarding non-sealed drainage systems in SPZ1/2 is covered previously, any proposals to incorporate non-sealed drainage features within SPZ1/2 have been presented in error and conflict with the intended Drainage Strategy for the Proposed Scheme. Accordingly, these errors will be rectified and updated. 2 Further, our response to requests/suggestions for; a Preventative maintenance and emergency response to be covered through development of a plan through Shropshire Council's Multi Agency Recovery Plan (2014) cross referenced our commitment to STWL for proactive development of such a plan via implementation of an appropriate Planning Condition. Further, this point is covered previously; and b Highlighted that speed reductions to 40mph are already proposed on all approaches to Holyhead Road roundabout and are shown on the drawings included with the SEI submission.</p> <p>Additionally, and as an extended part to point 1 above in connection with the point made by the EA regarding private water supplies, we refer the EA to our response given later under the Technical Review of Each Report concerning Chapter 5 Geology and Soils in respect of the Baseline Contamination Study Report. Here, all information on known groundwater abstractions in the Study Area and potentially at risk from the proposed scheme, out-with the STWL Shelton sources, are elucidated.</p> <p>pg. 21... In relation to geotechnical works potentially being at risk from groundwater flooding this will continue to be checked as part of the ongoing monitoring referred to and this will be done with reference to high/maximum levels encountered; and In relation to the need for drainage systems within SPZ1/2 to be sealed we refer the EA to our response given earlier in this document under Proposed Drainage Strategy. On this point the EA subsequently seeks assurance, outlined in their letter dated 6 July 2023 (Annex G), that revised details will be submitted on this matter. Accordingly, we can assure the EA that these details will be included in the completed detailed design.</p> <p>pgs. 27-28... ROAD DRAINAGE On this topic WSP: Will rectify any non-sealed drainage features presented within SPZ1/2, contrary to the Drainage Strategy, and issue revised details. Agrees to develop a long-term road drainage preventative maintenance/operational plan; is already in discussion with Shropshire Council in relation to Multi-Agency Recovery Plan (2014) which Shropshire Council are fully committed to further developing as a Planning Condition.</p>	Ditto with Waterman's response to C.16.7		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. Further evidence / drawings to be provided to the EA.

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	C.16.17 -C.16.29	Clarification	Waterman have also noted, the Drainage Strategy and associated Plans appear to lack the following that should be clarified or provided.	N/A	N/A			
	C16.17	Clarification	Allowance for maintenance access to drainage assets, apart for basins.	No	WSP are following the approach recommended by the LLFA when they wrote to the LPA on 30 April 2021 stating their acceptance of Conditions to deal with these matters. In relation to this aspect John Bellis of the LLFA wrote: Condition: No development shall take place until a SuDS and Highway Drainage Maintenance Plan has been submitted to and approved in writing by the Local Planning Authority. The approved scheme shall set out maintenance responsibilities, access and frequencies for each of the proposed SuDS features, the highway drainage network and all associated land drains, filter strips and conveyance ditches included in the detailed drainage design. Where agencies with proposed maintenance responsibilities have been identified, evidence that they have the relevant experience and expertise to fulfil these requirements will also be required.	Waterman's comment relates to maintenance access for vehicles and personnel, not maintenance schedule. This is to ensure the presence of a safe access route for undertaking maintenance works. This is typically demonstrated through plans that illustrate maintenance routes for vehicles and personnel. WSP indicated in their previous comment that "Vehicular maintenance access is provided for all highways drainage (including basins). Access to ditches and filter drains used to carry overland flows would be by foot. Shropshire's highways maintenance team will review the design and confirm that they will be happy to maintain it. A maintenance schedule will be agreed with the LPA. It is suggested that this is dealt with through planning conditions".		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. This comment relates to maintenance access for vehicles and personnel, not maintenance schedule. This is to ensure the presence of a safe access route for undertaking maintenance works. Evidence to be provided to demonstrate the drainage design complies with the relevant Health and Safety requirements.
	C16.18	Clarification	Basin 8 Proposed infiltration basin outfall is not provided.	No	During the meeting between WSP and Waterman on 02.10.2023, Waterman initially requested an update on the design but it was later agreed that there is no need to design pipes downstream of Basin 8 if it is designed for a 1 in 100 + CC (C16.28). Further to this, WSP are following the approach recommended by the LLFA when they wrote to the LPA on 30 April 2021 stating their acceptance of Conditions to deal with these matters. In relation to this aspect, John Bellis of the LLFA wrote: Condition: Where the use of soakaways to drain the public highway are utilised, no development shall take place until infiltration testing in line with BRE365 and associated soakaway designs capable of attenuating all flows up to and including the 1 in 100 40% has been submitted to and approved in writing by the Local Planning Authority. The approved scheme shall be fully implemented before the development is brought into use.	This clarification is accepted. It would be useful to have John Bellis' email/letter.		
	C16.19	Clarification	Existing/proposed surface water catchments / overland flows.	No	Existing/proposed surface water catchments / overland flows have been reviewed and assessed in the ES Feb 21 Appendix 17.2: Flood Risk Assessment.	Is there a catchment plan(s) showing the proposed surface water catchments / overland flows for areas both within and outside the proposed road?		
	C16.20	Clarification	Receiving road drainage and any exceedance flows onto/off the proposal.	No	WSP are following the approach recommended by the LLFA when they wrote to the LPA on 30 April 2021 stating their acceptance of Conditions to deal with these matters. In relation to this aspect John Bellis of the LLFA wrote: Condition: No development shall take place until a scheme for dealing with exceedance flows has been submitted to and approved in writing by the Local Planning Authority. Shropshire Council's "Surface Water Management: Interim Guidance for Developers, paragraphs 7.10 to 7.12" requires that exceedance flows for events up to and including the 1% AEP plus CC should not contribute to surface water flooding of any area outside of the development site. Although the attenuation features have been designed for 1% AEP storms plus climate change, critical storm analysis should be carried out to determine exceedance storage volumes / depths and flow paths within the highway corridor for storms of a greater magnitude than those considered for the highway drainage design. A contour and exceedance route plans should be submitted for approval demonstrating that the above has been complied with. The approved scheme shall be fully implemented before the development is brought into use.	This clarification is accepted.		
	C16.21	Clarification	Pond maximum depths, freeboards, gradients, shelving widths or exceedance flow management.	No	The most recent design information is as follows: Basin 1: Max Total Depth* = 2.00m + Permanent Water Depth (TBC) Basin 2: Max Total Depth* = 1.86m + Permanent Water Depth (TBC) Basin 3 already approved as part of David Wilson Homes development Basin 4: Max Total Depth* = 2.08m Basin 5: Max Total Depth* = 2.45m Basin 6: Max Total Depth* = 2.15m Basin 7: Max Total Depth* = 2.30m Basin 8: Max Total Depth* = 3.00m *Max total depth defined as height from invert level to spill level (includes freeboard) The most recent design does not include any basin with a side slope steeper than 1:3 or with a freeboard less than 300mm. WSP suggest that the shelving widths requested by Waterman are dealt with through planning conditions. Exceedance flows from basins are covered by WSP's response to C16.20. It is noted that all basins are designed to contain a 1 in 100 year rainfall event with an allowance for climate change.	This clarification is accepted. WSP provided clarification in C16.29 in relation to providing fencing for safety.		
	C16.22	Clarification	The receiving 'existing system' stress tests for soakaway discharge points as likely to receive highway discharges waters frequently due to typically low capacity of the primary groundwater outfalls.	No	WSP can confirm that the most recent design does not contain any infiltration features where ground water levels are within 1m of the base of the structure (conveyance swales and filter drains will be lined where required to control pollution). WSP can confirm that there are no infiltration features located within groundwater source Protection Zone 1 or 2 (all swales and filter drains will be lined in this area). With regard to infiltration rates, please see the related planning condition to be used to deal with infiltration testing noted in Cl.16.18 above.	This clarification is accepted.		
	C16.23	Clarification	A minimum 1:3 embankment gradient for some slopes are not proposed, some false cuttings are at a steeper 1:2, preventing maintenance to or across from the bank slope.	No	It was agreed during the meeting between WSP and Waterman on 02.10.2023 that this comment relates specifically to drainage features such as swales, basins and ditches (not to general embankments and cuttings which may contain buried drainage features (such as pipes and chambers). WSP can confirm that no basins or swales have side slopes steeper than 1:3. Some of the ditches which are designed to convey overland flows have side slopes set at 1:1. WSP confirm that the most recent design does not contain any of these ditches which are deeper than 1.2m and that slope stability checks have been undertaken for these ditches.	This clarification is accepted.		
	C16.24	Clarification	Separators are not considered as a road drainage mitigation asset with the current DMRB, and therefore adoption by the authority may not be considered.	No	WSP are following the approach recommended by the LLFA when they wrote to the LPA on 30 April 2021 stating their acceptance of Conditions to deal with these matters In relation to this aspect John Bellis of the LLFA wrote: Condition: Where agencies with proposed maintenance responsibilities have been identified, evidence that they have the relevant experience and expertise to fulfil these requirements will also be required. Where alarmed interceptors will be used identify and contain pollution incidents, a detailed management plan setting out responsibilities for responding to, containing and disposing of any hazardous waste (to include the remediation of the affected SuDS feature) over the lifetime of the NWRR will be required. During the meeting between WSP and Waterman on 02.10.2023 it was noted that it will not be possible to get comments from National Highways on the separator upstream of Basin 1 (proposed for adoption by them) because they will not provide comments on our design until planning permission is granted.	This clarification is accepted.		

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	C16.25	Clarification	No opportunity evidenced to promote amenity of Basins with the adjacent PROW or road users.	No	For safety reasons a conscious decision has been made to not promote public access amenity at basins. However, permanent wet features are included at Basins 1 and 2, for habitat creation, which are normally considered as amenity features.	The LLFA to advise on this		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be agreed with the LLFA as this is a point of policy or guidance. John Bellis to advise on this.
	C16.26	Clarification	The SIA index has not been used to demonstrate effectiveness of the proposed treatment trains. The water quality mitigation effect of proposed gully and combined kerb silt traps that do not have a SIA mitigation index and therefore may not be demonstrated as a treatment device.	No	A HEWRAT Assessment has already been undertaken. It was agreed in the meeting between WSP and Waterman on 02.10.2023 that a HEWRAT assessment is more comprehensive and more appropriate than an SIA.	This clarification is accepted.		
	C16.27	Clarification	Consideration for the maintenance of combined kerbs that require traffic management for maintenance and are prone to siltation on the roadside of the inlet, and so not suitable for approaches, roundabouts etc where use of Traffic Management would be prohibitive.	No	Use of kerb drains on roundabouts are common practice. For driver safety, kerbs are required on roundabouts, which excludes filter drains and ditches. Shropshire's highways maintenance team will review the design and confirm that they will be happy to maintain it and a maintenance schedule will be agreed. Further to this, WSP are following the approach recommended by the LLFA when they wrote to the LPA on 30 April 2021 stating their acceptance of Conditions to deal with these matters. In relation to this aspect John Bellis of the LLFA wrote: Condition: No development shall take place until a SuDS and Highway Drainage Maintenance Plan has been submitted to and approved in writing by the Local Planning Authority. The approved scheme shall set out maintenance responsibilities, access and frequencies for each of the proposed SuDS features, the highway drainage network and all associated land drains, filter strips and conveyance ditches included in the detailed drainage design. Where agencies with proposed maintenance responsibilities have been identified, evidence that they have the relevant experience and expertise to fulfil these requirements will also be required. During the meeting between Waterman, WSP and the LPA on 2nd Oct, WSP confirmed that there are no drainage channels crossing the running lane and Waterman confirmed that the comment was more from a cost-effective consideration and was not a material planning issue.	This clarification is accepted. <i>"Waterman confirmed that the comment was more from a cost-effective consideration and was not a material planning issue."</i> Waterman do not recall such matter being confirmed.		
	C16.28	Clarification	The need to check the downstream receiving drainage systems conveyance capacity of secondary outfalls receiving exceedance flows from primary outfalls of infiltration device types.	No	During the meeting between Waterman, WSP and the LPA on 2nd Oct, it was agreed that there would be no need to provide a detailed design of the overflow systems for infiltration features designed for a 1 in 100 + CC rainfall event. WSP can confirm that there are no proposed infiltration features which fail to meet this design standard.	This doesn't align with the discussions held during the meeting. The primary focus was on WSP's responsibility to assess whether the downstream drainage system has the capacity to accommodate the exceedance flows generated by infiltration devices like Basin 8.		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. The drainage proposal to ensure the downstream drainage system have sufficient capacity to accommodate exceedances flows from infiltration devices.
	C16.29	Clarification	The considerations of a safe design approach to the attenuation basins such as ponds and flood storage areas, as per the available guidance and standards, should be evidenced, including exceedance controls and	No	During the meeting between Waterman, WSP and the LPA on 2nd Oct, Waterman requested details of side slopes, freeboard and fencing. For information on side slopes and freeboard allowances, please refer to the WSP response for C16.21. WSP's response on exceedance routes and overflows are provided in C16.20 and C16.28. All basins are to be fenced with gated access, for safety reasons, as shown on the fencing drawings submitted for planning. The proposed flood storage area, north of the viaduct, is open field and will only be flooded as an extension to the whole of the floodplain, and therefore does not need to be fenced.	This clarification is accepted.		
	C.16.30	Clarification	Additional groundwater dewatering, drainage and flooding consideration for the B4380 Holyhead Road Roundabout underpass (Equestrian Culvert East of Holyhead), due to its depth and proximity to the River Severn.	No	The Equestrian Culvert East of Holyhead is circa 25m in elevation higher than the river Severn and 180m in distance. In any case, water collecting against the structure falls to the South which would drain into the ditch at chainage 2100m (to the South of the Culvert) this has a filter drain that flows into drainage basin 4.	WSP's previous response to this state the following: <i>"Agreed and provided commitments as already indicated. Already committed to this in recent letter/response to EA we have already undertaken/committed to further investigating and addressing this issue at detailed design."</i> Is WSP indicating that they have now undertaken the assessment so their comment here takes precedence over their earlier statement about addressing this matter at the detailed design stage?		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned.
	C.16.31	Clarification	A review on the depth of low flows and frequency to all sources of flooding to the proposed animal crossing locations and levels.	No	The areas with animal crossings are outside of the flood zones. Assessment has been completed to ascertain potential flooding to culverts and mammal ledges are provided where deemed appropriate in culverts and these have been set so that they would be dry in 1 in 10 year event.	The LLFA to advise on this, especially regarding the stated storm event i.e. if the consideration of 1 in 10 years is acceptable for such assessment.		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be agreed with the LLFA as this is a point of policy or guidance. John Bellis to advise on this.
	C.16.32	Clarification	Clarification on the nature and function of the proposed flood storage areas / ponds / attenuation devices in the context of their ability to provide a multi-use design e.g., including amenity, water quality mitigation and environmental enhancement as per the four pillars of SuDS design, such as consideration of incorporating their amenity use with access for road users and adjacent PROW's or paths.	No	The primary function of all basins is for attenuation. WSP have included permanent wet features at Basins 1 and 2 which are normally considered as amenity features as well as habitats. Whether these features are made public will need to be discussed with Shropshire Highways and National Highways, as asset owners. However, the basins are currently fenced for safety reasons. Water quality mitigation is included in the HAWRAT (see response to 'Other Recommendation (ii)' below) and assessments have been made on this basis.	Why cannot the other basins provide a multi-use design e.g. including amenity, water quality mitigation?		Way forward agreed with Shropshire Council at meeting held on 17/10/23: John Bellis to advise on this.
	C.16.33	Clarification	Clarity on the assessment of scour and flooding to all proposed watercourse culvert/crossing approaches.	No	Assessment of flood risk at all culverts has been included in the Flood Risk Assessment. Scour protection will be incorporated where necessary at culverts. This has been considered in the ES Feb 21 Appendix 17.2: Flood Risk Assessment. Scour protection has been included at detailed design. Also: John Bellis of the LLFA wrote, on 09 July 2020 (in response to the provision of Culvert Scour Protection Extents): "I can confirm I am happy with the proposed scour protection design and extents."	This clarification is accepted. It would be useful to have John Bellis' email/letter.		

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	C.16.34	Clarification	Evidence that the receiving authorities for proposed outfalls have been consulted early for discharge consent.	No	These have been completed for the ordinary watercourses with the LLFA and will be applied for once planning permission is granted. The necessary consents will be obtained prior to construction. This aligns with the approach recommended by the LLFA when they wrote to the LPA on 30 April 2021 stating their acceptance of Conditions to deal with these matters. In relation to this aspect John Bellis of the LLFA wrote: Condition: No development shall take place until a scheme for dealing with exceedance flows has been submitted to and approved in writing by the Local Planning Authority. Shropshire Council's "Surface Water Management: Interim Guidance for Developers, paragraphs 7.10 to 7.12" requires that exceedance flows for events up to and including the 1% AEP plus CC should not contribute to surface water flooding of any area outside of the development site. Although the attenuation features have been designed for 1% AEP storms plus climate change, critical storm analysis should be carried out to determine exceedance storage volumes / depths and flow paths within the highway corridor for storms of a greater magnitude than those considered for the highway drainage design. A contour and exceedance route plans should be submitted for approval demonstrating that the above has been complied with. The approved scheme shall be fully implemented before the development is brought into use.	What about the consent concerning discharge rates and the proposed connection/discharge point? This is normally addressed before planning permission is granted. It is a fundamental aspect of the drainage design that requires attention at early stage of the project.		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. Consent(s) related to discharge rates and the proposed connection/discharge point should be agreed with the relevant stakeholder(s), if not already addressed. This is normally dealt with before planning permission is granted. It is a fundamental aspect of the drainage design that requires attention at an early stage of the project.
	C.16.35	Clarification	Evidence that the proposed Full bypass separator tanks will be adoptable considering their DMRB CG501 Paragraph 8.7 prohibition.	No	The LLFA wrote to the LPA on 30 April 2021 stating their acceptance of Conditions whilst the detailed design is being developed. In relation to this aspect they wrote: Condition: Where alarmed interceptors will be used identify and contain pollution incidents, a detailed management plan setting out responsibilities for responding to, containing and disposing of any hazardous waste (to include the remediation of the affected SuDS feature) over the lifetime of the NWRP will be required. The approved scheme shall be fully implemented before the development is brought into use.	The LLFA to advise on this		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be agreed with the LLFA as this is a point of policy or guidance. John Bellis to advise on this.
	C.16.36	Clarification	Consideration of the use and maintenance of adequate SuDS treatment train devices in the construction phase.	No	The proposed permanent SuDS devices will not be used in the temporary state during construction. This restriction will be imposed through the contract conditions and will be reconfirmed as part of the CEMP (which will be conditioned).	This clarification is accepted.		
	C.16.37	Clarification	There is no clear information on infiltration rates therefore the scheme spatial planning (vertical and horizontal) cannot be adequately understood).	No	The only infiltration feature receiving road drainage is Infiltration Basin 8 and further details on this are included in SEI Annex A [Road Salt Assessment] (see Section 5 therein). All other infiltration features receive non road drainage and a commitment has been made in our recent letter/response to EA on 31st July to undertake & commit to further investigating and addressing this issue at detailed design (see C. 16.15). Out-with Infiltration Basin 8 agreed and provided commitments as already indicated.	It is important to note that determining the infiltration rate and groundwater level is crucial information needed to assess the feasibility of incorporating soakaways.		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. Further evidence / drawings to be provided to the EA.
	-	Clarification	Please refer to Appendix A for full details on the clarifications raised to address the Drainage Strategy and associated Plans, and the Feb 2021 ES and	No	As discussed during the meeting on 2nd Oct 2023, it is understood that the Appendix A comments address the expectation of what will be considered as part of detailed design (which WSP will) and are therefore not material to planning permission.	This does not align with what was discussed during the meeting. It was agreed that WSP would either provide a detailed point-by-point response or reference their response within this document.		
	Other recommendations (i)	Other	The DMRB CG501 provides recommended design, allocation of assets for groundwater concerns, and water quality treatment indicators for various assets.	No	As a general principle the road has been designed to DMRB. The drainage design in particular has referenced CG501. The conclusion of the design will give due consideration to the recommendations within CG501 concerning design, allocation of assets for groundwater concerns, and water quality treatment indicators.	This clarification is accepted.		
	Other recommendations (ii)	Other	Chapter 26 of The SuDS Manual contains several mitigations to devices for sensitive groundwater and treatment of surface water and should be sought for reference when considering treatment devices rather than wholly relying on the HEWRAT tool. These should be considered in conjunction/lieu of separation only (sealed systems) where appropriate and in agreement with the regulatory authorities.	No	A HEWRAT Assessment has already been undertaken. It was agreed, during the meeting between WSP and Waterman on 02.10.2023, that a HEWRAT assessment is more comprehensive than Chapter 26 of The SuDS Manual.	This clarification is accepted.		
	Other recommendations (iii)	Other	The SuDS Manual also provides the following that is currently not adequately detailed: - Generic Maintenance Plans for all devices that should be utilised. - advice on erosion, pollution, and sediment control through the use of SuDS devices during Construction.	No	SC has already made a commitment to develop a full road drainage maintenance & emergency recovery plan as a Planning condition and this was communicated as a commitment in response to EA. Please see response to recommendation C.16.7. The Drainage Design Team will take the above, along with relevant comments from Waterman, into account for Detailed design.	Ditto with Waterman's response to C.16.7		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. Further evidence / drawings to be provided to the EA.
	Other recommendations (iv)	Other	The maximum groundwater level should be clearly established and understood, in particular at sensitive areas and in relation to proposed drainage devices. This should include monitoring over a one to two-year period to confirm the max groundwater levels, fluctuation, location. In addition clear consideration of the historic records, hydrogeology and hydrogeology is required to enable design and design mitigations.	No	This requirement has been agreed and a commitment to this effect communicated in recent responses to the EA. See response to C.16.7 for details (WSP letter to EA dated 31st July 2023, page 21 (Annex B)).	Ditto with Waterman's response to C.16.7		Way forward agreed with Shropshire Council at meeting held on 17/10/23: To be conditioned. Further evidence / drawings to be provided to the EA.
	Other recommendations (v)	Other	EA permits required for any groundwater dewatering with current processing timescales require 6 to 12 months.	No	These requirements/timescales are understood and have been acknowledged in recent responses to the EA. See page 28 of the letter from WSP to the EA dated 31st July 2023, as reproduced below: <i>In respect of Dewatering Requirements WSP: Acknowledges there may be a need for dewatering related to works at Clayton Way overbridge. Understands the need for licensing/permitting associated with dewatering and timescales involved to secure such Regulatory Permits.</i>	This clarification is accepted.		

Chapter	Waterman Ref	Waterman Comment type	Summary of Comments	WSP Comment: Would it change the assessment	WSP First Response	Waterman's Second Response	WSP's Second Response	Waterman's Final Response
	Other recommendations (vi)	Other	Trigger values should be set at UK Drinking Water Standards in relation to a potable groundwater resource, and Environmental Quality Standards protective of environmental conditions within surface water bodies. Appropriate reporting throughout construction and post construction phase to be focused on deviations to baseline and relationship with the works.	No	This requirement has been agreed and a commitment to this effect communicated in recent responses to the EA. See page 5 of the letter from WSP to the EA dated 31st July 2023 (Annex B), as reproduced in below: <i>Regarding the proposed trigger values, the EA indicates: The proposal for trigger values to be set one order of magnitude above the established DWS or EQS is considered not acceptable.</i> <i>Reporting should incorporate screening against the established values for the protection of groundwater as a potable resource and environmental conditions within surface water respectively. In addition, an assessment of values against their established baseline concentrations should be presented with consideration to whether any observed deviation may be related to construction activities.</i> <i>We acknowledge this request and agree to setting the trigger values at greater than one order of magnitude above the established DWS or EQS and to adopt the approach in the reporting, assessment and presentation of the values.</i>	Does this reflect the EA's comment on their letter of 01/09/23?		
Cumulative Effects	C.17.1	Clarification	Provide greater clarity in Section 8.6 of Jan 23 SEI on the Committed Developments screened into the in-combination cumulative assessment.	No	Whilst it is accepted that the provision of the ID and development description for the Committed Developments may provide useful sign-posting for readers, it is considered that the introduction to Section 8.6 (8.6.1) makes it clear that the section is a summary of Table B1 in Appendix B in SEI Jan 23 Chapter 8 where full details are available. Section 8.6.2 sets out the three Committed Developments using Shropshire Council's planning reference numbers which are clearly shown in Table B1 in Appendix B in SEI Jan 23 Chapter 8. It is considered that provision of further details within the text of Section 8.6 would not change the effects as reported.	Noted, and this clarification is accepted, however our recommendation still stands should any subsequent reporting be prepared.		
	C.17.2	Clarification	Provide a figure showing the location of the additional cumulative schemes identified in the Jan 2023 SEI to	No	Whilst it is accepted that the provision of a figure showing the location of the Committed Developments may provide further context for readers, it is considered that its provision would not change the effects as reported.	Noted, and this clarification is accepted, however our recommendation still stands should any subsequent reporting be prepared.		
	Other recommendations	Other	NTS – State the names of the Committed Developments when referred to, and provide an accompanying figure to show the location of the Committed Developments for context.	No	The responses to Ref's C.17.1 and C.17.2 relate also to the commentary on the Committed Development within the NTS – whilst useful in terms of sign-posting and context, the addition of text and/or a figure will not change the effects as reported. This is not considered fundamental issue to the robustness or defensibility of the ES, ESA or ESI.	Noted, and this clarification is accepted.		

Appendices

Review of EIA (Final Review Report)
North West Relief Road, Shrewsbury
WIE20223-100-R-1.3.2-ES_Rev

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